10 Quarterly Dam Safety Report

Executive summary

The purpose of this report is to update the Operations, Planning, Safety and Information Technology Committee of the Board of Directors on key dam risk management activities during the period from July 1 to Sept 30, 2025 (F2026 Q2) and to provide reasonable assurance that the safety of dams operated by BC Hydro continues to be managed to the established guidelines and criteria of the Dam Safety Program. To keep the Committee as fully abreast of the Dam Safety Program as possible, some notable developments that took place after Sept 30, 2025, but before the completion of this report have also been included.

The key highlights from F2026 Q2 and the beginning of F2026 Q3 documented in this report are:

- The aggregated Vulnerability Index increased by 13 overall due to the following factors: deterioration of low level outlet pipes at Bear Creek Dam (increase); remediation of the penstock at Buntzen Dam (decrease); assessment and recharacterization of existing issues at several sites (increase); and recharacterization and rating of an existing issue related to the unavailability of spillway battery backup power supply systems at several sites (increase). See page 3.
- A planned inspection of the low level outlet at Bear Creek, a low consequence dam in the Jordan River System, revealed heavy corrosion and significant material loss. Remediation is being prioritized, with work scheduled for late fall or early next spring. See pages 6 and 7.
- On the afternoon of September 21, 2025, during a heavy windstorm, a log storage corral upstream of Keenleyside Dam operated by Interfor Corporation broke free of its moorings. Interfor successfully re-established control of the log bundles using a temporary corral, effectively mitigating the immediate risk to the dam. See pages 10 and 11.
- Maintenance on the dams continued to be well-delivered. In Q2 of F2026, the Stations SAP (SSAP) project was brought into operation. In consideration of application and process changes, as well as the enhanced capabilities of the SSAP system, the reporting format is under review and may be revised to better represent the priorities of the Dam Safety program. See pages 12 and 13.
- Remediation of the sinkholes at Ruskin Dam have been completed in the area where the engineered drainage filter is to be placed. Backfilling with gravel and sand is ongoing. Completion of construction is expected in early 2026. See page 18.
- The interior recoat of the Lake Buntzen Generating Station penstock was completed. Based on inspection work conducted over the summer, the project scope was expanded to include the installation of a carbon fiber reinforced polymer sleeve in a select area of the penstock, which was completed on October 9th. This important work was carried out during the existing outage and required significant coordination to achieve

Presenter: Andrew Watson (Director, Dam Safety and Generation Asset Planning)

Dam Safety Program Dashboard

The following dashboard provides an overview of the status of the Dam Safety Program. “Traffic lights” provide a qualitative indication of the status of each of five elements of the Program and trend arrows identify whether the status is improving, deteriorating or unchanged. As referenced, these indicators are supported by more detailed metrics and narratives in the report.

10 Quarterly Dam Safety Report

Risk Profile and Issues Management	G →	• **Vulnerability Index (pp. 3-4):** The aggregated Vulnerability Index increased by 13 through Q2 of F2026 due to the following factors: deterioration of low-level outlet pipes at Bear Creek Dam (increase); remediation of the penstock at Buntzen Dam (decrease); assessment and recharacterization of existing issues at several sites (increase); and recharacterization and rating of an existing issue related to the unavailability of spillway battery backup power supply systems at several sites (increase). • **Non-Conformances (pp. 5-6):** The number of outstanding issues have slightly decreased. • **New and Current Issues (pp. 6-7):** A planned inspection of the low level outlet at Bear Creek, a low consequence dam, revealed heavy corrosion and significant material loss. Interim measures to manage deficiencies on the Comox-Puntledge Flow Control Improvements Project remain in place.
Regulatory Compliance	G →	• **British Columbia Utilities Commission (p. 8):** An Evidentiary Update was filed in May 2025 with an updated Project Cost Estimate for Strathcona Discharge Upgrade Project. The commission accepted this expenditure schedule on Oct 15, 2025. • **Operation, Maintenance and Surveillance Manual Updates (p. 8):** The schedule of updates for F2026 including four dams: Falls River, Elko, Peace Canyon and Clowhom. • **Dam Safety Reviews (p. 8):** Reviews progressed according to plan.
Surveillance	G →	• **Dam Inspections (pp. 9):** In Q2 F2026, all routine inspections were completed as scheduled. All formal dam safety reports were completed. • **Reservoir Slopes (p. 10):** Field work for five of the inspections was completed in Q2 bringing the year-to-date total to nine, slightly lagging of an internal work target of 12. • **Unusual Events or Observations (pp. 9-10):** On the afternoon of September 21, 2025, during a heavy windstorm, a log storage corral operated by Interfor Corporation broke free from its moorings. Interfor promptly regained control of the log bundles using a temporary corral, effectively mitigating the immediate risk to the dam.
Maintenance and Testing	G →	• **Civil Maintenance (pp. 11-12):** The Corrective and Condition-Based Civil Maintenance Program completed five projects in Q2 in line with the plan and target. In Q2 of F2026, the Stations SAP (SSAP) project was brought into operation. • **Spillway Gates (pp. 13-15):** During Q2 of F2026, 232 of 232 scheduled gate tests were completed. This includes the Full Opening tests of 16 gates. No gates failed to operate on demand during testing in Q2.
Projects and Investigations	G ↑	• **Capital Projects (pp. 15-20):** Remediation of the sinkholes at Ruskin Dam was successfully completed in Q2. Backfilling is now underway, with construction scheduled for completion in early 2026. The interior recoat of the Lake Buntzen Generating Station penstock was completed. Based on inspection work conducted over the summer, the project scope was expanded to include installation of a carbon fiber reinforced polymer sleeve in a select area of the penstock, which was completed on October 9th. This important work was carried out during the existing outage and required significant coordination to achieve efficiencies in both scheduling and cost.

Legend:

G	All areas within the Program element are being implemented to a satisfactory level. Minor, isolated issues may exist but are not deemed to be indicative of deteriorating performance.
Y	One or more areas within the Program element exhibit or are at risk of underperformance and are being monitored.
R	One or more areas within the Program element exhibit unsatisfactory performance and require correction.
↑	Status of the Program element has improved over the quarter.
→	Status of the Program element was unchanged over the quarter.
↓	Status of the Program element deteriorated over the quarter.

Risk Profile of BC Hydro's Dams

Dam Safety Contribution to Enterprise Risk

Dam Safety is assigned a high "risk priority" within BC Hydro's Enterprise Risk report. Please refer to that report for additional details.

Vulnerability Index Update

Identified physical deficiencies in BC Hydro's dams and the degree of concern that exists with respect to their impact on the integrity and performance of the dam are characterized by the Vulnerability Index. The higher the value of the Vulnerability Index (scale of 0-10), the higher the likelihood of that deficiency leading to poor performance. The Vulnerability Index for each identified issue at each dam site is shown in Figure 1. Vulnerability Indices for the individual deficiencies are aggregated into stacked bars for each dam, and dams are sequenced from left to right in order of increasing downstream consequences per the BC Dam Safety Regulation. Changes in Vulnerability Index for actual and potential deficiencies (including those related to spillway reliability), aggregated across the entire fleet of dams, are tracked on a quarterly basis and shown in Figure 2. Notable changes in Vulnerability Index in F2026 Q2 are identified in Figure 1 and described below.

1. A ***reduction*** of 5.5 (Actual Normal deficiencies) at ***Buntzen Dam***.
   The annual review of database issues at Buntzen Dam resulted in an overall reduction of the Vulnerability Indices related to the penstock. The penstock has been dewatered for interior paint recoating and repair of the section of the penstock that was corroded beyond design limits.

2. An ***addition*** of 7.7 (Actual Normal deficiency) at ***Bear Creek Dam***.

   Leakage flows into the deteriorated low level outlet pipes were observed during an interior inspection of the pipes. Further details on the remediation plan are provided under New Issues below.

3. *A net **addition** of 1.3 (Potential Unusual deficiency) at **Walter Hardman Dam**.*

   The stability of the Cut-Off Dam at Walter Hardman was assessed during the last Dam Safety Review and was found to be potentially unstable under seismic loading.

4. An ***Addition*** of 5.2 (Gate Serviceability deficiencies) at ***multiple sites***.

   This is a recharacterization and rating of several existing issues related to the unavailability of backup power supply systems at Seton, Cheakamus, Ruskin, Duncan, and Terzaghi Dams. The gate reliability projects designed and installed Uninterruptible Power Supply (battery) systems to provide a second source of backup power supply, in addition to diesel generator systems. Experience dating from 2013 to current indicates that these battery systems have been unable to achieve the design intent. Installation of diesel generators as temporary backup power is being evaluated.

5. An ***Addition*** of 2.6 (Actual Unusual Deficiency) at ***Comox Dam***.

   This is a recharacterization and rating of an existing issue related to the seismic inadequacy of the sluice gates at Comox Dam. The seismic withstands of the spillway hoist towers and the spillway gate bodies have been assessed to be less than expected for an Extreme consequence dam.

6. An ***Addition*** of 1.6 (Potential Normal Deficiency) at ***Elsie Dam***.

   Modelling of the pressures in the Ash River Generating Station penstock exceeds the design loading.

Over the last several years, new issues have added to the aggregated Vulnerability Index at a rate of approximately twelve per year. To prevent deterioration of the overall risk position, reductions in Vulnerability Index through resolved issues should occur at the same pace or faster. As evident in Table 1, below, Vulnerability Index has increased slightly over past four quarters but overall remain on track with planned projects to address deficiencies in future quarters.

Table 1 Trends and forecasts for Vulnerability Index changes in F2026.

		Actual / Forecast	Target	
Dam Safety Vulnerability Index	Reductions – Last 4 quarters	18	12	✓
	Reductions – Fiscal Year Forecast	19	12	✓
	Additions - Last 4 quarters	25		

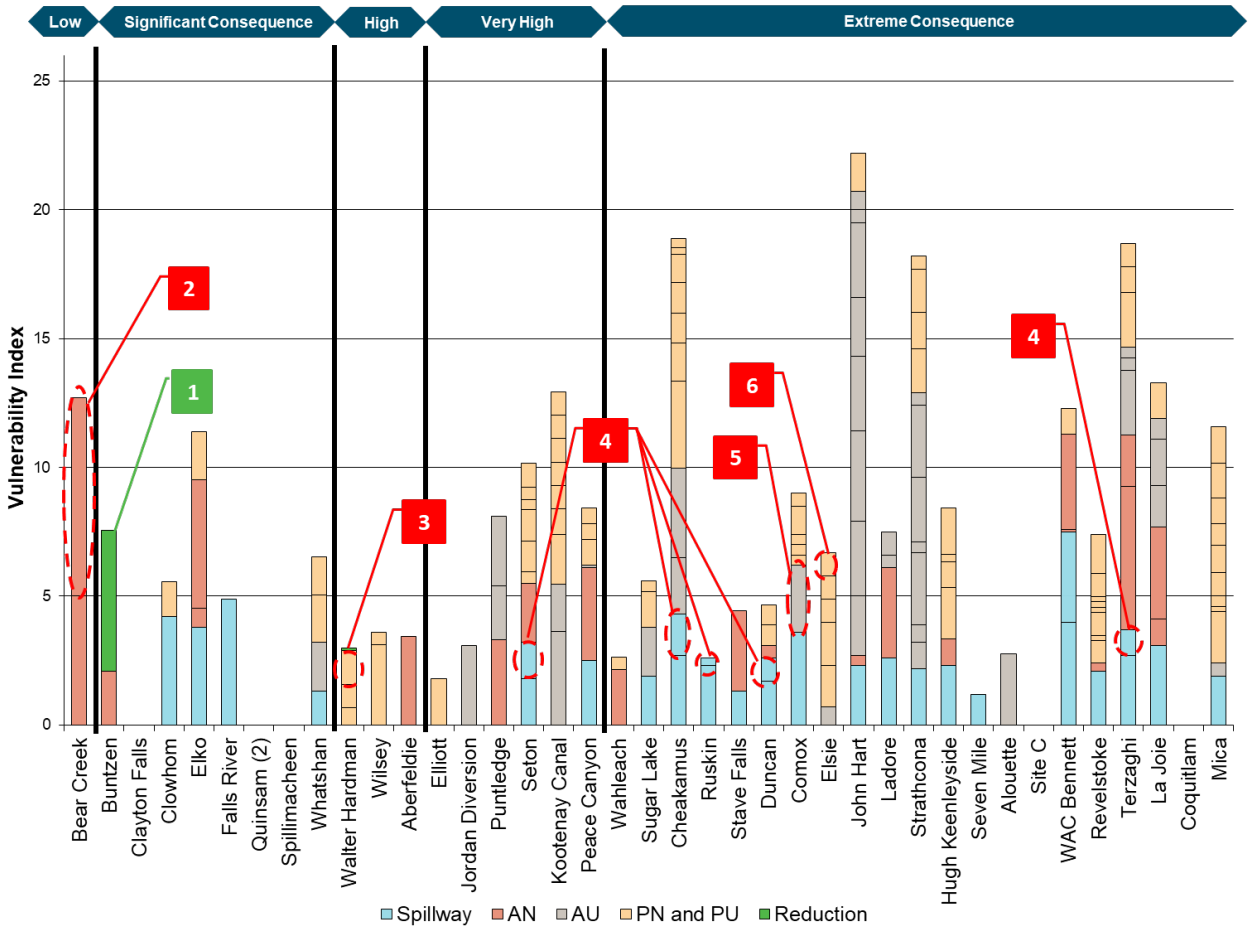

Figure 1 Dam Safety overall risk profile at the end of F2026 Q2, as represented by the Vulnerability Index. Changes this quarter are indicated by the numbered boxes.

AN	***Actual*** deficiency (demonstrated to exist) under ***normal*** load conditions.
AU	***Actual*** deficiency (demonstrated to exist) under ***unusual*** load conditions.
PN and PU	***Potential*** deficiency (requiring further investigation to demonstrate existence) under either normal or unusual conditions.
Spillway	Deficiency related to operational reliability or serviceability of the dam's spillway and/or other flood discharge systems.

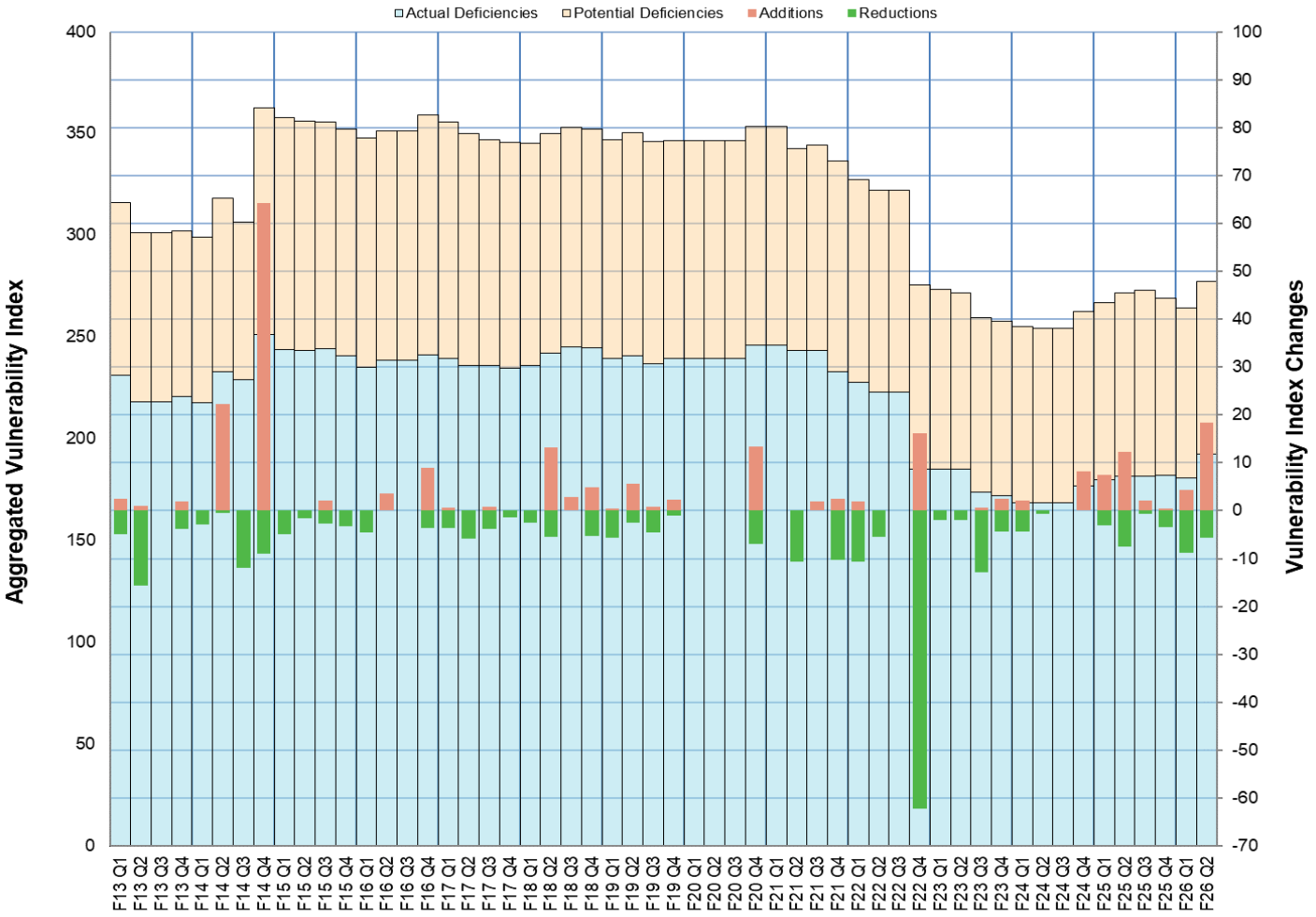

Figure 2 Historical and forecast changes and trends in the Vulnerability Index aggregated across the BC Hydro system. Note: In this chart, Spillway deficiencies are included as Actual deficiencies.

Non-Conformances in the Dam Safety Program

Non-Conformance issues arise where the established procedures, systems and instructions of the Dam Safety Program Management System are not being followed at a particular dam, or where procedures that form part of established and generally accepted good practices have not been implemented within the Management System or at a particular dam.

Activities to identity, review, resolve and close Non-Conformance issues continued through F2026 Q2. As a result, four Non-Conformance issues were resolved and three new issues were identified in Q2, leaving 190 issues outstanding. Figure 3, below, shows the continuing progress in reducing the number of Non-Conformance issues. A total of five memoranda were issued this quarter in support of these changes.

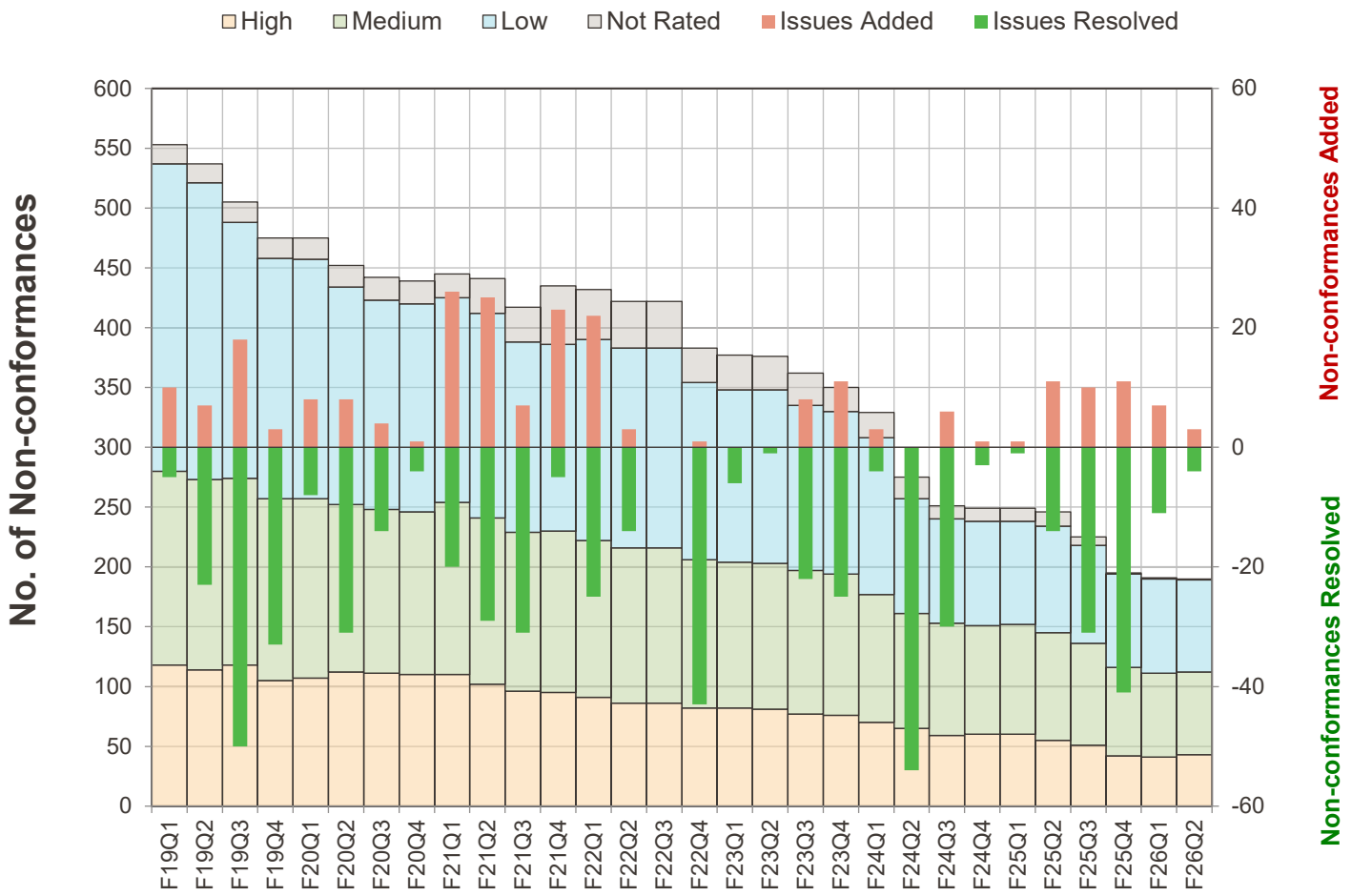

Figure 3 Changes and trends in the total number of Non-Conformance issues (characterized by level of importance).

New Issues

Bear Creek Dam, constructed in 1911, is the furthest upstream project on the Jordan River system, which also includes the Jordan Diversion and Elliott Dams. The dam is a 19-metre-high hydraulic fill embankment with a Low consequence classification. It features a free overflow spillway and a low level outlet, which was decommissioned in 2019 by plugging the intake with concrete. Downstream of the decommissioned intake, the low-level outlet consists of two riveted steel pipes. These pipes were laid in an excavated rock trench and encased in a minimum of 0.3 metres of concrete on all sides.

A planned inspection of the low level outlet was conducted during the week of August 25. A pipe crawler equipped with camera and survey scanning technology was used to inspect the two pipes. The inspection revealed heavy corrosion and significant material loss. Leakage was observed near the invert level of both pipes, located below the upstream slope of the dam near the decommissioned intake. Measured seepage rates were 10 L/min for the left pipe and 50 L/min for the right pipe. Advanced corrosion and leakage in the unpressurized low level outlet pipes pose a risk of uncontrolled reservoir release. This could occur if leakage water erodes dam fill material and creates a pathway through the pipes. Although there is currently no direct evidence of dam fill loss, an enhanced surveillance program was initiated following

the inspection. Daily visual inspections of the dam and monitoring of leakage flow rates from both conduits are being conducted to detect any signs of deterioration and enable timely implementation of further risk reduction measures.

The remediation approach is currently being evaluated by Engineering. The most likely solution involves fully grouting the two low-level outlet pipes, with work planned for completion in late fall or early next spring. This is being executed as a priority project, with contractors and environmental plans being developed in parallel with specifications for remediation.

Figure 4 Seepage into the left Low Level Outlet pipe through holes in the rivetted steel pipe.

Compliance with Processes and Regulations

Regulatory Communications – British Columbia Utilities Commission

BC Hydro filed an Application to the Commission for the Strathcona Discharge Upgrade Project in June 2023. The proceeding was adjourned in May 2024 pending the conclusion of the Request for Proposal (RFP) process for the main construction contract and an updated Project Cost Estimate. An Evidentiary Update with the updated estimate was filed May 2025 with final arguments in August 2025. The commission accepted BC Hydro's expenditure schedule on Oct 15, 2025.

Regulatory Communications – Comptroller of Water Rights

The Provincial Dam Safety Officer was informed of the leakage observed into the low level outlet pipes at Bear Creek Dam. See New Issues above for additional details.

Government Licensed Professionals, including all provincial Dam Safety Officers except for the Dam Safety Section Head, went on strike in September. This has the potential to result in delays to approvals and authorizations but there have been no impacts to Dam Safety to the end of Q2.

Operation, Maintenance and Surveillance Manuals

Each dam has an Operation, Maintenance and Surveillance Manual ("Manual") for Dam Safety that identifies responsibilities and expectations within BC Hydro for maintaining the safety of the dam. These Manuals are required by the Dam Safety Regulation and must be updated every seven to ten years, depending upon the dam's failure consequences classification.

The schedule of updates for F2026 has been finalized and includes Falls River Dam, which is due this year under the regulation, and Elko Dam, which is required to reflect the changes made to the West Spillway with the permanent removal of stoplogs and piers. The Peace Canyon Dam is also being updated to include instrumentation that was installed recently and Clowhom Dam is being updated in anticipation of a Dam Safety Review next year.

An interim update to the Coquitlam Dam OMS Manual has been prepared to incorporate changes in discharge curves and an update to the Probable Maximum Flood. This will be issued in early Q3.

Dam Safety Reviews

Dam Safety Reviews are independent, systematic reviews and evaluations of all aspects of a dam's physical condition, design, construction, operation, maintenance, processes, and other systems affecting the safety of the dam. Performed by external consultants, they are carried out at minimum intervals of every five to ten years for dams that are classified in accordance with the Dam Safety Regulation as High, Very High, and Extreme consequence dams.

Five Dam Safety Reviews – for Alouette, Duncan, Elliott, Revelstoke, and Seven Mile Dams – were initiated in 2024 and are due at the end of calendar year 2025. Final reports have been received for all except Revelstoke. The fourth draft of the Revelstoke Dam Safety Review was approved for finalization and will be received in early Q3. The new issues and recharacterization of existing issues arising from these reviews have been entered into the relevant database and reviewed by the regional Dam Safety Engineer. One such recharacterization, the seismic withstand of the Alouette low level outlet system, will be reported next quarter pending further discussion and review. The final reports are provided to the provincial Dam Safety Officer along with the Dam Safety Engineer's documented review and our response to the findings.

Five Dam Safety Reviews are underway for completion in calendar year 2026 - Mica, Hugh Keenleyside, Buntzen, Quinsam Diversion, and Quinsam Storage Dams. Site visits have been completed and draft reports are in progress.

A Request for Proposals for multi-contract consulting services agreements in planned to be posted in Q3 to establish engineering services to carry out Dam Safety Reviews for F2027 to F2030.

Surveillance

Key activities comprising dam safety surveillance include inspections, monitoring of instrumentation, quality control of data, and characterization of dam performance. Table 2 below provides key metrics regarding these activities, which are described in the following sub-sections of the report.

Table 2 Dam safety inspections and surveillance activities.

		Quarter Q2		Fiscal Year F2026	
		Actual	Target	Actual	Target
Routine dam inspections	Completed	420/420 = 100%	100%	808/810 = 99.8%	99.5% ✓
	Missed	**0**		**2**	
Formal (annual and semi-annual) dam inspections	Field work completed	10	35	48	55 ✗
	Reports issued	22	10	23	10 ✓
Instrumentation data checks		195/195 = 100%	97%	388/390 = 99.5%	99% ✓
Reservoir slopes inspections	Field work completed	5	11	9	12 ✗
	Reports issued	1	1	1	6 ✓

Routine Dam Inspections

Routine weekly and monthly inspections are a regulatory requirement. These visual inspections are carried out by trained inspectors within Dam Safety or Stations Field Operations using checklists prepared by the Dam Safety Engineer. The purpose of these inspections is to identify changing conditions at a dam, reservoir, or appurtenant structure that could threaten the safety of the dam. In the second quarter all 420 scheduled routine inspections were completed and as of the end of the quarter 808 out 810 inspections have been completed.

Formal Dam Inspections

Formal inspections of the dams are regulatory inspections conducted by Dam Safety Engineers on a semi-annual or annual frequency, as determined by each dam's Consequence Classification. These inspections involve a comprehensive visual inspection, a review of the monitoring data through the course of the year, and an assessment of the condition of the water containment and conveyance structures. Significantly more inspections were completed in Q1 ahead of the internal target of Q2. At the end of Q2, completion of the field work is now slightly lagging the year to date internal work targets, with overall 48 inspections being completed compared to a target of 55. The reporting component is exceeding targets with 23 reports completed compared to an internal work target of 10. Although the field work is slightly lagging behind the target there is no concern on missing the regulatory schedule of having the field work component completed for all 73 inspections by the end of the calendar year.

Instrumentation and Monitoring

Dam Safety Surveillance collects, checks, and assesses about two million data points a month and with Site C this will substantially increase due the type of instruments and reading frequency for a new dam. A vast majority of the data is collected and checked against threshold values automatically by the Automated Data Acquisition System. Even though most of the data is checked automatically it is essential that qualified staff review the data regularly to ensure the systems are functioning as expected. The Dam Safety Technologists in each region regularly check instrumentation data plots for all dams to ensure the Automated Data Acquisition System is functioning as expected, identify any unusual trends, and ensure continued accuracy of the data for ongoing engineering assessment. They are tasked to perform three such checks per week. All 195 were completed in Q2 which is above the 97 percent target.

Reservoir Slopes

Reservoir Slopes inspections are completed on a frequency ranging from semi-annually to once every ten years, depending on the assessed hazard of the slope. They are typically carried out by the Reservoir Slopes Geologist and the Specialist Dam Safety Engineer for the Upper Columbia Region. Each inspection generally consists of a review of all monitoring data, a visual inspection completed from helicopter with boots-on-ground assessment of identified areas of concern, and documentation by a sealed engineering report. In F2026, 16 reservoir slopes inspections are due for completion. Field work for five of the inspections was completed in Q2 bringing the year-to-date total to nine, slightly lagging of an internal work target of 12. These inspections are scheduled to be completed in October outside Q2 reporting.

Unusual Events or Observations

The Dam Safety on Call Person responded to 80 calls in Q2, which typically includes instrumentation alarms, operational inquiries, operations notifications during high inflows and earthquake notifications. This number of calls and responses is considered normal for this time of year.

On the afternoon of September 21, 2025, during a heavy windstorm, a log storage corral operated by Interfor Corporation broke free from its moorings. Located approximately 1,000 metres upstream of Hugh Keenleyside Dam, the corral was impounding a large volume of log bundles for transport and storage as part of operations by external stakeholders, including Interfor Corporation and the Mercer Celgar pulp mill.

Following the failure, the uncontrolled log bundles drifted downstream toward Hugh Keenleyside Dam and the Arrow Lakes Hydro power canal. The main mass of logs became lodged at a narrow section of Arrow Lake, fully bridging the reservoir at the intake to the power canal. Some log bundles breached the debris barrier and entered the power canal, while others continued downstream toward the Hugh Keenleyside debris boom.

The large volume of woody debris posed a significant hazard to critical infrastructure at the dam, including the debris boom, floating guidewall pontoons 5 and 6 (moored upstream of the dam), and the intact floating guidewall sections. A failure of the debris boom or mobilization of the guidewalls could obstruct the dam’s discharge facilities, potentially reducing conveyance capacity or causing damage to infrastructure.

Interfor staff were promptly alerted to the corral failure and responded by mobilizing tugboats to regain control of the log bundles. They also notified the Senior Field Manager at Hugh Keenleyside Dam, who in turn informed the Dam Safety Engineer. The engineer mobilized to the site to inspect the dam and assess risks associated with the unusual condition.

Interfor successfully re-established control of the log bundles using a temporary corral, effectively mitigating the immediate risk to the dam. BC Hydro maintained 24-hour site supervision throughout the event until September 26, when a permanent corral was re-established.

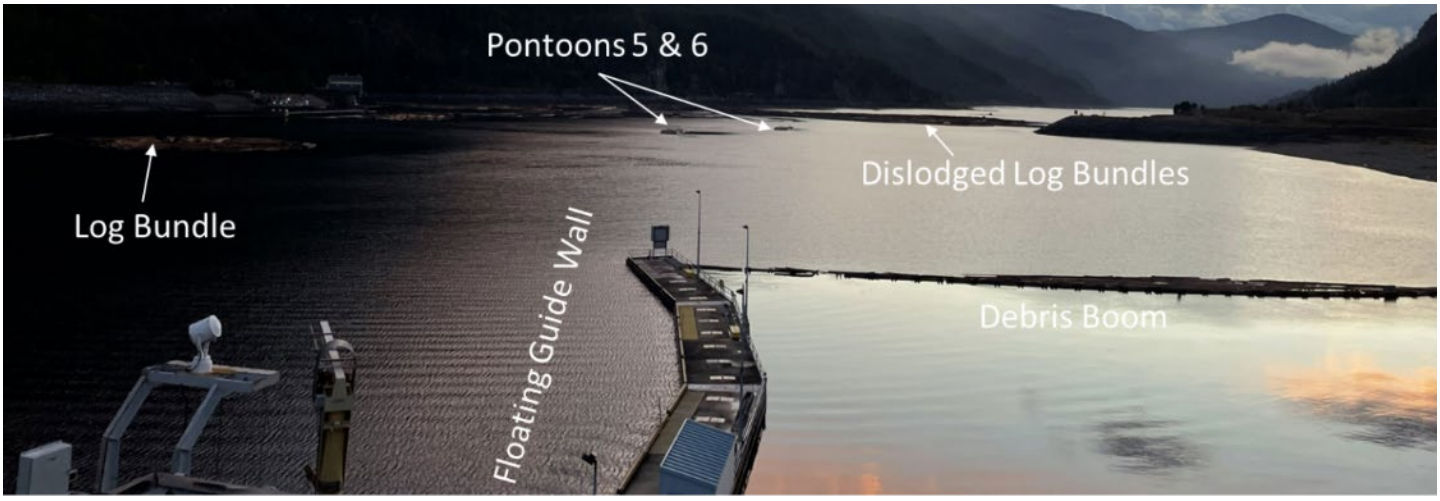

Figure 5 Photo of the log bundles that were dislodged from their moorings at Hugh Keenleyside Dam

Civil Maintenance

Results for the Preventive and Condition-Based Civil Maintenance programs are summarized in Table 3, below.

Table 3 Dam Safety and Generation Civil Maintenance for F2026.

		Quarter Q2		Year-to-date	
		Actual	Target	Actual	Target
Corrective and Condition-Based Maintenance	Spend ($k)	1167	417	2832	2977
	Work Orders Completed	5	5	11	11
Preventive Maintenance	Tasks Completed	NA	NA	NA	

Preventive Maintenance

In Q2 of F2026, the Stations SAP (SSAP) project was brought into operation, establishing an integrated framework for management and execution of work on Dam Safety and Stations assets. It replaces legacy systems such as PassPort and consolidates work management process into the SAP Enterprise Asset Management (EAM) platform, improving asset information tracking, work management and related workflows.

During this transition, reporting capabilities have been temporarily impacted due to ongoing data migration, reconciliation, and user training activities. As a result, preventative maintenance unit completion data for this period cannot be reliably reported. Reporting is expected to resume in Q3 of F2026; however, in consideration of application and process changes, as well as the enhanced capabilities of the SSAP system, the reporting format is under review and may be revised to better represent the priorities of the Dam Safety program.

Corrective and Condition-Based Maintenance

As of the end of Q2, the Corrective and Condition-Based Civil Maintenance Program was on track, completing 11 of the planned projects.

In response to higher-than-anticipated estimates and the need to expand the scope of work for select projects, the program was forecasting to overspend the annually allocated $4.15M budget. As funding was available, the program budget was increased by $300k for this fiscal, eliminating the need to defer projects and ensuring continuity where internal and external resources were already aligned to support work. Two notable projects completed this quarter included the internal inspection of the low level outlets at Bear Creek Dam and spillway repairs at Aberfeldie Dam.

At Bear Creek Dam, an inspection was completed to assess the internal condition of the low level outlet pipes decommissioned in 2019. The work required extensive coordination with external contractors, BC Hydro's Environmental and Stations Maintenance teams. Key activities included installation of a temporary cofferdam to isolate the outlets from tailwater, dewatering and pressure washing the pipes, and the use of remotely operated vehicles (ROVs) to perform visual inspections and internal survey scans. As noted in the *New Issues* section of this report, the inspection revealed deterioration of the pipes and leakage near the invert of both pipes, prompting an enhanced Dam Safety surveillance program.

At Aberfeldie Dam, localized repairs were completed by the Vernon Construction Services team on spillway areas exhibiting concrete deterioration. To support safe planning and execution of the work, several mitigation measures were implemented as the reservoir is hydrologically sensitive and can fill rapidly, resulting in a spill across the un-gated overflow spillway with limited notice. The mitigation measures included updated hydrotechnical modelling for the site, inflow forecasting, and the assignment of a designated spillway monitor responsible for tracking reservoir levels and issuing any necessary spillway evacuation alerts to the project team.

Other Q2 projects included repairs of the Peace Canyon spillway hoist house concrete roof panels, as well as engineering inspections of the Lake Buntzen tunnel outlet, the left abutment rock bluff at Ladore Dam, and the right abutment slopes at Comox Dam.

Figure 6 Aberfeldie spillway repairs. Bottom left: Overview of the spillway overflow channel and work area. Bottom right: Construction Services team preparing for formwork installation at a repair location.

Spillway Gate Testing and Maintenance

Spillway Gate Testing

During Q2 of F2026, 232 of 232 scheduled gate tests were completed. This includes the Full Opening tests of 16 gates. Table 4 below provides key metrics related to spillway gate testing.

Table 4 Spillway gate testing results for F2026.

		Quarter Q2		Year-to-date	
		Actual	Target	Actual	Target
Monthly Tests	Completed	232/232 = 100%	100% ✓	463/467 = 99%	98% ✓
	Missed tests	**0**		**4**	
Gates Failing to Operate on Demand during Testing	No. of failures	**0**		**0**	
	Failure rate	0/232 = 0%		0/467 = 0%	

No gates failed to operate on demand during testing in Q2. However, several new issues were identified this quarter.

At Stave Falls Dam, in June and July, the two battery backup power supplies were found to be non-functional. This is a repeat of a previous issue. Replacement parts have been ordered and the backup diesel generator located at the powerhouse is being used to test the gates monthly pending repair.

At John Hart Dam, in July, gate position indication was found to be unresponsive, although the gates were operable. The system was restored to normal operation the next day.

Modifications to gate testing scopes (e.g., to exclude gate movements) are authorized in circumstances where: there would be the potential to cause harm to species at risk or other deleterious environmental consequences; there would be the potential to cause damage to the gate system or other infrastructure; or gates are locked out to support the safe performance of downstream or adjacent construction activities and returning the gate(s) to service for testing would be impracticable. Authorization for such exemptions is either provided for in Maintenance Instructions, where those circumstances occur routinely, or by the Director of Dam Safety or delegate in unusual circumstances. In Q2, gate testing scopes were modified to exclude gate movements on 15 of the 232 tests completed.

Gates Out of Service or Under Restricted Service

The availability of flood passage devices is a key measure of our ability to pass high inflows and manage reservoir levels.

New issues this quarter

- As summarized above, the two battery backup power supplies at Stave Falls Dam have been out of service since July.

Update on existing issues

- Comox Dam spillway operating gate 2 is in service, but was unable to close completely during high reservoir levels this spring. Troubleshooting through the summer was unable to reproduce or identify the problem. A work procedure has been developed to manually assist the gate to close and the gate is being monitored as reservoir levels rise through the fall. Replacement of the gate and hoist is planned for 2026 as part of the Comox-Puntledge Flow Control Improvements Project.

- As previously reported for Stave Falls Dam, structural damage to the Blind Slough spillway gantry crane was identified during a planned inspection. The crane is the primary device for operating the sluice gates (spillway gates 5 – 14) for flood conveyance however the sluice gates can also be lifted using a mobile crane. The crane was repaired and returned to service in early October.
- As previously reported for Falls River Dam, intermittent issues with remote spillway gate operation from the control center persist. Local operation of the gate is tested quarterly. This is a recurring issue, and investigations continue, but no major interventions are planned pending the update of the Facility Asset Plan (currently under development).
- As previously reported for Revelstoke Dam, one of the two outlet works gates was unable to operate in cold temperatures in February. The gates have been functional when tested each month since February and the field maintenance engineer continues to develop a root cause analysis. The investigation has included additional monitoring and component replacements. One preliminary conclusion is the outlet works have insufficient capacity to operate reliably in cold weather, so the testing program for this winter is being reviewed.

Flood Discharge Gate Maintenance

Due to the SAP transition, the maintenance results for F2026 Q2 are not available, so have not been included. Inclusion of these results will be evaluated as the changes in business processes are clarified. The number of outstanding flood discharge gate reactive operations is shown in the chart in Figure 6, on the following page. As a process improvement, the transition to SAP is allowing the inventory of work to be determined based on equipment rather than manual tagging. The SAP orders are shown in a new data series and an accompanying step change in the chart. The approach is being refined and further changes may be implemented next quarter.

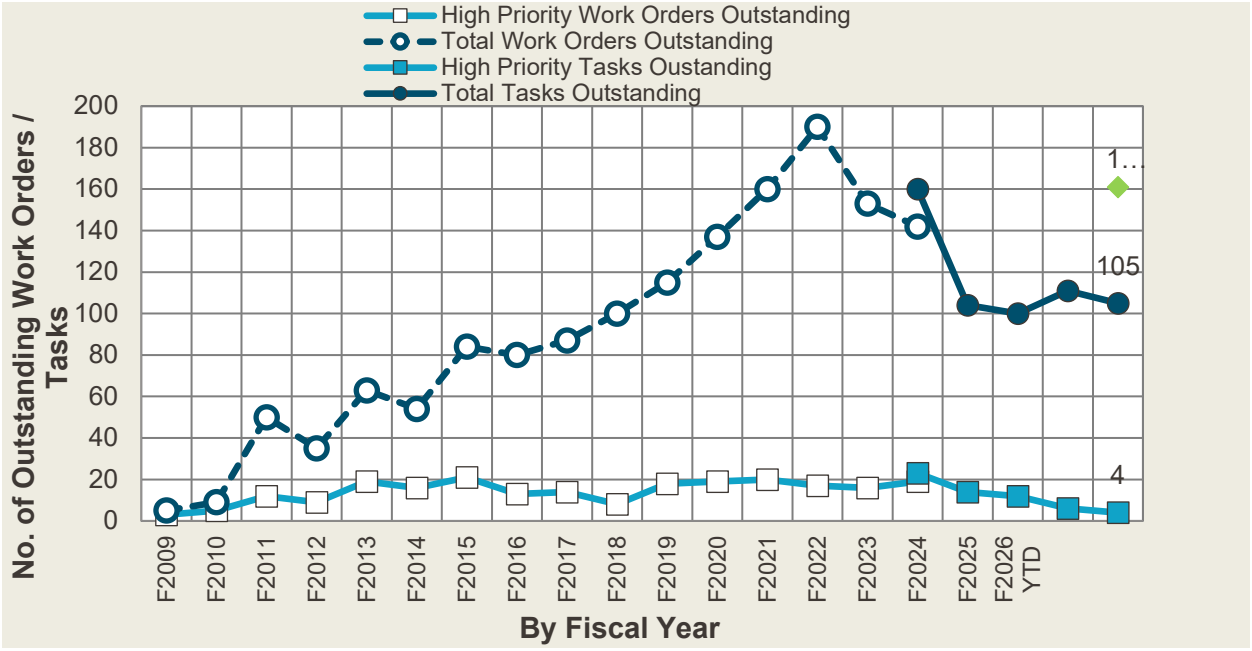

Figure 7 Outstanding reactive work on flood discharge devices

Notes:
1. In 2025, the system or record transitioned to SAP and a new series was created showing the outstanding SAP operations.
2. At the conclusion of F2022 moving forward into F2023, figures were restated as outstanding tasks instead of outstanding work orders to align with Operations reporting.

Emergency Preparedness and Public Safety

Emergency Preparedness is managed by Emergency Management. Dam Safety reports on the updating of emergency plans for compliance with the Dam Safety Regulation as part of annual reporting to the Comptroller of Water Rights. Public safety near dams and reservoirs is managed by the Public Safety team in Safety Programs. Dam Safety reports on Public Safety activities related to dams during the Dam Safety Reviews. Please refer to the Quarterly Safety & Emergency Management Report, submitted to the Operations, Planning, Safety & Information Technology Committee, for updates on emergency preparedness and public safety.

As previously reported, Dam Safety and Emergency Management have been working together to plan and implement a series of tabletop dam safety emergency exercises. These exercises are part of a broader strategy leading up to a full-scale functional exercise in 2027.

The first step in this plan was completed on May 14 with a tabletop exercise held at Kootenay Canal. Planning for the next tabletop exercise, scheduled for 2026, will begin in Q3 of this year and will incorporate the six recommendations from the 2025 exercise.

Additionally, one corrective action and one recommendation for improvement to existing emergency response procedures have been completed. The remaining two corrective actions are expected to be completed in Q3.

Site C Clean Energy Project

All six generating units are now in service. Work is ongoing to convert the spillway's three operating gates and six low-level operating gates to their final power supply and control systems. These upgrades will enable remote control, automatic spill engagement to maintain environmental flows in the event of an unplanned full plant outage, and the handover of gate operations from the project team to Stations Field Operations. The Interim Dam Safety Risk Management Plan, which governs spillway gate operation under temporary power supplies and local control systems, is being updated as gates are progressively taken out of service for the final commissioning activities.

Surveillance inspections and instrumentation monitoring continue to show positive results regarding the performance of the dam and water-retaining structures. The inspection frequency has been reduced to the BC Hydro Operations, Maintenance, and Surveillance standard rate of once per week and has been transitioned to the Dam Safety crews. Responsibility for the biannual inspection reporting and instrumentation system remains with the project team and will be handed over to Dam Safety in phases beginning in early 2026.

The reservoir slope and shoreline monitoring program is continuing following reservoir filling. Shoreline erosion has been observed around most of the reservoir perimeter, typically more severe in overburden materials and minimal in bedrock areas. Opening of the Site C reservoir boat launches is scheduled for Spring 2026. These plans are dependent on the results of monitoring of the shorelines over the winter.

Capital Projects

Summaries of Dam Safety Capital Projects are available for reference in the Dam Safety "book" in Diligent. This section of the report describes newly launched projects and provides updates for projects where significant developments occurred, or where milestones were achieved.

Comox-Puntledge Flow Control Improvements

The F2025 Q3 Quarterly Dam Safety Report described deficiencies in newly commissioned equipment that incurred operational reliability risks for the Comox Dam's spillway gates and one of the Puntledge Dam's intake gates. These include the excessive power draw of the spillway gates on the existing backup power supply at Comox Dam and the power draw and slow closure speed of a new intake operating gate at Puntledge Dam, and welding deformation of a new spillway gate at Comox Dam that prevented it from being installed as planned.

Interim Dam Safety Risk Management Plans remain in effect. The project team has developed long-term solutions for these issues for implementation with work progressing in 2025 on the Spillway gates and unpowered closure testing at site for the Intake gates. The testing is planned for fall 2025 to confirm the acceptance of the proposed design solution for the intake gate unpowered closure time. Once confirmed those solutions would be implemented on both intake gates in 2026 along with the remaining aspects of the project.

Strathcona Upgrade Discharge

The objective of this project is to provide deep drawdown capability to mitigate the risks associated with seismic and seepage deficiencies of the dam and to improve the discharge capabilities. This will be achieved by a new low level outlet (LLO) and free crest spillway which will replace the three existing vertical lift gates.

The temporary control systems for the spillway gates, located on the dam crest near the right abutment, completed commissioning in July. Through the remainder of Q2, investigative drilling was completed as part of early contractor involvement activities, and tree removal and site preparation progressed in anticipation of the commencement of comprehensive civil works for the low level outlet channel excavation and control building construction.

Ladore Spillway Seismic Upgrade

The objective of the Ladore Spillway Seismic Upgrade Project is to upgrade the spillway gate system at Ladore Dam so that the spillway gates and associated structures can resist the loads from a major earthquake and the spillway gates systems can reliably function to release water in a controlled manner afterward. General Improvements to the reliability of the systems are also included.

Construction continued in F2026 Q2 with ongoing activities including:

- Foundation excavation and preparation for main and backup control buildings and battery inverter building.
- Duct bank excavation and foundation preparation.
- Drilling and installation of post-tensioned anchors.

Completed work include:

- Construction of site offices and laydown area.
- Installation of construction monitoring survey equipment.
- Rock blasting and widening of access road from laydown area to dam right abutment.
- Boat launch upgrade and barge deployment.
- Relocation of Spillway Gate 1 and 2 local controls.
- Installation of Spillway Gate 3 bulkhead.

In fall of 2025, upgrade work on Spillway Gate 3 will begin, and replacement of that spillway gate and its hoist system is planned for completion in 2026. Spillway Gate 2 will be replaced in 2027, and Spillway Gate 1 will be placed in 2028.

Figure 8 Ladore Dam. Left: Installation of Gate 3 bulkhead, Middle: Upstream view, Right: Downstream view

John Hart Dam Seismic Upgrade Project

The construction works continued at John Hart Dam site as planned with the following progress on the main scope items:

- Work on a new elongated earthfill berm downstream of the old water intake and down the old penstock corridor continues.
- The dredging removal work on the upstream side of the Middle Earthfill Dam is complete. Placement of rock for the upstream berm is ongoing.
- Work continues on the upstream and downstream side of the Concrete Main Dam to construct a new overflow spillway under the road deck. Construction of the overflow spillway apron continued to Blocks 4 to 9, along with replacement of the road deck. Installation of post tension anchors and dam instrumentation is ongoing.
- The aquatic habitat restoration following the placement of the upstream berm on the North Earthfill Dam is complete. Placement of the downstream berm and the ground densification are ongoing and expected to be complete next quarter.

The hydromechanical request for proposal is scheduled for release in fall 2025. The approximate three years of hydromechanical work is planned to begin in summer 2027, immediately following the completion of the current civil work upgrades in spring 2027.

Figure 9 Downstream side of the John Hart North Earthfill Dam and the downstream berm and ground improvements

Ruskin Dam Left Abutment Sinkhole Remediation

This project was released to develop and implement remedial solutions to the causes and impacts of the sinkholes that developed on the left abutment of Ruskin Dam in 2020.

As described in previous Quarterly Dam Safety reporting three sinkholes have been identified to date. Ground Improvements to complete an engineered drainage filter area are underway. All excavation and concrete placement have been completed in the area where the engineered drainage filter is to be placed. Backfilling with gravel and sand is ongoing. Completion of construction is expected by the end of January 2026.

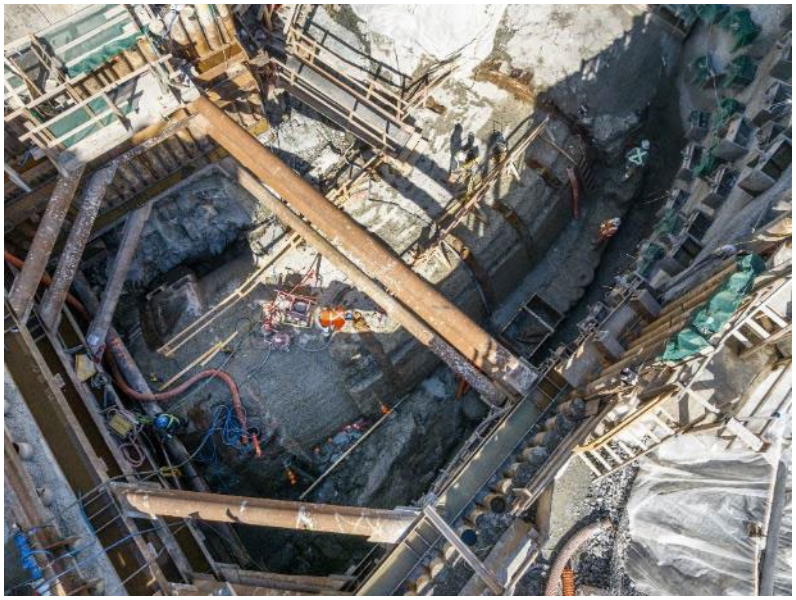

Figure 10 Exposed Penstock 3 in excavation.

La Joie Dam – Dam Improvements

The key dam safety issues at La Joie Dam include the ongoing deterioration of the dam's shotcrete facing and seismic deficiencies in both the dam and its intake tower. As an interim risk reduction measure, Downton Reservoir has been operated at a reduced level since approximately 2015, pending upgrades to the dam and full resolution of the associated dam safety risks. The objective of this project is to upgrade La Joie Dam, its intake tower, and other appurtenant structures to improve the integrity of the water barrier and enhance seismic resistance to a level appropriate for an extreme consequence dam. The project also includes consideration of post-earthquake reservoir control and will address several specific issues related to the dam's discharge gates

The project has continued to advance alternatives that offer cost savings while still achieving substantial dam safety risk reductions. Two principle options emerged from this exercise:

1. Full replacement of the dam water barrier to prevent flow through the dam. This alternative would minimize investment in the water conveyance system by reinforcing upstream flow control devices to ensure that they could be closed following an earthquake. This option would contain the reservoir with no uncontrolled releases following the earthquake, but would not allow the active management of safely lowering reservoir levels to below the spillway sill elevation.

2. Full replacement of the water conveyance system with limited replacement and refurbishment of the dam water barrier to decrease flow through the dam. This alternative would minimize investment in the dam, including removing the need for a downstream berm, and construct a new intake tower and water passage that could withstand the Maximum Design Earthquake. This option would contain the reservoir immediately following the earthquake, would likely necessitate some repairs to the dam face. The new water conveyance would permit the active management of the reservoir level following the earthquake, including for drawdown of the reservoir to reduce consequences and to permit inspections and repairs of the dam to take place.

In addition to the advantages to operation and dam safety risks, the second alternative offers reduced project impacts and risks by requiring fewer deep drawdowns of the reservoir and a shorter overall construction duration.

Alouette – Headworks Tower and Surge Tower Seismic Upgrade

The objective of this project is to ensure that the discharge facilities at the Alouette Project can be relied upon following the Maximum Design Earthquake (MDE) to pass reservoir inflows to Stave Lake. This is necessary because the spillway at Alouette Dam cannot be relied upon post-earthquake, and an upgrade to the spillway is technically uncertain. The discharge facilities include the headworks tower and shaft, the surge tower and shaft, the headworks operating gate, the slopes adjacent to these structures, the power tunnel concrete lining, and mechanical, electrical, protection and control, and communications systems to enable remote operational capability.

The first set of works included seismic upgrades to the surge tower structure, concrete lining of the surge shaft, slope stabilization and rockfall protection, shotcreting of a portion of the adit tunnel, and installation of a new backup power and communication system. The surge shaft and tower are located on the Stave Lake side of the tunnel, and the work did not require a drawdown of Alouette Reservoir. This set of works is substantially complete, with the exception of the adit gate backup power and communication system, which is now expected to be completed in spring 2026 due to contracting challenges.

The second set of works includes seismic upgrades to the headworks tower and shaft, replacement of the headworks operating gate, and supply and installation of stoplogs for the power intake structure. It also includes upgrades to the power tunnel and plugging of the construction adit. In Q2, bids were received to complete this second set of work. The work will require two extended drawdowns of Alouette Reservoir.

Alouette – Environmental Flow Discharge Upgrade and Low Level Outlet Sealing

The low level outlet at Alouette Dam was installed through the dam. If the conduit is damaged during normal operation or an earthquake, there is a risk that water infiltration into the pipe could lead to internal erosion or piping of dam materials. The intake gate is also not expected to withstand the Maximum Design Earthquake (MDE). The objective of this project is to reduce or eliminate the risk of failure of Alouette Dam due to internal erosion and piping associated with the low-level

outlet conduit and intake tower under both normal and seismic conditions, while reliably passing environmental flows to the Alouette River.

A siphon system was selected as the leading alternative to replace the existing low-level outlet. Feasibility design was completed in Q2 and includes a system with three siphons that pass water over the spillway. The siphons will be capable of operating even at low reservoir elevations, ensuring that environmental flows can be reliably sustained in the Alouette River. The system will also be capable of passing higher flows than the current low-level outlet allows. Due to the environmental and cultural sensitivities associated with drawdown of Alouette Reservoir, this project is working closely with the Alouette Headworks project to coordinate and minimize the need for reservoir drawdown.

Lake Buntzen 1 Penstock Interior Recoat

The scope of this project is to strip and recoat the internal surfaces of the Lake Buntzen Generating Station penstock to prevent ongoing loss of penstock steel thickness and ensure safe operation for at least another 25 years. This penstock supplies water to the Buntzen powerhouse, which is important to the operations and water levels of both the Buntzen and Coquitlam reservoirs.

Construction for stripping and recoating began in June 2025. The interior penstock and scroll case recoating using robotic technologies was completed in Q2. The submersible pumps used to mitigate impacts to the Buntzen Lake Public Use Area have since been removed. The work to install a carbon fiber reinforced polymer sleeve in a select length of the penstock was completed on October 9th, during the existing outage.

Figure 11 Left: Penstock recoating robot. Right: Carbon fiber reinforced polymer sleeve.

W.A.C. Bennett Dam – Seal Low Level Outlets

The objective of this project is to permanently seal and decommission the Low Level Outlets at the W.A.C. Bennett Dam. The low level outlets are approaching the end of the original design life and long term deterioration could lead to an uncontrolled release from the reservoir. The low level outlets do not provide any flow routing benefits.

Construction began in January of this year. Work began with the dewatering of the low level outlets to a settling pond for sampling and testing before being released to Dinosaur Lake. A trial concrete plug was constructed off site to test the mix design and to confirm that it would meet the requirements of the engineering specifications. Liners were removed from the low level outlets at the plug locations and bulkheads were installed at the 84” conduits. In Q2, all six concrete plugs were installed to seal the low-level outlets. Construction is continuing in the tunnels to remove or replace the old equipment as part of decommissioning.