8 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 Jan 1 to March 31 2026 (F2026 Q4) 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 March 31, 2026, but before the completion of this report have also been included.

The key highlights from F2026 Q4 and the beginning of F2027 Q1 documented in this report are:

- The aggregated Vulnerability Index decreased by about 12 due to the completion of three projects that mitigated identified risks, and the recharacterization of two other issues based on new information.
- Snowpack levels in both the Columbia and Peace River basins are well above normal, resulting in elevated runoff forecasts. When combined with above-average reservoir levels for this time of year, these conditions create a high probability of required spill, in addition to generation flows, to safely manage reservoir levels. Spill events at these large storage reservoirs are relatively infrequent compared to smaller coastal facilities that regularly spill during atmospheric river events. Given this lower frequency of use, a comprehensive maintenance program is in place to ensure spillway infrastructure remains fully operational and meets reliability expectations. This includes ongoing maintenance of Spillway Operating Gates and timely repair of any significant defects in concrete spillway chutes. See pages 6 and 7.
- The dam safety inspection and surveillance activities were completed in compliance with targeted levels through F2026. See pages 8 and 9.
- The program of condition-based civil maintenance was completed to plan for F2026, addressing the degradation of civil assets that could lead to more significant deficiencies if not corrected. See pages 9 and 10.
- The spillway gate testing program completed 938 planned gate tests in F2026, equating to a 99% compliance with plan. Only one of those gate tests resulted in a failure to operate on demand. See page 11.
- The earthworks scope of work on the John Hart Dam Seismic Upgrade project are substantially complete. Work continues on the concrete main dam and the road deck, after which the spillway gates work will proceed. See page 18.
- The work to permanently decommission the low level outlets at W.A.C. Bennett Dam were placed into service in F2026 Q4. This work addresses an outstanding dam safety risk related to the potential uncontrolled release of water should the aging equipment installed in the tunnels fail. See page 19.

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.

Risk Profile and Issues Management	G →	• **Vulnerability Index (pp. 3-4):** The aggregated Vulnerability Index decreased by about 12 through Q4 of F2026 due to the completion of three projects that mitigated identified risks, and the recharacterization of two other issues based on new information. • **Non-Conformances (pp. 5-6):** The number of outstanding issues has remained largely unchanged. • **New and Current Issues (pp. 6-7):** There is a high probability of required spill on the Peace River and Columbia River systems to manage reservoir levels.
Regulatory Compliance	G →	• **Operation, Maintenance and Surveillance Manual Updates (p. 7):** Updates to the Clowhom Dam and Duncan Dam OMS manuals were started in F2026 Q4. Updates to Duncan Dam and Seven Mile Dam are due in 2026 under the Dam Safety Regulation. • **Dam Safety Reviews (pp. 7-8):** The final report for the Mica Dam Safety Review was received in F2026 Q4.
Surveillance	G →	• **Dam Inspections (p. 8):** In Q4 F2026, routine inspections are meeting our targets. All required formal dam safety reports were completed. • **Reservoir Slopes (pp. 9):** In F2026, the 16 reservoir slopes inspections that were due were completed and reports were issued. • **Unusual Events or Observations (p. 9):** High inflow events in Q4 2026 resulted in a slightly higher than average number of instrument alarms.
Maintenance and Testing	G →	• **Civil Maintenance (pp. 9-10):** The Corrective and Condition-Based Civil Maintenance Program completed the 26 planned projects for F2026. In Q4 of F2026, the Stations SAP (SSAP) project continued to stabilize following its operational launch, with ongoing efforts focused on data migration, reconciliation, and user adoption. • **Spillway Gates (pp. 11-13):** During Q4 of F2026, 241 of 241 scheduled gate tests were completed. This includes the Full Opening tests of 32 gates. One gate failed to operate on demand during testing in Q4.
Projects and Investigations	G →	• **Capital Projects (pp. 14-20):** Decommissioning of the low level outlets at W.A.C Bennett Dam was completed in F2026 Q4. The earthworks for the John Hard Dam Seismic Upgrade project are substantially complete. Work is continuing on the concrete main dam and the road deck.

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.

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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 Q4 are identified in Figure 1 and described below.

1. An ***reduction*** of 7.7 (Actual Normal deficiency) at ***Bear Creek Dam***.

   A project to fill the deteriorated Low-Level Outlet pipes with concrete at Bear Creek Dam was completed in F2026 Q4. The concern that leakage flows may carry dam shell and core material into the pipe, potentially leading to significant dam performance concerns, has been addressed.

2. An ***reduction*** of 3.15 (Actual Normal deficiency) at ***Stave Falls Dam***.

   New debris booms were installed in June 2025, replacing the older booms which were not expected to fulfill their function in significant inflow events.

3. An ***reduction*** of 0.5 (Actual Normal deficiency) at ***Duncan Dam***.

   The existence and condition of the rip rap on the upstream face of Duncan Dam is unknown, as it is covered by a layer of finer surficial material and is not visible. A review of historic photos shows that the upstream face condition has not substantially changed since construction and the issue has been recharacterized from an actual deficiency to a non-conformance of information.

4. An ***reduction*** of 0.7 (Actual Normal deficiency) at ***Elsie Dam***.

   A survey of the crest elevations of Saddle Dams 3 and 4 at Elsie Dam determined that these were lower than design. A project to restore these dams to their design elevation was completed in 2025 and the issue has been resolved.

5. An ***reduction*** of 0.36 (Actual Normal deficiency) at ***Alouette Dam***.

   The seismic withstand of the Spillway and Overflow Weir were reassessed in F2026 Q4 as part of the annual review of database issues. The rating was updated to take into account current operating protocols of the Alouette reservoir which reduce the likelihood of free spill post-earthquake.

Over the last several years, new issues have been added to the aggregated Vulnerability Index at a rate of approximately twelve per year. To prevent deterioration of the overall risk position, reductions to the Vulnerability Index through resolved issues should occur at the same pace or faster. Fiscal 2026 reflected both higher additions and higher reductions compared with the historical trend of the preceding years. As shown in Table 1 below, the Vulnerability Index has decreased slightly over the past four quarters and remains on track with planned projects intended 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	27	12	✓
	Additions - Last 4 quarters	25		

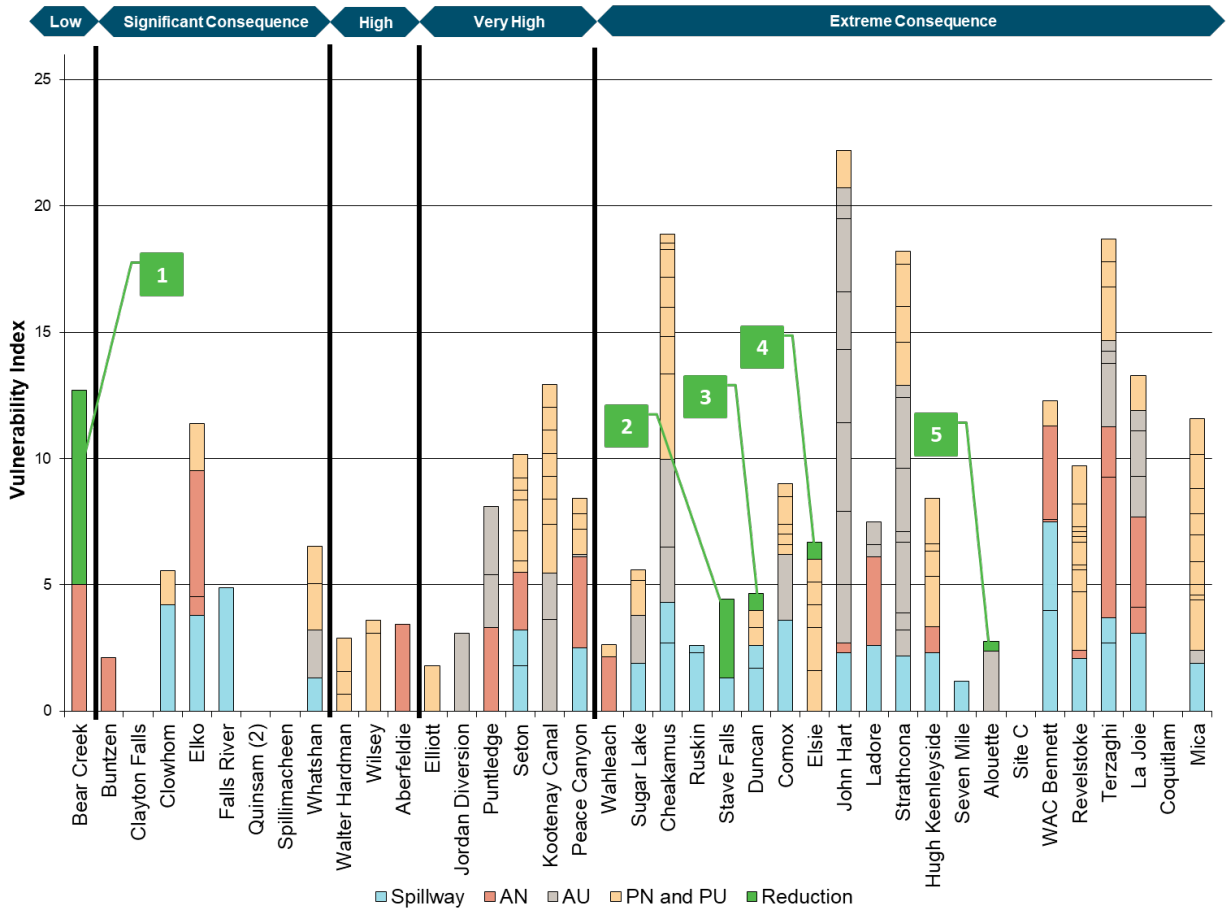

Figure 1 Dam Safety overall risk profile at the end of F2026 Q4, as represented by the Vulnerability Index. Changes this quarter are indicated by the numbered boxes.

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.

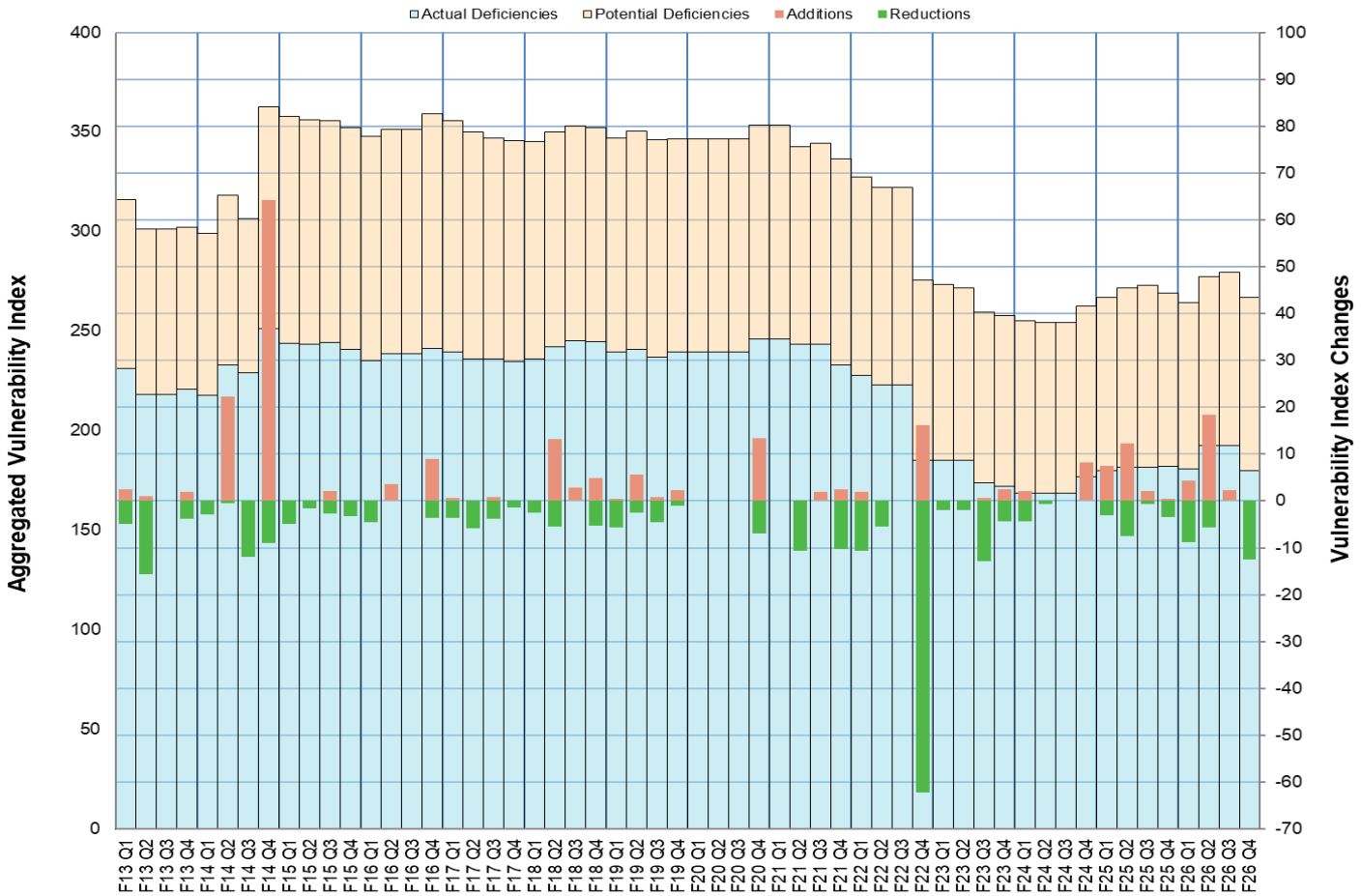

Figure 2 Historical and forecast changes and trends in the Vulnerability Index aggregated across the BC Hydro system. Note: In this chart, Spillway deficiencies are included as Actual deficiencies.

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 identify, review, resolve and close Non-Conformance issues continued through F2026 Q4. As a result, three Non-Conformance issues were resolved and four new issues were identified in Q4, resulting in 194 outstanding issues. Figure 3, below, shows the continuing management of Non-Conformance issues.

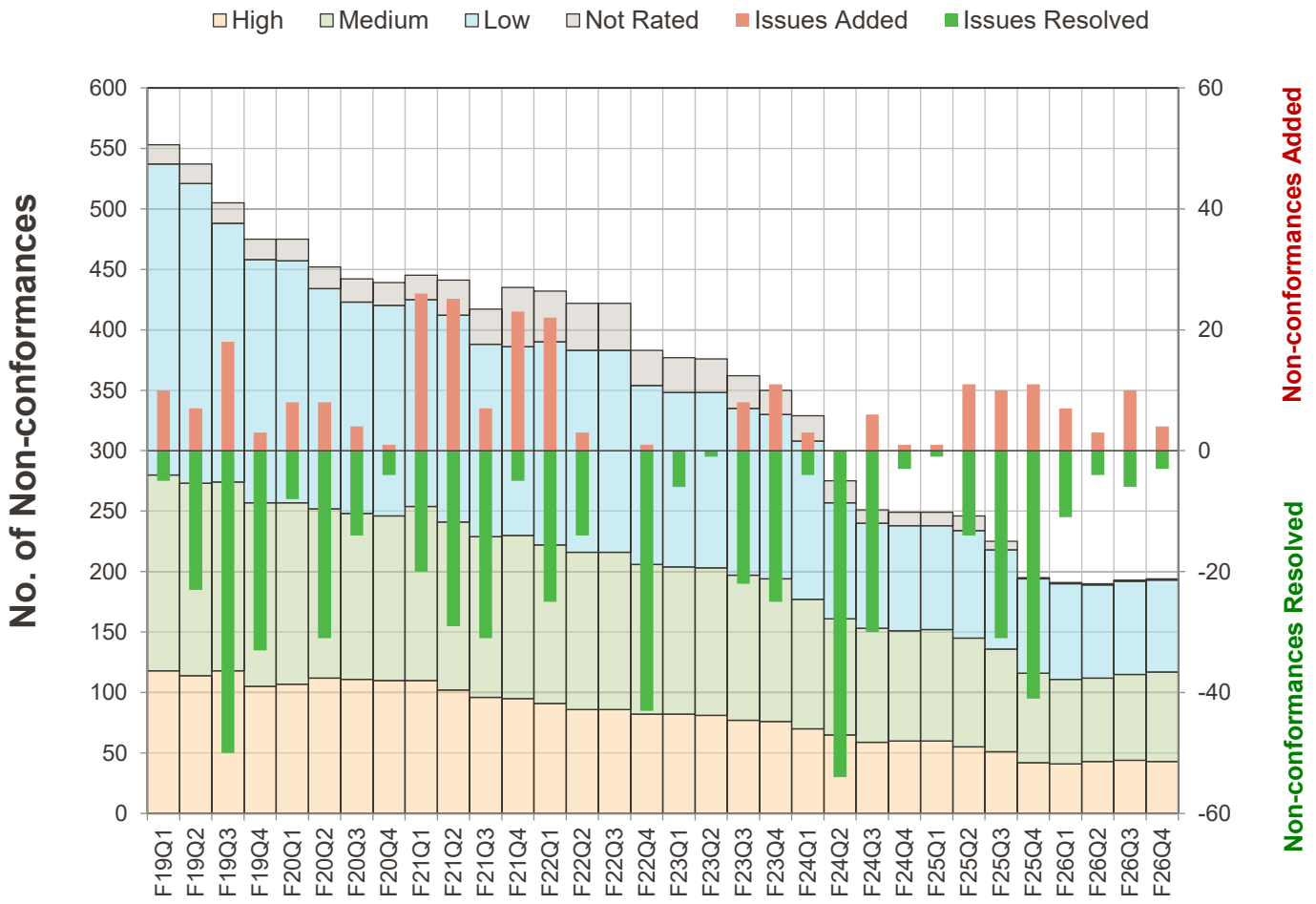

Figure 3 Changes and trends in the total number of Non-Conformance issues (characterized by level of importance).

New Issues

Snowpack levels in both the Columbia and Peace River basins are well above normal, resulting in elevated runoff forecasts. When combined with above-average reservoir levels for this time of year, these conditions create a high probability of required spill, in addition to generation flows, to safely manage reservoir levels.
The probability of spill is currently estimated at approximately 95% for the Columbia system (Mica Dam / Kinbasket Reservoir) and 70% for the Peace system (W.A.C. Bennett Dam / Williston Reservoir). Spill events, if required, are anticipated to occur between late June and August and could last for several weeks and would involve multiple facilities on each river system.

Spill events at these large storage reservoirs are relatively infrequent compared to smaller coastal facilities that regularly spill during atmospheric river events. Given this lower frequency of use, a comprehensive maintenance program is in place to ensure spillway infrastructure remains fully operational and meets reliability expectations. This includes ongoing maintenance of Spillway Operating Gates and timely repair of any identified defects in concrete spillway chutes.

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In preparation for potential spill operations, Dam Safety is actively coordinating with Generation System Operations, Stations Field Operations, Project Delivery, and Program and Contract Management to:

- Support Generation System Operations in obtaining regulatory authorizations to surcharge reservoirs, where appropriate, to reduce potential downstream impacts while maintaining dam safety.
- Evaluate the potential magnitude and duration of spill events to determine whether enhanced surveillance or additional risk mitigation measures are required.
- Review all maintenance and capital projects that could affect spillway availability and, where possible, develop return-to-service plans to ensure spillways remain available when needed. Where adequate return-to-service plans cannot be established, work may be deferred.
- Assess and, where feasible, reschedule planned maintenance activities (e.g., debris clearing and debris boom inspections) to ensure completion prior to spill onset.

Update on Previous Issues

There are no updates on previous issues to report this quarter.

Regulatory Communications – Comptroller of Water Rights

The annual meeting with the Comptroller of Water Rights office, scheduled for November, was cancelled due to the strike of Government Licensed Professionals and has been rescheduled for June.

Operation, Maintenance and Surveillance Manuals

Each dam has an Operation, Maintenance and Surveillance Manual (“OMS 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 on the dam’s failure consequences classification.

Updates to the Clowhom Dam and Duncan Dam OMS Manual began in F2026 Q4. Two OMS Manuals are due in 2026 under the Dam Safety Regulation: Duncan Dam and Seven Mile Dam.

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.

There were five Dam Safety Reviews in progress in F2026 Q4. The final report was received for the Mica Dam Safety Review. There were no new deficiencies or non-conformances in relation to the design, construction, maintenance, and operation of Mica Dam identified during this review. The review also concluded that previously identified deficiencies and non-conformance are catalogued, reasonably prioritized and systematically managed.

The Quinsam reports are not required under the Dam Safety Regulation. The Hugh Keenleyside and Buntzen draft reports are expected in May.

The request for Proposals for consulting services to carry out future dam safety reviews in F27-F30 was closed in January and seventeen bids were received. These were evaluated in F2026 Q4 and shortlisted to five consulting firms. The recommendation to award is in progress.

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Two full Dam Safety Reviews are planned for F2027 (Clowhom and Ladore) and three Dam Safety Reviews are planned to begin with information gathering in F2027 (Bear Creek, Whatshan).

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.

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 fourth quarter there were three missed inspections resulting in 417 of the 420 scheduled routine inspections being completed, which is within our target. Weather impacted the ability to safely access two sites resulting in missed inspections. A snowstorm, during the week of December 19, resulted in a missed inspection at Wahleach Dam and a debris flow blocked the road to Coquitlam Dam for week of March 16. The routine inspection at Site C Dam was also missed for the week of January 19 as two staff were assigned to offsite training and the remaining staff member was ill.

Table 2 Dam safety inspections and surveillance activities.

		Quarter Q4		Fiscal Year F2026	
		Actual	Target	Actual	Target
Routine dam inspections	Completed	417/420 = 99.3%	99%	1677/1684 = 99.6%	99.5% ✓
	Missed	**3**		**7**	
Formal (annual and semi-annual) dam inspections	Field work completed	0	0	73	73 ✓
	Reports issued	34	42	73	73 ✓
Instrumentation data checks		189/195=97 %	97%	774/780 = 99%	99% ✓
Reservoir slopes inspections	Field work completed	0	0	16	16 ✓
	Reports issued	9	10	16	16 ✓

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 collected throughout the course of the year, and an assessment of the condition of the water containment and conveyance structures. The field work and reporting for all 73 inspections were completed as of the end of the fiscal year.

Instrumentation and Monitoring

Dam Safety Surveillance collects, checks, and assesses millions of instrumentation data points a month. 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 summary 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 with performing three such checks per week. A total of 189 out of 195 scheduled checks were completed in F2026 Q4 meeting the target of 97% completion.

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 a helicopter with boots-on-ground assessment of identified areas of concern, and documentation in a sealed engineering report. In addition to the 16 scheduled inspections an additional four reservoir slope inspections were completed in F26 to balance future workload.

Unusual Events or Observations

The Dam Safety on Call Person responded to 114 calls in F2026 Q4, which typically includes instrumentation alarms, operational inquiries, operations notifications during high inflows and earthquake notifications. This number of calls and responses was slightly above normal due to increased instrument alarms during the high inflow events in January and March.

Civil Maintenance

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

Table 3 Dam Safety Condition-Based Civil Maintenance Program for F2026.

		Quarter Q3		Year-to-date	
		Actual	Target	Actual	Target
Corrective and Condition-Based Maintenance	Spend ($k)	723	231	4276	4250
	Work Orders Completed	5	3	29	29

Preventive Maintenance

In F2026 Q4, the Stations SAP project continued from deployment into stabilization. During this ongoing transition period, reporting capability remained constrained as system implementation continued to progress. Notwithstanding reporting limitations, monthly Preventive Maintenance reviews with delivery partners confirmed that overall work volumes remained consistent with historical norms and that high priority maintenance was being completed as planned.

Looking ahead, Dam Safety plans to refine its reporting approach to increase visibility of preventive maintenance on assets identified as critical for the safe retention and conveyance of reservoirs. The team is currently advancing this reporting enhancement, made possible by the identification and classification of these assets in SAP. Reporting of preventive maintenance using this enhanced methodology is expected to resume in F2027

Corrective and Condition-Based Maintenance

The Corrective and Condition-Based Maintenance program concluded F2026 Q4 activities with the completion of all 29 projects, while maintaining a budget variance of less than 0.6 percent against the approved annual allocation of $4.25 million.

A notable project completed during the quarter was the rehabilitation of spillway concrete at Blind Slough Dam (Stave Falls). Previous inspection findings identified deterioration of repairs completed in the 1980s, with the most pronounced degradation occurring immediately downstream of the gate sill beams in spillway bays 1 and 2.

Progressive concrete erosion presented a risk of undermining the sill beams, with the potential for structural deformation if left unaddressed. As the spillway bay 1 repairs were completed in F2025, the efforts this quarter primarily prioritized the rehabilitation of the upper third of the spillway surface in bay 2. Construction Services Vernon executed the work in accordance with repair methodologies developed by BC Hydro Stations Maintenance Engineering, as shown in Figure 4.

Figure 4 Stave Falls Spillway Bay 2 Concrete Repairs. Top Left: Scaffolding installation for access and egress into spillway bay 2. Top right: Installation of welded wire mesh following removal of deteriorated concrete. Bottom left: Curved form work in preparation of concrete placement. Bottom right: Concrete placement.

Spillway Gate Testing and Maintenance

Spillway Gate Testing

During Q4 of F2026, 241 of 241 scheduled gate tests were completed. This includes the Full Opening tests of 32 gates. Table 4 below provides key metrics related to spillway gate testing.

Table 4 Spillway gate testing results for F2026.

		Quarter Q3		Year-to-date	
		Actual	Target	Actual	Target
Monthly Tests	Completed	241/241= 100%		938/947 = 99%	98% ✓
	Missed tests	**0**		**9**	
Gates Failing to Operate on Demand during Testing	No. of failures	**1**		**1**	
	Failure rate	1/241 = 0%		1/947 = 0%	

One gate failed to operate on demand during testing in F2026 Q4. For more information, see the new issue regarding the Elko Low Level Operating Gate (LLOG) below.

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 F2026 Q4, gate testing scopes were modified to exclude gate movements on 46 of the 241 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. The two sections below summarize the known concerns.

New issues this quarter

- At Ladore Dam, while one of the three spillway gates is out of service and being replaced, a structural modification to a second gate was required. As this modification was underway, a concurrent high-inflow event and a planned generating station outage created the need for the modified spillway gate to pass flow. To route flow safely, the gate was partially returned to service following a partial-opening wet test, then fully opened for testing, and subsequently returned to full service approximately one month later. The recall and commissioning provisions in the risk management plan are being updated to prevent similar conflicts in the future.
- At Seven Mile Dam in February, when a mechanic attempted to start one of the diesel engines from the control panel inside the enclosure, one of the starting batteries exploded. No workers were injured. Near-Miss Incident 339363 was raised, with the potential severity assessed as high. Although the root cause of the explosion could not be determined, the investigation found that battery replacement had been omitted from the preventive maintenance program. The

preventive maintenance program has since been updated, and additional corrective actions are being discussed with multiple stakeholders.

- At Falls River Dam, recurring intermittent issues with remote spillway gate operation from the control center had been previously reported. In addition, in late December 2025, a fitness-for-service evaluation of the gates was completed. The evaluation found that the gates were significantly deteriorated, and their use for worker-access isolation has been suspended. The impacted maintenance work is being reviewed, and alternative approaches to completing it are being identified. Replacement of the gates is being evaluated as part of the long-term planning currently underway for Falls River.
- At Elko Dam, the Low Level Operating Gate (LLOG) had been 10% open since October 2025 to maintain downstream flows. In March, during testing, crews attempted to operate the gate but the overtorque protection prevented the gate from closing. Crews returned to site, cycled the gate to flush debris, and were able to close the gate.

Update on existing issues

The issues below have previously been reported but remain out of service or under restricted service, so a short update is provided.

- At Revelstoke Dam, one of the two outlet works gates was unable to operate during cold temperatures in February 2025. A root-cause investigation determined that the gate's hydraulic system has limited reserve capacity. Cold temperatures increase the viscosity of hydraulic oil and grease, raising operating loads and causing the hydraulic system to stall. This limitation will be added to the Local Operating Order, documented as a Dam Safety Issue, and evaluated as part of cold-weather gate-testing protocols.
- At La Joie Dam, in December, a forced outage resulted in, among other things, a one day loss of power and telemetry to the facility, leading to the pressure regulating valve inadvertently opening. The initial root cause investigation found deficiencies in the controls of the backup power supply. The issue occurred again in March, however with knowledge of the previous incident, SFO was able to restore power and the facility was not impacted. The final root cause investigation is in progress and expected to identify corrective actions.

Flood Discharge Gate Maintenance

The number of outstanding flood discharge gate reactive operations is shown in the chart in Figure 5. 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 in the future.

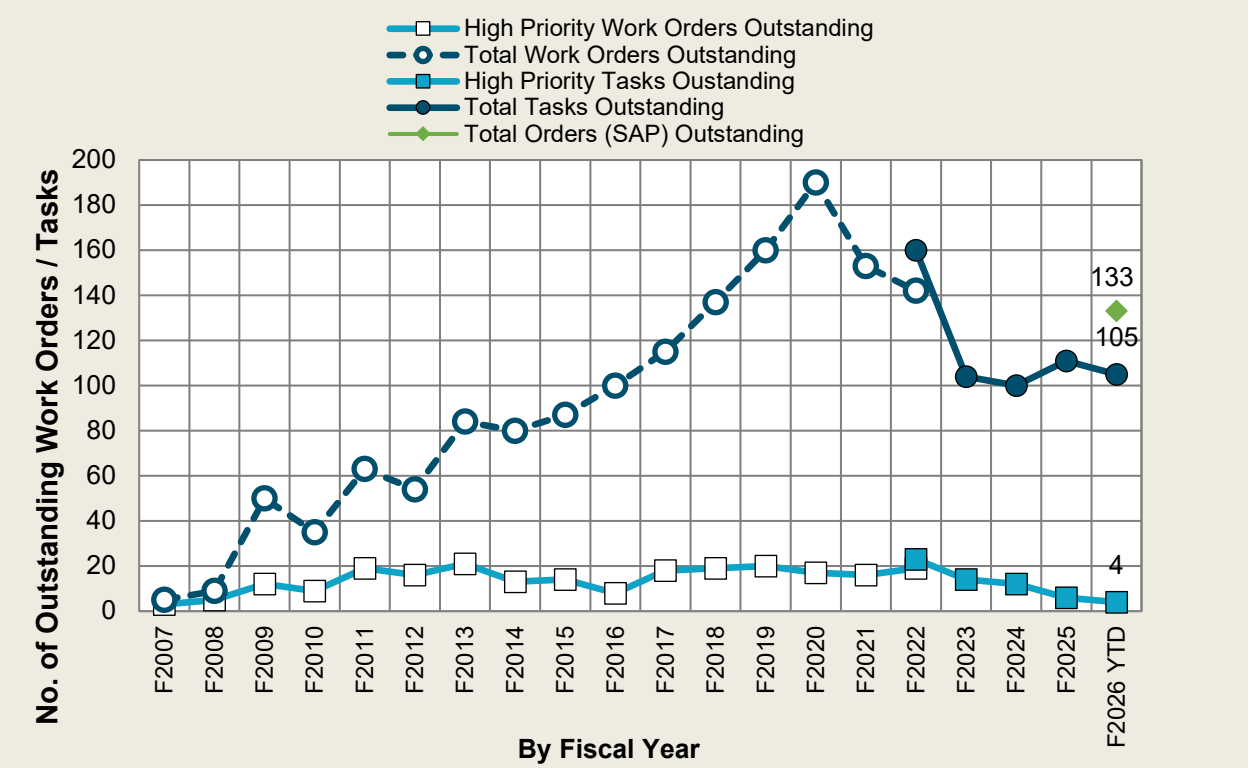

Figure 5 Outstanding reactive work on flood discharge devices

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.

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Site C Clean Energy Project

The asset fit-for-service acceptances for the generating units, the generating water passages, the dam, the reservoir and the tailrace have been completed, signaling handover to the business. The project and the business are continuing to work together to complete the asset acceptance for other assets, including the spillway, diversion tunnel, drainage adits, spillway gates, and low level outlets. The project documentation is being assembled for review and the asset acceptance for these other assets is expected to take place in the fall of this year.

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. The instrumentation system remains with the project team and will be handed over to Dam Safety in phases as part of the transition to operations.

The reservoir slope and shoreline monitoring program continues 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. Shoreline stability and erosion are expected to respond to the higher-than-usual snowpack and resulting melt. Field monitoring has resumed following the winter pause. Monitoring and assessments will continue through the spring, leading up to the opening of the reservoir and boat launches. BC Hydro is targeting July 1, 2026, for opening the reservoir and associated boat launches to the public. An ongoing assessment, communication, and response plan for changes in reservoir conditions is in place.

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.

Alouette Dam – Environmental Flow Discharge Upgrade and Low Level Outlet Sealing

The low-level outlet at Alouette Dam was originally installed through the dam structure nearly 100 years ago. If the conduit were to be damaged during normal operation or an earthquake, water infiltration into the pipe could lead to internal erosion or piping of dam materials. The intake gate is also not expected to remain stable after a major earthquake. 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 continuing to reliably pass environmental flows to the Alouette River.

As described in the F2026 Q2 report, the feasibility-level design for the proposed siphon system confirmed that the siphons would be capable of operating at low reservoir elevations, ensuring that environmental flows can be reliably maintained in the Alouette River. The system would also be capable of passing higher flows than the existing low-level outlet. In F2026 Q4, escalating cost estimates for the project prompted increased scrutiny of the design and reliability assumptions for the siphon system. As the project advances into preliminary design, the team will work with Dam Safety to reconfirm performance requirements and evaluate opportunities for cost savings.

Going forward as part of preliminary design, the project will work with Dam Safety to re-confirm the performance requirements and evaluate opportunities for cost savings.

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 a major earthquake 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 remains technically uncertain. The discharge facilities include the headworks tower and shaft, the surge tower and shaft, the headworks operating gate, the adjacent slopes, the power tunnel concrete lining, and the mechanical, electrical, protection and control, and communications systems required to support remote operational capability.

The first set of works is substantially complete. It 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 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 F2026 Q4, the project received approval to proceed with early works in 2026 to upgrade site access and complete slope-stabilization measures that do not require reservoir drawdown. Completing this work now will reduce risks to the main scope of work, which requires an extended drawdown of Alouette Lake.

Lake Buntzen 1 – Flood Discharge Capability Improvements

The Lake Buntzen spillway channel consists of three sections: the upper spillway, the middle canyon, and the lower flume. The middle canyon and lower flume sections are capable of passing 86 m^3/s, while the upper headworks and spillway can pass only approximately 46 m^3/s. During high-inflow events, the reliability of the generation facilities at Buntzen is critical because discharge through the generating unit is required to reduce the probability of overtopping the dam. With the generator operating and the Coquitlam–Buntzen tunnel open, the facility can pass the 1-in-75-year flood event. If the generator is out of service and the tunnel remains open, the facility can pass only 46 m^3/s, corresponding to a flood with an approximate two-year return period. If the dam were to overtop, water would flow down the penstock corridor, eroding penstock footings, washing out roads, and flooding the powerhouse. Closing the tunnel can help avoid this scenario; however, doing so increases discharge to the Coquitlam River, contributing to flooding risk in that system.

With aging generation equipment experiencing more frequent planned and unplanned outages, managing water levels in Buntzen Lake to meet operational needs, dam-safety requirements, and public recreational expectations is becoming increasingly challenging. This project was initiated in January 2025 with the objective of improving the ability of the Lake Buntzen Dam spillway to pass flood inflows and protect BC Hydro assets. The project is currently in conceptual design. An initial set of nine alternatives was developed, and through discussions with Dam Safety, the list was refined to four alternatives as shown on Figure 6 that would increase discharge capacity to meet the Canadian Dam Safety Guidelines:

- Extend the spillway and construct a penstock bypass
- Add a gated spillway and construct a penstock bypass
- Construct a low-level outlet with a tunnel from the reservoir to Indian Arm
- Re-use the Lake Buntzen 2 tunnel and construct a new intake and outlet to Indian Arm

The project team and Dam Safety will also consider potential phased approaches if a smaller, interim project can be advanced more quickly to achieve short-term improvements and risk reduction, even if it does not fully meet the Canadian Dam Safety Guidelines for flood passage.

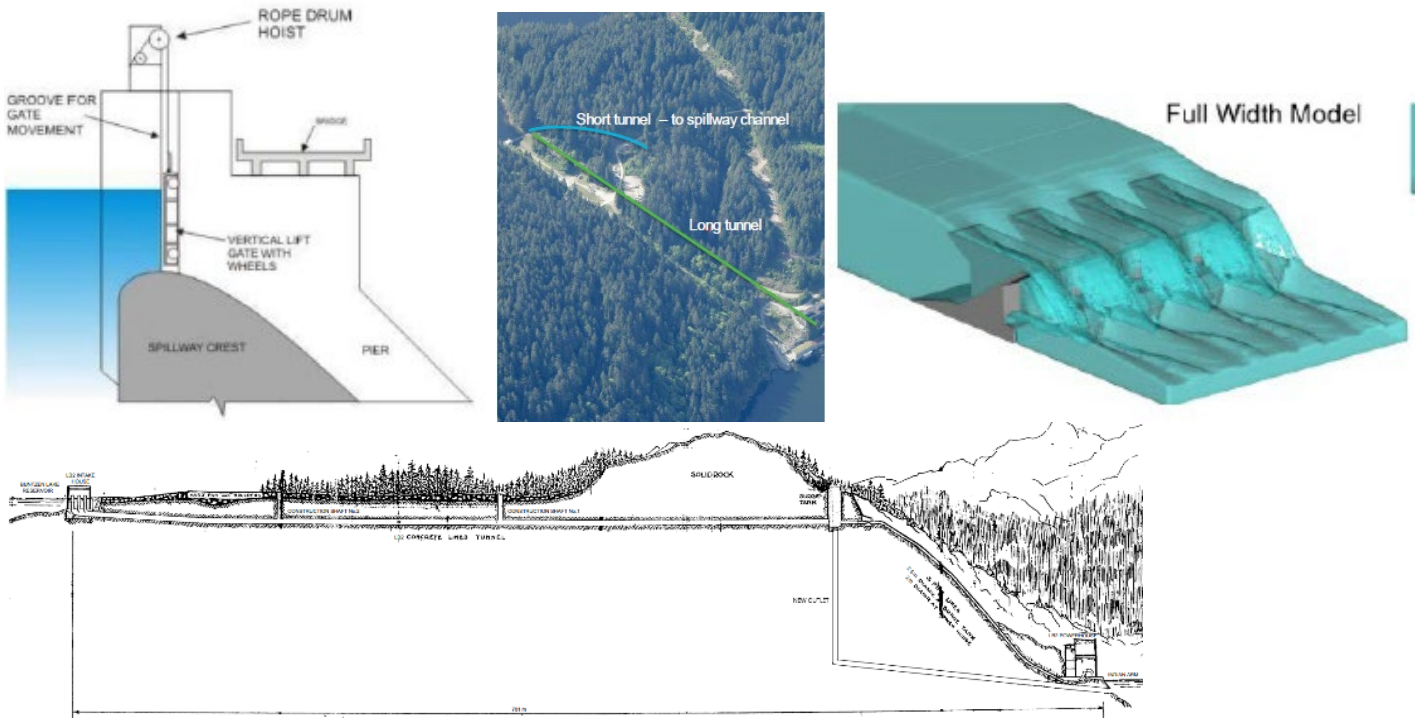

Figure 6 Conceptual alternatives to increasing spillway discharge capacity at Lake Buntzen 1. Top Left: Lowered spillway crest with an operating gate. Top Right: Conceptual options for a short or long tunnel to bypass the upper flow constricted spillway. Middle: Piano-key weir that extends the effective spillway crest length. Bottom: Re-use of the Lake Buntzen 2 tunnel with a new outlet to Indian Arm.

Comox-Puntledge Flow Control Improvements

The objective of this project is to improve control of water conveyance at Comox and Puntledge, with particular focus on flows downstream of Puntledge Dam, which can pose a significant public-safety risk.

The F2025 Q3 Quarterly Dam Safety Report identified deficiencies in newly commissioned equipment that created operational-reliability risks for the Comox Dam spillway gates and one of the Puntledge Dam intake gates. These issues included excessive power draw from the Comox spillway gates on the existing backup power supply, high 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 installation as planned.

The project has since corrected the majority of issues associated with the installed spillway gates, tower, and hoists. As reported in the F2026 Q3 update, the issues with Intake Operating Gate 1 have also been resolved or are in the process of being addressed. After evaluating scheduling options, the project will require an extension of the construction schedule to include an additional outage in 2027 to complete improvements on the intake gates. Under the updated construction plan, all activities related to the Comox spillway gates will be completed in 2026, along with the remaining work for Intake Gate 1 at Puntledge Diversion Dam. Work on Intake Gate 2, as well as planned upgrades to the turbine inlet valve and the pressure-release valve systems at the powerhouse, will be completed in 2027.

Strathcona Upgrade Discharge

The objective of this project is to provide deep-drawdown capability to mitigate the risks associated with seismic and seepage deficiencies at the dam and to improve discharge capacity. This will be achieved through the construction of a new low-level outlet and a free-crest spillway, which will replace the three existing vertical-lift gates.

Construction commenced in F2026 Q4. Work completed during the quarter included removal of the old control building, concrete pad, and duct bank, as well as construction of the temporary rock-spoil containment cell. Additional work currently underway includes construction of access roads, development of overburden-disposal sites, overburden removal, and installation of the silt curtain in the reservoir.

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.

Site construction work continued in F2026 Q4 with substantial completion of the concrete pads and building construction for the main control building and the backup control building, and mitigation of rockfall hazards on the left abutment. Work continues on the excavation and installation of duct banks, the construction of the Battery Inverter System building and the Diesel Generator 2 building. Drilling and installation of the post-tensioned anchors remain in progress. Spillway Operating Gate 3 guide installation is in progress, along with concrete chipping for the spillway stoplogs.

Figure 7 Ladore Spillway Seismic Upgrade Project. Left: Containment setup for post-tensioned anchor drilling; Right: Electrical ducting installation.

John Hart Dam Seismic Upgrade Project

Construction activities at the John Hart Dam site continued as planned in F2026 Q4, with significant progress on the civil works. Earthworks at the North Earthfill Dam are now substantially complete. At the Concrete Main Dam, construction of the overflow spillway ogee crest and apron progressed, along with continued installation of post-tensioned anchors and construction of the road deck. At the Middle Earthfill Dam, in-reservoir rockfill placement was completed, concrete placement for the right training wall is ongoing, and installation of the south drain has commenced. At the Intake Dam, construction of the elongated downstream berm and in-reservoir rockfill placement were both completed.

Figure 8 John Hart Dam Seismic Upgrade Project. Left: Construction of ogee spillway crest; Right: Excavation of south bank drain.

La Joie Dam – Dam Improvements

The key dam safety issues at La Joie Dam include 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 associated 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 capabilities.

As reported in the Q3 Report, the Advisory Board convened by Dam Safety and the Project supported the proposal to proceed with an option involving full replacement of the water-conveyance system, combined with limited replacement and refurbishment of the dam's water barrier to reduce flow through the dam. This alternative would allow active management of reservoir levels following an earthquake, including drawdown to reduce consequences and to enable inspections and repairs of the dam.

As the project advanced the preferred alternative, it identified the need to consider the future of the La Joie powerhouse. The existing intake tower and conduits at La Joie serve both as the low-level outlet for the reservoir (north conduit) and as the generation water passage (south conduit). The most favourable locations for the new intake tower and conduits are on higher bedrock outcrops to the left or right of the existing intake, making tie-in to the existing powerhouse challenging or infeasible. In addition, the existing generating equipment is nearing end of life, with significant capital investments planned. To fully evaluate the preferred configurations for the new intake and conduits, including considerations for future generation at the La Joie site, an extension of the Feasibility Design phase has been approved.

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

Three 49 ft diameter, 2,600 ft long horseshoe-shaped tunnels were constructed at the right abutment of Bennett Dam for initial diversion of the river in 1962. In 1967, these diversion tunnels were closed by construction of 200 foot long concrete plugs through which the low level outlets were installed. The low level outlets were not intended for use during normal reservoir operation; but were required to maintain downstream riparian flows during the period between diversion tunnel closure and when generation was possible through Units 1 to 3 (i.e. during 1967 & 1968). They were operated at a maximum head of 402 ft.

The low level outlets were tested in Tunnel 2 in 1974; at which time there was concern about severe vibrations for Hollow Cone Valves openings above 80%. Currently, the low level outlets are out-of-service and are not tested. The 1998/99 Dam Safety Review identified that the low level outlets present a hazard to the dam, as uncontrolled release of water due to component structural failures would eventually result in damage to the dam if the flow was not shutoff. Such a release would be very difficult to curtail given the high head and depth of the low level outlets.

In 2013, Dam Safety requested the Hydrotechnical Department to review the future operation benefits of the low level outlets and sluice gates. The study concluded that the low level outlets were designed as temporary devices for use during first filling and were not intended for use as discharge devices at normal reservoir operating levels. The original design of the project specifically did not rely on the low level outlets for flood handling, reservoir drawdown, or provision of minimum flow releases at high head. The future installation of generating units in the diversion tunnels was deemed to be technically feasible but there are significant technical challenges to implementation and it is anticipated to be not economically viable in the near term, if ever. Options to provide future capacity via installations in the right abutment are likely more feasible.

A project was released in 2017 to permanently decommission the low level outlets by installing concrete plugs. In F2026 Q4 the project completed the remaining scope of work at site and placed all installations into service. Following the completion and review of the project documentation, the dam safety issues related to this project will be reviewed and updated.

W.A.C. Bennett Dam – Seal Spillway Sluice Gates

The sluice gates are installed in the spillway ogee block and include a total of nine gates installed in sets of three below each of the three spillway gates and discharging into the spillway chute. All devices associated with the sluice gates are out of service and nearing end of life. The last known operation of the sluice gates was in 1987 when they were opened in an attempt to clear debris from the stop log sills.

The sluice gates were designed to provide compensation flow release capability during the reservoir filling period to relieve the low level outlets from operational duty as early as practical. There is no record of the sluice gates ever being called upon to provide minimum flow releases once the reservoir reached the elevation where the radial gates could be used. They are not required for flood discharge and they provide negligible benefit to reservoir drawdown.

To complete the work on the sluice gates, the project must isolate the work area from the reservoir by installing the spillway stop logs. During the early stages of the project, a test was conducted to install the stoplogs to confirm their ability to provide downstream isolation. The project discovered that the semi-circular stoplogs were excessively leaky and were not able to provide adequate isolation. As a result, the replacement of the stoplogs and embedded guides was added to the scope of the project.

The new stoplogs are currently being fabricated and improvements to the stoplog storage are being carried out. Alterations to the vertical guide rails will commence in June of this year. The project will install steel caissons over the

existing rails to facilitate worker access in a dewatered space around the rails. An interim risk management plan and spillway recall procedures are being developed to support the work.

Dam Safety Investigations

Dam Safety Investigation Projects ("Investigations") are generally performed to either refine knowledge regarding potential issues or non-conformances of information recorded in the Dam Safety Issue Database or to perform precursor work for planned capital upgrade projects. This section provides descriptions of newly launched Investigations and updates for those Investigations where significant developments have occurred or where milestones were achieved.

Mica and Revelstoke Landslide Generated Wave Modelling

This investigation is the first step in improving the modelling of reservoir slope stability and potential for resulting impulse waves in the Upper Columbia, specifically along the shorelines of the reservoirs behind Mica and Revelstoke dams. The work focuses on improving understanding of the potential dam safety impacts of slope failures and identifying the necessary risk mitigation and management measures. The initial stage of the investigation is to develop modern numerical modelling capabilities to assess the impacts of landslide-generated waves on the dams and reservoirs resulting from potential slope failures.

The first stage examined the impacts of a potential failure of the Dutchman's Ridge landslide upstream of Mica Dam. The current stage applies these models to the Checkerboard Creek rock slope upstream of Revelstoke Dam. The Checkerboard Creek slope is located on the east side of Lake Revelstoke, approximately 1.5 km upstream of Revelstoke Dam. Indications of slope movement were first identified in 1984 during reservoir-slope inspections associated with the impoundment of Lake Revelstoke. A 2005 deficiency investigation concluded that the risk of a sudden, single-event failure of the entire rock mass was very low. Smaller, single-event rockfall failures (<0.5 Mm^3) were not ruled out; however, scaled physical model studies indicated that waves generated by such events would not overtop Revelstoke Dam. More recent monitoring and improved understanding of the Checkerboard Creek slope suggest that the potential landslide volume may be larger than previously estimated, requiring updated modelling to assess the potential for impulse wave overtopping of Revelstoke Dam in the event of a larger failure. Modelling tools have also advanced significantly since the earlier studies were completed.

Hydraulic modelling of potential Checkerboard Creek landslides was conducted by BC Hydro Engineering using refined computational methods to improve the accuracy of dam-overtopping estimates. In parallel, the National Research Council evaluated the application of an enhanced Smooth Particle Hydrodynamics model to deformable landslides at Checkerboard Creek. These simulations produced peak wave heights comparable to those observed in the 2005 physical model. The results support the validity of this numerical modelling approach for simulating solid-block landslide induced waves, including wave propagation and run-up behaviour within the reservoir. These technological improvements reduce the need for costly physical hydraulic models when evaluating new scenarios, such as those prompted by updated monitoring data at Checkerboard Creek.

In F2027, Dam Safety will initiate an investigation to develop improved methodologies for characterizing and assessing slow-moving landslides. Although the investigation will focus on landslides in the Upper Columbia region, the resulting methodologies will be broadly applicable across the province.