BC Hydro
Power smart

Site C Clean Energy Project

Quarterly Progress Report No. 33

F2024 Fourth Quarter

January 1, 2024 to March 31, 2024

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Table of Contents

List of Figures

List of Tables

Appendices

1 Executive Summary

1.1 Overview and General Project Status

Site C will be the third dam and hydroelectric generating station on the Peace River in northeastern British Columbia (**B.C.**). Once complete, Site C will provide 1,100 megawatts of capacity, and produce about 5,100 gigawatt hours of energy per year – enough to power the equivalent of 450,000 homes or 1.7 million electric vehicles per year in B.C.

The Site C dam site (as seen in March 2024).

Construction on Site C began on July 27, 2015.

Quarterly Progress Report No. 33 covers the period January 1 to March 31, 2024 (**the reporting period**).

As of March 31, 2024, the Site C Project (**the Project**) is approximately 85% complete. BC Hydro remains on track to complete the Project within the budget

($16 billion) and schedule (final unit in-service date of November 2025), which were approved in 2021.

The overall Project health status remains “amber” as a number of potential risks remain, as outlined in this report.

BC Hydro continues to work collaboratively with the Project Assurance Board, special advisor Peter Milburn, Ernst & Young Canada, the Technical Advisory Board, and independent international dam experts to actively manage ongoing Project risks. The Technical Advisory Board and independent international dam experts continue to review and confirm that the Project designs are appropriate, safe and serviceable over the long operating life of Site C.

The following sections discuss highlights from the reporting period and some of the current risks facing the Project.

1.2 Construction Progress

Work on the Site C Project continues to advance consistent with the approved schedule, with reservoir filling planned in fall 2024, and with the first generating unit coming into service in late 2024.

Construction continued to advance during the reporting period, including work to prepare the site for reservoir filling. As a result of work completed in 2023, reservoir filling may be initiated as early as late-August 2024, depending on weather, environmental and system conditions, which is one month earlier than the approved schedule.

Work continues to progress in the right bank drainage tunnel and left bank drainage adit. During the reporting period, the grouting of drains and the installation of additional instrumentation was completed.

On the earthfill dam, construction on the remaining work on the dam continues to progress, including work on the toe of the dam, road construction, and the

installation of the duct banks for lighting and instrumentation. This work was halted temporarily to make space for the transmission tower staging and will resume in May 2024. All work on the earthfill dam that is required for reservoir filling was completed in 2023.

Decommissioning of the conveyor system is in progress and is expected to be complete in May 2024. All work for the slurry cut-off wall behind the approach channel was completed during the reporting period.

Construction progressed on the generating station and spillways civil works, cranes and hydromechanical equipment. By concrete volume, the concrete placements for the generating station and spillways are complete. Within the powerhouse, the final concrete placements located behind units 5 and 6 were completed in March 2024. By concrete volume, all of the concrete placements for the spillways are now complete.

The penstock upper flexible couplings (penstock sections that allow the penstocks to expand and contract) were redesigned to fully meet BC Hydro's specifications. The conventional design and the quality of the fabrication to date, mitigate the performance risk of unacceptable leakage. Any final seal adjustments will be made, if required, during the testing and commissioning processes for the generating units.

The coatings for the penstocks are forecast to be complete in summer 2024 to optimize the interfaces with the installation of the upper and lower flexible couplings.

For the turbines and generators contract, the quality of the assembly and installation work at site continues to be good. For the turbine spiral case lower flexible couplings, the modified design (half-welded coupling) has been implemented on unit 1 and unit 2. A leakage test was performed on the unit 1 coupling in March 2024 by filling the spiral casing with water from the tailrace. No leakage was observed from the coupling during the test, giving BC Hydro and the contractor confidence to proceed with spiral case and penstock filling from the reservoir later in 2024.

The installation of all six intake operating gates and the commissioning of the gates' hydraulic systems were completed in the fall of 2023 on temporary power and controls. Final commissioning of all six intake gates on permanent power and permanent controls is scheduled to be complete in mid-2024.

All three spillway operating gates were connected to their respective hoists and the initial gate movement testing was completed in fall 2023. Work continues on the seals and heating systems for the gates. The final commissioning for all three gates on permanent power and permanent controls is scheduled to start in summer 2024.

The commissioning of the hydraulic systems for the spillway low-level operating gates 1 to 4 was completed on temporary power and temporary controls in fall 2023; commissioning of the hydraulic systems for gates 5 and 6 on temporary power and temporary controls is scheduled to start in spring 2024. Final commissioning of all six spillway low-level operating gates on permanent power and permanent controls is scheduled to start in summer 2024. The assembly of a third set of draft tube maintenance gates was completed in March 2024.

The assembly and installation of the remaining two transmission towers on the intake structures are expected to resume in April 2024. Subsequent to the reporting period, this work was completed in April 2024. The installation of the first transmission line between the Site C substation and the powerhouse is expected to be completed and energized in summer 2024, with the remaining two lines expected to be completed in late 2024. All of the decommissioning work on Highway 29 has been completed by the contractor.

1.3 Look Ahead – April to December 2024

The focus of the activities on the Project through 2024 is primarily on the safe completion of the remaining major milestones, including reservoir filling and first power.

Energization of the first transmission line connecting the Site C substation to the Site C powerhouse, which will provide permanent power to the generating station in support of final commissioning activities, is expected to be completed and energized in summer 2024, with the remaining two lines expected to be completed in late 2024.

Reservoir filling is scheduled to start in fall 2024, but as a result of work completed in 2023, may be initiated in as early as late-August 2024, depending on weather, environmental and system conditions; this is one month earlier than the approved schedule.

The Project team and Site C contractors will safely continue to work on the dry commissioning of common systems that are needed for first power.

All six of Site C's generating units are on track to be in service by the end of 2025. All units will come into service in stages, with unit 1 (first power) scheduled to come into service in December 2024 and the other five units sequentially as follows: unit 2 (February 2025), unit 3 (May 2025), unit 4 (July 2025), unit 5 (September 2025), and unit 6 (November 2025).

Work continues to advance on the Project, consistent with the approved schedule. The time available to complete the remaining scopes of work is expected to be sufficient for the Project to meet the Project's approved schedule.

1.4 Safety Performance

During the reporting period, no lost time injuries or serious safety incidents were recorded. The Project saw a decline in workforce numbers due to the completion of work fronts, and most of the remaining work is concentrated in and around the powerhouse. Compared to the same period in 2023, there has been an improvement of the Project safety performance metrics, including lost time injury frequency, all injury frequency and serious incident frequency.

In February, WorkSafeBC conducted an inspection focusing on confined space entry hazards, noise exposure and ventilation in the unit 4 spiral case, resulting in 14 orders to the turbines and generators contractor and six to BC Hydro. In response, BC Hydro construction management and the site safety team worked to address the inspection's findings.

1.5 Permanent Naming of Site C Dam and Reservoir

BC Hydro has invited Indigenous Nations to participate in the permanent naming of Site C assets, specifically the dam and future reservoir. Participation in the naming of Site C provides the opportunity to acknowledge the presence of the Project on Indigenous traditional lands and contributes to reconciliation.

In the spring of 2023, BC Hydro initiated engagement on Site C dam and reservoir naming with the 13 Indigenous Nations identified in the Site C Environmental Assessment Certificate and Federal Decision Statement. As a result of this engagement, recommended Indigenous language names have been identified and advanced for consideration.

1.6 Upholding Commitments to the Environment, Indigenous Nations and Local Communities

During the reporting period, BC Hydro continued to uphold its commitments to the environment, Indigenous Nations and local communities.

BC Hydro continued to engage, build relationships and find solutions together on topics that are most important to the Indigenous Nations affected by Site C.

BC Hydro continued to secure the appropriate permits, authorizations and leaves to commence construction required for the Project. As of March 31, 2024, 640 of the estimated 684 provincial and federal permits and authorizations have been received. This includes all required regulatory approvals to commence reservoir filling.

Work advanced in the areas of environmental monitoring and assessment, as well as in the Project's fish and wildlife habitat, vegetation management and heritage programs. During the reporting period, the temporary fish passage facility was winterized and did not pass fish. The temporary fish passage facility resumed operation on April 1,2024.

Environmental compliance on the Project remains high. Effective January 1, 2024, the site environmental compliance team stopped tracking the total number of compliance points inspected and switched to focusing on observed non-compliances and tracking progress to remedy them.

Indigenous Engagement

BC Hydro continues to advance economic opportunities for Indigenous Nations through capacity building and procurement opportunities. Since the beginning of the Project, approximately $760 million in Site C directed procurement opportunities have been awarded to companies designated by Indigenous Nations, pursuant to BC Hydro's Indigenous Procurement Policy. Working on the Site C Project has helped businesses designated by Indigenous Nations to build and grow their reputations, expand the scale of their operations, and develop new expertise to

compete in the regional economy. BC Hydro continued to work with Indigenous Nations on the development of the future cultural centre. The cultural centre project is an important accommodation for the cultural impacts of Site C. The facility will showcase local Indigenous culture and history in the region, and store and display many of the artifacts uncovered during the construction of Site C. The participating Nations have agreed on a conceptual design for the facility and are now proceeding to the development of the detailed design of the building and exhibits.

In March 2024, 115 Indigenous people were working on the Site C Project, which represents approximately 6% of the total workforce. Representatives from ten Indigenous Nations attended an Environmental Forum meeting on March 6. Included was an update on the Methylmercury Monitoring Program in the future reservoir.

Local Communities

During the reporting period, Site C Community Relations continued to respond to media and public inquiries about the timing for reservoir fill. Community Relations has begun preparing for two community information sessions in the Peace region, scheduled for May 7 in Fort St John and May 8 in Hudson's Hope. The sessions will highlight the status of construction and the plan to start reservoir filling. In consultation with local government and Indigenous communities, the Regional Community Liaison Committee has agreed to reduce its meeting frequency from quarterly to semi-annually in 2024, with the next meeting set for June 5.

During the reporting period, BC Hydro distributed approximately $23,000 to three non-profit organizations in the Peace Region through the Generate Opportunities (**GO**) Fund and as of March 31, 2024, 97 projects had received approximately $850,000 since the fund was launched.

1.7 Indigenous Burials

During the reporting period, consultations continued with impacted Indigenous Nations regarding site-specific plans for monitoring reported burial sites that are outside of the reservoir area that may be impacted by erosion or slope instability during future reservoir operations.

1.8 Property Acquisitions

Property acquisitions required for the Project remain on track. The land and rights required for reservoir filling have been acquired. During the reporting period, further acquisitions have been completed. Three acquisitions required for long term operational safety remain outstanding and are expected to be complete in spring 2024.

1.9 Inflationary Pressures

Inflationary pressures have had impacts to the Project's costs in areas including contract related costs for higher labour and fuel costs in excess of the amounts to be borne by the contractors, and contract amendments and change orders subject to current market pricing. Going forward, inflation continues to be a risk for future contract change orders, procurements, and the Project's interest during construction costs. In addition, beyond inflationary cost impacts, supply chain challenges are a risk that could potentially cause schedule delays.

1.10 Project Status Dashboard for the Quarter

BC Hydro, with oversight from the Project Assurance Board, is focused on completing the Site C Project within the 2021 approved budget of $16 billion and the final unit in-service date in November 2025, without compromising on safety, scope and quality. To report on Project status, BC Hydro uses a dashboard system where key Site C Project areas are classified as red (at risk), amber (moderate issues) or green (on target).

The Project Status Dashboard as of March 31, 2024, is provided in Table 1. There were no changes to the performance indicators from the previous quarter (as of December 31, 2023).

Table 1 Project Status Dashboard

● On Target ● Moderate Issues ● At Risk

Status as of:		March 31, 2024
Overall Project Health	●	The overall Project health remains "amber." The Project is approximately 85% complete and work continues to advance, however, there are still potential risks remaining. BC Hydro continues to review, assess, mitigate, manage and monitor potential risks to the Project.
Safety	●	Safety status remains "amber." During the reporting period, the Project saw a decrease in workforce numbers as work fronts were completed. The majority of the remaining work continues to take place in and around the powerhouse. Compared to the same period in 2023, there has been an improvement in the Project safety performance metrics, including lost time injury frequency, all injury frequency and serious incident frequency. WorkSafeBC conducted a site inspection focused on confined space entry hazards, noise exposure and ventilation in the unit 4 spiral case within the powerhouse. WorkSafeBC issued 14 orders to the turbines and generators contractor and six orders to BC Hydro. These orders address various safety aspects including confined space entry, ventilation, exposure control plans, noise exposure and employer and prime contractor responsibilities.
Scope	●	Scope status remains "amber." Provisions are included in the Project plans for potential scope adjustments for site conditions and interfaces. As construction progresses, there remains a risk of design changes due to unknown field conditions.

Status as of:		March 31, 2024
Schedule	🟡	Schedule status remains "amber." The Project is currently on schedule to achieve the approved November 2025 final unit in-service date and is approximately 85% complete. Work on the Site C Project continues to advance on schedule with reservoir filling planned in fall 2024. As a result of the advancement of construction work through 2023, reservoir filling may be initiated as early as late-August 2024, depending on weather, environmental and system conditions. There continues to be uncertainty related to achieving the contractual schedules, and there are potential risks that could adversely affect these schedules. The time available to complete the remaining scopes of work is expected to be sufficient for the Project to meet the approved schedule.
Cost	🟡	Cost status remains "amber." Potential cost risks remain, as detailed in this report. As of March 31, 2024, the life-to-date actual costs are $13.1 billion, which results in an estimated $2.9 billion of remaining costs based on the forecast of $16 billion.
Quality	🟢	The quality status for the Project remains "green," indicating that the work generally conforms to the requirements of the drawings and specifications. When a quality issue is identified during the course of construction, BC Hydro and its contractors work to rectify the issue to ensure that the quality of the completed work achieves the quality specifications. The Technical Advisory Board and independent international dam experts continued to review and confirm that the Project designs are appropriate, safe and serviceable over the long operating life of Site C.
Regulatory, Permits and Tenures	🟢	The regulatory, permits and tenures status remains "green." Overall, BC Hydro continued to be issued permits and authorizations in accordance with construction timelines. As of March 31, 2024, 640 of the estimated 684 provincial and federal permits and authorizations required for the Project have been received and are actively being managed. This includes all required regulatory approvals to commence reservoir filling.
Environment	🟢	The Project environment status remains "green." BC Hydro continues to develop final treatment plans for potentially acid-generating sites that will not be addressed through dam construction or the creation of the reservoir.
Procurement	🟡	The procurement status remains "amber." The majority of the Project's commercial agreements are in place; however, there are a few remaining commercial agreements for Project completion scopes of work such as diversion tunnel backfill, additional structural work in the right bank drainage tunnel, roads and site reclamation.
Indigenous Relations	🟡	The Indigenous Relations status remains "amber." BC Hydro has a mandate from the Government of British Columbia to reach Project or impact benefit agreements with the 10 Indigenous groups that are most impacted by Site C. Eight of 10 agreements are fully executed and in implementation. BC Hydro has a standing offer to negotiate with the remaining two First Nations that have not signed agreements related to the Site C Project. BC Hydro also maintains a working relationship with those Nations through ongoing consultations and engagement.

Status as of:		March 31, 2024
Stakeholder Engagement	●	The stakeholder engagement status remains "green." BC Hydro continues to work with the communities, regional district and stakeholder groups on the implementation of various community agreements.

1.11 Significant Project Updates for the Quarter

Significant Project updates that occurred between January 1 to March 31, 2024, include the following:

January 2024

- Installation and commissioning commenced for the spillway gates and intake gates.

February 2024

- The placement of riprap in the approach channel was completed.
- The upper flexible coupler for penstock 1 was successfully installed.

March 2024

- The final placement of concrete for the powerhouse was completed.
- The sixth and final turbine runner was successfully installed.
- The leakage test for the unit 1 lower flexible coupler was successful.
- The assembly of a third set of draft tube maintenance gates was completed.

Refer to Appendix A for site construction photos from the reporting period and refer to Appendix B for a list of work completed since the Project commenced in 2015.

2 Safety and Security

During this reporting period, the Project saw a decrease in workforce numbers due to the completion of work fronts. Most of the remaining work is concentrated in and around the powerhouse. Compared to the same period in 2023, there has been an improvement of the Project safety performance metrics, including lost time injury frequency, all injury frequency and serious incident frequency.

2.1 WorkSafeBC Updates

In February, WorkSafeBC conducted an inspection focusing on confined space entry hazards, noise exposure and ventilation in the unit 4 spiral case, resulting in 14 orders to the turbines and generators contractor and six orders to BC Hydro. In response, BC Hydro construction management and the site safety team worked to address the inspection's findings. BC Hydro suspended the turbines and generators contractor's gouging (associated with welding) activities where they occurred in a confined space and implemented several safety measures to address safety concerns and ensure regulatory compliance. These actions included, providing confined space refresher training for employees, updating existing inspection tools and processes, and creating job aids to inform employees about confined space requirements.

In parallel, the Site C safety and construction management teams implemented an updated inspection checklist for their daily inspections to ensure that the turbines and generators contractor's confined spaces have appropriate controls in place to protect workers. Additionally, the construction management team has bolstered its process for supervising the work of construction officers and other Site C employees who enter contractor controlled confined spaces.

In April 2024, the turbines and generators contractor resumed gouging activities in confined spaces after BC Hydro accepted their safety plans. The contractor's hygienists will conduct air contaminant sampling procedures during these activities,

while the BC Hydro turbines and generators construction management team continues to actively supervise daily inspections, ensuring compliance with WorkSafeBC orders.

2.2 Safety Initiatives

The Site C safety team has proactively undertaken three safety initiatives for this reporting period:

1. Crane and mobile equipment planned inspections: The Site C safety team has enhanced its inspection processes for cranes and mobile equipment and has adopted WorkSafeBC's latest “Mobile Crane Inspection Checklist,” leading to enhanced compliance among contractors. The checklist includes criteria such as: verifying the crane operators' certification in B.C., ensuring that annual certifications are current, confirming daily pre-use crane inspections have been done, and confirming the availability of proper manuals and lift procedures. The initiative has shown positive results so far with four verifications showing 24 good safety practices and one minor hazard.

2. Upcoming wildfire season: The Site C safety and security team is preparing for the upcoming wildfire season by reviewing exposure control plans, ensuring adequate supplies of N95 masks, inspecting contractor work activities to ensure they have adequate fire prevention and suppression capabilities, and developing site-wide wildfire preparedness communications. Given the drought conditions in the Peace Region, there is a high potential for another year of extreme wildfire activity. In response to this heightened risk, Management is taking proactive measures to safeguard both our workforce and infrastructure.

3. Falls from elevation: The Site C safety team is preparing an additional safety initiative focused on ladders, scaffolds, and work platforms. Falls from elevation, including from using these types of equipment, continue to drive injury rates across the B.C. construction sector. Use of ladders and scaffolds on the Project

has increased as the balance of plant contractor activity ramps up and trades such as electricians, millwrights, and ironworkers are required to work in elevated positions. The safety team's initiatives use a combination of safety verifications and education to increase awareness of the topic and increase compliance during the work activities.

2.3 Summary of Safety Performance Metrics

From July 2015 through March 2024, more than 60.5 million work hours have been completed across the Project, with no fatalities and one permanent partial disabling injury in August 2017.[1]

During the reporting period, no lost time injuries or serious safety incidents were recorded. However, there were 64 non-serious incidents recorded. Of these, 35 incidents were classified as near misses, with the potential for causing harm, 28 incidents involved injuries that required first aid, and one incident required medical treatment.

A near miss is defined as an incident that could have resulted in an injury but did not because of effective hazard barriers or the person was out of harm's way/missed. BC Hydro considers near miss reporting as indicative of an effective and transparent safety culture and strongly encourages all contractors and employees to report near misses.

Table 2 reflects the safety performance results for the Project, including all contractors and all sub-projects.

[1] In August 2017, a Site C worker injured their arm in a lost time injury incident related to a 7.5-foot fall from the back of a flatbed truck. In June 2018, the worker received a permanent partial disability award from WorkSafeBC. BC Hydro reclassified this incident as a permanent disabling injury after receiving the update on the WorkSafeBC award in June 2018. The incident is identified as a serious injury in the BC Hydro Incident Management System.

Table 2 Summary of Site C Safety Metrics

	Reported January 1, 2024 to March 31, 2024[2]	Reported Since Inception (July 27, 2015 to March 31, 2024)[2]
Fatality[3]	0	0
Permanently Disabling Injury[4]	0	1
Serious Incidents[5]	0	208
Lost Time Injuries[6]	0	49
All-Injury Incidents[7] (Lost Time Injuries[6] and Medical Attention Requiring Treatment[8])	1	378

2.4 Safety Performance Frequency Metrics

To assess safety performance over time, the Project considers key safety metrics in the context of the total amount of hours worked (frequency), which corrects for the volume of work.

Table 3 summarizes these key safety metrics by quarter, for a rolling 12-month average.

2 Numbers are subject to change due to timing of when data is retrieved and when the injury is categorized.

3 Excludes any non-occupational incidents.

4 A permanently disabling injury is one in which someone suffers a probable permanent disability.

5 Serious incidents are any injury or near miss with a potential for a fatality or serious injury.

6 Lost time injuries are those where a worker (employee or contractor) misses their next shift (or any subsequent shift) due to a work-related injury/illness. If a worker only misses work on the day of the injury, it is not considered a lost time injury.

7 All-injury incidents include all work-related medical attention requiring treatment, lost time injuries, and fatalities.

8 Medical attention requiring treatment is where a medical practitioner has rendered services beyond the level defined as “diagnostic or first aid” and the worker (employee or contractor) was not absent from work after the day of the injury. Services beyond diagnostic/first aid include (but are not limited to) receiving stitches, a prescription, or any treatment plan such as physiotherapy or chiropractic.

Table 3 Summary of Safety Performance Frequency Metrics (2023 vs 2024)

	January – December 2023 (Rolling 12-Month Average)				January – December 2024 (Rolling 12-Month Average)			
	Q1 Jan-Mar	Q2 Apr-Jun	Q3 Jul-Sep	Q4 Oct-Dec	Q1 Jan-Mar	Q2 Apr-Jun	Q3 Jul-Sep	Q4 Oct-Dec
Serious Incident Frequency	1.24	1.13	1.01	0.97	0.78	n/a	n/a	n/a
Lost Time Injury Frequency	0.17	0.16	0.12	0.12	0.05	n/a	n/a	n/a
All Injury Frequency	1.18	1.11	1.18	1.21	1.05	n/a	n/a	n/a

During this reporting period, the adjusted serious incident frequency improved and was 0.78 compared to 1.24 for the same period in 2023. The all-injury frequency and lost time injury frequency during this reporting period were also significantly improved as compared to the same period in 2023, with all-injury frequency at 1.05 compared to 1.18, and lost time injury frequency at 0.05 compared to 0.17.

Refer to Appendix C, Figure C-1 for a graphic summary of Site C safety performance metrics, including both BC Hydro employees and Project contractors.

2.5 Regulatory Inspections and Orders

WorkSafeBC, under the authority of the *Worker's Compensation Act*, is the primary regulator with jurisdiction over safety for the Project. WorkSafeBC oversees worker safety (employee and contractor) for the Project, both on and off the dam site. The Ministry of Energy, Mines and Low Carbon Innovation is the regulatory authority for worker safety on any work fronts subject to the *Mines Act*, including West Pine Quarry, Portage Mountain Quarry, and Area E.

As shown in Table 4, from January to March 2024, WorkSafeBC issued nine regulatory inspection reports and 22 regulatory orders to the Project. Of the nine WorkSafeBC inspection reports, five were 'clean sheets' with no orders. The regulatory orders address various safety aspect including ladder and scaffolding

safety, confined space entry, ventilation, exposure control plans, noise exposure and employer and prime contractor responsibilities. There were no regulatory inspections conducted by the Ministry of Energy, Mines and Low Carbon Innovation during this reporting period.

Table 4 Safety Regulatory Inspections and Orders (WorkSafeBC and Ministry of Energy, Mines and Low Carbon Innovation combined)

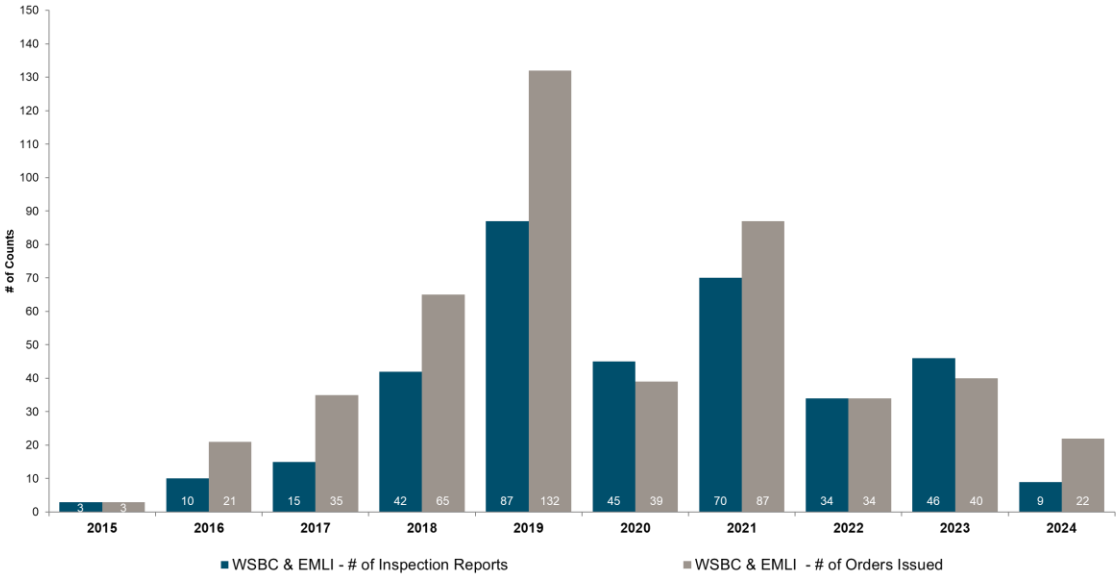
	Reported January 1 to March 31, 2024[9]	Reported Since Inception (July 27, 2015 to March 31, 2024)[9]
Regulatory Inspections	9	362
Regulatory Orders	22	478

Figure 1 shows the number of regulatory inspections and orders issued for the Project since 2015.

Refer to Appendix C, Table C-1 for a summarized listing of the regulatory inspection reports.

[9] Numbers are subject to change due to timing of when data is retrieved and when the injury is categorized.

Figure 1 WorkSafeBC and Ministry of Energy, Mines and Low Carbon Innovation Regulatory Inspections and Orders, July 2015 to March 2024



3 Construction, Engineering, Quality Management, and Assets In Service

3.1 Construction

Work on the Site C Project continues to advance consistent with the approved schedule, with reservoir filling planned in fall 2024, and with the first generating unit coming into service in late 2024. As a result of the advancement of construction work through 2023, reservoir filling may be initiated as early as late August 2024, depending on weather, environmental and system conditions.

There continues to be uncertainty related to achieving the contractual schedules, and there are identified risks that could adversely affect these schedules.

The time available to complete the remaining scopes of work is expected to be sufficient for the Project to meet the Project's approved schedule.

3.1.1 Reservoir Filling

Work on the Site C Project continues to advance on schedule with reservoir filling planned in fall 2024. As a result of the advancement of construction work through 2023, reservoir filling may be initiated as early as late-August 2024, depending on weather, environmental and system conditions which is one month earlier than the approved schedule.

BC Hydro has received all regulatory approvals required to begin reservoir fill. The powerhouse works, the spillway operating gates, the spillway low level outlet gates, and the intake gates need to be sufficiently complete to proceed with reservoir filling. All off dam site activities required prior to reservoir fill are substantially complete.

Further information on the progress related to each of these construction activities is provided in the following sections.

3.1.2 Main Civil Works

During the reporting period, construction activities took place on the right bank and earthfill dam as described below.

Approach Channel

This work area is now complete and ready for reservoir filling.

Right Bank Drainage Tunnel and Left Bank Drainage Adit

The main civil works contractor continues to progress the work in the right bank drainage tunnel and left bank drainage adit. During the reporting period, the contractor completed the grouting of drains and the installation of additional instrumentation.

Earthfill Dam

The main civil works contractor continues to progress the remaining work on the earthfill dam, including work on the toe of the dam, road construction, and the installation of the duct banks for lighting and instrumentation. This work was halted

temporarily to make space for the transmission tower staging and will resume in May 2024. All work on the earthfill dam that is required for reservoir filling was completed in 2023.

Conveyor Belt System

The decommissioning of the conveyor system is in progress and is expected to be complete in May 2024.

Area E

Planning for the physical reclamation of the Area E pit is in progress and is expected to begin in summer 2024.

Slurry Cut-off Wall

All work for the slurry cut-off wall behind the approach channel was completed during the reporting period.

3.1.3 Generating Station and Spillways

During the reporting period, construction progressed on the generating station and spillways civil works, cranes and hydromechanical equipment as described in the following sections.

Generating Station and Spillways Civil Works

The generating station and spillways civil works contract includes the delivery of civil works associated with the powerhouse, intakes, penstocks and spillways.

By concrete volume, the concrete placements for the generating station and spillways are complete.

Powerhouse

Within the powerhouse, the final concrete placements located behind units 5 and 6 were completed in March 2024.

Penstocks

The penstock upper flexible couplings (penstock sections that allow the penstocks to expand and contract) were redesigned to fully meet BC Hydro's specifications. The installation of the redesigned flexible couplings began in February 2024 and will continue until October 2024. The conventional design and the quality of fabrication to date, mitigate the performance risk of unacceptable leakage. Any final seal adjustments will be made, if required, during the testing and commissioning processes for the generating units.

The coatings for the penstocks are forecast to be complete in summer 2024 to optimize the interfaces with the installation of the upper and lower flexible couplings.

Spillways

All of the concrete placements for the spillways are now complete.

Hydromechanical Equipment

The installation of all six intake operating gates and the commissioning of the gates' hydraulic systems were completed in the fall of 2023 on temporary power and controls. Final commissioning of all six intake gates on permanent power and permanent controls is scheduled to be complete in mid-2024.

All three spillway operating gates were connected to their respective hoists and the initial gate movement testing was completed in fall 2023. Work continues on the seals and heating systems for the gates. The final commissioning for all three gates on permanent power and permanent controls is scheduled to start in summer 2024.

The commissioning of the hydraulic systems for the spillway low-level operating gates 1 to 4 was completed on temporary power and temporary controls in fall 2023; commissioning of the hydraulic systems for gates 5 and 6 on temporary power and temporary controls is scheduled to start in spring 2024. Final commissioning of all

six spillway low-level operating gates on permanent power and permanent controls is scheduled to start in summer 2024.

The assembly of a third set of draft tube maintenance gates was completed in March 2024.

3.1.4 Right Bank Foundation Enhancements

As of March 31, 2024, ongoing reviews by the Technical Advisory Board and the two independent, world-leading dam experts continued to confirm that the design of the foundation enhancements, located on the Project's right bank, meet the highest safety standards and international best practices.

The work on the right bank foundation enhancements, which address the geotechnical issues that were identified in the bedrock foundation on the Project's right bank, is substantially complete. The work that has been completed includes:

- The installation of 48 large diameter concrete-filled vertical steel piles located within the spillways;
- The installation of 48 large diameter concrete-filled vertical steel piles located downstream of the powerhouse;
- The installation of the enhancements to the erosion protection downstream of the large diameter piles;
- The removal of the right bank cofferdam and the placement of riprap in the tailrace channel; and
- The enhancements to the approach channel including the bedrock surface excavations and cleaning, the installation of waterproofing lining materials, grouting, and the reinforced concrete and granular fill placements.

3.1.5 Balance of Plant

The balance of plant contracts are split between three contractors and include the following scopes of work: (1) mechanical; (2) electrical (includes architectural, heating, ventilation, and air conditioning, and fire detection and protection work); and (3) permanent upstream fishway and other out structures.

The mechanical and electrical work progressed in all areas and all units inside the powerhouse.

The mechanical contractor is completing the final work on the unit 1 and unit 2 common systems and is targeting to have them handed over to BC Hydro in late May.

The electrical contractor continued installation of the electrical station service in the powerhouse, intakes, and spillways. In addition, the contractor has completed the isolated phase bus and transformers that will connect the unit 1 and unit 2 generators to the BC Hydro electrical system via step-up transformer T1. Commissioning of the T1 transformer will occur in the summer of 2024. The contractor is currently constructing the exterior isolated bus for unit 3 and unit 4 which will connect these generating units to the step-up transformer T2 which is being staged for installation on its concrete pads. The contractor is currently constructing the interior isolated bus for unit 5 and unit 6, and will start on the transformer assembly and outdoor isolated phase bus in summer 2024.

Architectural work in the operations building is progressing and the heating, ventilation and air conditioning work continues. The installation of the fire protection is also continuing.

The permanent upstream fishway and other out structures contractor has completed the building envelope on the fishway and pump building. The construction of the permanent upstream fishway is on schedule to be complete in spring 2024, with commissioning to follow in summer 2024.

3.1.6 Turbines and Generators

The scope of work for turbines and generators includes the complete design, supply, installation, testing and commissioning of six turbines, generators, governors and exciters.

During the reporting period, the contractor continued working on all six units. The majority of the components for unit 1, unit 2, and unit 3 have been installed and the units will be ready for the start of wet commissioning when the penstocks can be filled with water after reservoir filling.

The contractor is in the process of modifying the lower couplings between the penstocks and turbine scroll cases to a half-welded design. Lower couplings 1, 2 and 3 are complete and all six couplings are scheduled to be complete by mid-2024. A leakage test was performed on the unit 1 coupling in March 2024 by filling the spiral casing with water from the tailrace. No leakage was observed from the coupling during the test.

The turbines and generators for units 4, 5 and 6 were delayed due to a now-resolved quality issue related to nonconforming concrete placements, but are still expected to meet the approved schedule. Units 4, 5 and 6 are scheduled to be ready for wet commissioning by early to mid-2025.

3.1.7 Transmission

The assembly and installation of the remaining two transmission towers on the intake structures are expected to resume April 2024. Subsequent to the reporting period, this work was completed in April 2024.

The installation of the first transmission line between the Site C substation and the powerhouse is expected to be completed and energized in summer 2024, with the remaining two lines expected to be completed in late 2024.

3.1.8 Highway 29 and Hudson's Hope Shoreline Protection Berm

The highways sub-project includes the construction of approximately 30 kilometres of highway and five new bridges along Highway 29; construction of a shoreline protection berm within the District of Hudson's Hope to protect against bank erosion due to reservoir wind waves and water table rise; the development and operation of the Portage Mountain Quarry, which supplied riprap and filter materials for highway and berm construction; and the construction of recreational facilities at Halfway River, Lynx Creek, and Hudson's Hope.

The construction of the approximately 30 kilometres of highway and five new bridges along Highway 29 are complete. All of the decommissioning work on Highway 29 has also been completed by the contractor.

Work to complete the boat launch intersection at Halfway River is expected to resume in May 2024.

Portage Mountain Quarry

Reclamation of the Portage Mountain Quarry started in August 2023 and the first phase of reclamation was completed in December 2023. Phase two of the reclamation is expected to resume in the spring and be completed by fall 2024.

Hudson's Hope Shoreline Protection Berm

The shoreline protection berm was completed in November 2022. Construction on the D.A. Thomas recreation area is expected to resume in May 2024 and be complete in late summer 2024. The recreation area will include a day use area, floating jetty (to be installed after reservoir filling), and a paved access road.

Halfway River East Boat Launch

The remaining work to complete the intersection paving is expected to resume in May 2024, weather permitting. The finishing work and gangway installation will occur after reservoir filling.

3.1.9 Reservoir

The following reflects progress to March 31, 2024:

Middle Reservoir, Halfway River Drainage and Western Reservoir

Clearing activities are complete. Minor road deactivation activities are scheduled for summer 2024.

3.1.10 Site Operations and Infrastructure

The site operations and infrastructure section of this report includes updates for the reporting period on the construction and operations of the worker accommodation and debris management structures.

Worker Accommodation

During the reporting period, the total capacity of the worker accommodation facility was reduced to 1,764 (from 2,350) to account for the reduced workforce at site as the construction activities progress to completion. Room utilization averaged about 50% for the quarter.

BC Hydro continues to explore options to decommission the worker accommodation camp facilities once they are no longer required for the Project. The expansion dorms (overflow space) are tentatively scheduled to be decommissioned between July and September 2024.

BC Hydro continues discussions with potential buyers on the dormitories to align with work completions.

Debris Management

There are three debris management structures on the Moberly and Peace Rivers to capture and prevent debris from entering the diversion tunnels.

In January 2024, a debris mat (or jam) briefly developed at the diversion tunnel inlet when high flows from upstream facilities (due to cold weather) raised the water

levels in the river and scoured large pieces of debris from the riverbanks. The debris was safely cleared by crane operations.

During the reporting period, the BC Hydro Peace River debris boom was re-installed for the 2024 local basin flood season.

Fish Habitat Creation on the Peace River

The construction of the fish habitat areas downstream of the dam site are complete. Minor works will resume in spring 2024 to complete the Maurice Creek spawning shoal and the Wilder Creek littoral habitat, both upstream of the dam site.

3.2 Engineering

The Site C engineering team is responsible for defining the Project's design requirements, preparing the Project designs and contract specifications, and ensuring the safety and quality of the assets. The team consists of in-house design specialists from BC Hydro and a range of external consultants from engineering firms who are responsible for the various design components.

3.2.1 Main Civil Works

With the majority of the reservoir retaining structures completed in fall 2023 in preparation for reservoir fill, the contractor continued to work on less critical associated structures. Support for the main civil works contract continued during the reporting period supporting excavations, foundation mapping, approach channel lining and grouting, and instrumentation reading and interpretation. Instrumentation monitoring in the reporting period has indicated positive results with respect to dam stability and has confirmed that the dam foundation is responding to dam fill placements as predicted.

With the detailed geological mapping of the excavations in the approach channel complete, the geological information will be used to update the design parameters for the site geology and foundations.

3.2.2 Right Bank Foundation Enhancements

During the reporting period, value engineering activities associated with the enhanced backfill located adjacent to the temporary bedrock excavation next to the auxiliary spillway continued. This work included the optimization of the backfill materials and the construction sequence.

BC Hydro continued to engage the independent international dam experts, Technical Advisory Board and other subject matter experts to provide oversight of activities associated with the design of the foundation enhancements and construction of the Project. Refer to section 3.2.7 for a summary of the Technical Advisory Board meetings.

3.2.3 Large Cranes, Hydromechanical, and Turbines and Generators

During the reporting period, the focus continued to be on supporting equipment installation activities at site, manufacturing activities offsite, vendor submittal reviews and integration design.

3.2.4 Generating Station and Spillways, Balance of Plant, and Equipment Supply

During the reporting period, work focused on the production of record drawings and the review of submittals for the powerhouse, intakes, penstocks, and spillways.

The balance of plant scope of work continued with the preparation and issuance of the issued for construction drawings as needed to support integration design for contractor-designed equipment for the balance of plant mechanical; electrical (includes architectural, heating, ventilation, and air conditioning, and fire detection and protection work); and the permanent upstream fishway and other out structures contract packages. The balance of plant team also continued to support the construction activities for these contracts, including the review of the technical submittals and contractor design drawings, and performing additional factory acceptance testing and factory visits for the diesel generator contract.

The fabrication of the BC Hydro designed protection and controls and telecom systems has ramped down, and engineering support to construction and commissioning is ramping up as equipment is installed and energized. With issued for construction drawings now being provided by contractors for contractor designed, supplied, and installed equipment, a major focus for the engineering team is integration and interface design, and support during integrated testing for BC Hydro protection and control systems that interface with contractor supplied equipment.

3.2.5 Transmission

Transmission Engineering continues to provide construction support to the transmission lines that will connect the Site C substation to the Site C powerhouse. Geotechnical engineering support is being provided to determine potential future maintenance requirements.

3.2.6 Highway 29

Engineering support continued to prepare record drawings and issue certificates of conformance for the Cache Creek, Halfway River and Lynx Creek highway segments.

3.2.7 Technical Advisory Board and Independent International Dam Experts

Video conference meetings continued to be held with the Technical Advisory Board and the independent international dam experts during the reporting period.

In February, reports were issued by the Technical Advisory Board and the independent international dam experts. Refer to Appendix E for the reports from the Technical Advisory Board and independent dam experts for this reporting period.

3.3 Quality Management

BC Hydro continues to implement the Site C Quality Management Plan in order to achieve the quality objectives of the Project. During the reporting period, the Project team continued its activities to support the Project quality plan, including:

- Ongoing meetings with the quality management teams of key manufacturers and the site contractors to address quality issues as they arise;
- Performing quality audits of the site contractors;
- Participating in witness points and hold points at manufacturer's facilities; and
- Continuing with monthly quality performance indicator assessments for each sub-project.

When a quality issue is identified during the course of construction, BC Hydro and its contractors continue to work to rectify the issue to ensure that the quality of the completed work achieves the quality specifications.

3.3.1 Quality Nonconformance Management

The identifying and reporting of nonconformances continues to be an important part of quality management on Site C.

Table 5 summarizes quality nonconformity instances during the reporting period.

Table 5 Quality Management Nonconformity Report (NCRs) Metrics Reporting Period – January 2024 to March 2024

Contract	NCRs Reported January 1 to March 31, 2024	NCRs Closed January 1 to March 31, 2024	NCRs Reported as of March 31, 2024	NCRs Closed as of March 31, 2024	NCRs Open as of March 31, 2024
Main Civil Works	2	6	2,081	2,073	8
Turbines and Generators (total = manufacturing + installation)	81 (=4+77)	88 (=3+85)	1,419 (=651+768)	1, 260 (=645+615)	159 (=6+153)
Generating Station and Spillways Civil Works	34	41	1,824	1,791	33

For the generating station and spillways civil works sub-project, as the main structures are substantially complete, the contractor continues to focus their quality related efforts on addressing deficiencies and closing out open nonconformity reports.

Manufacturing of the first, second and third replacement penstock flexible couplings is complete and the first and second couplings have been successfully installed in the unit 1 and unit 2 penstocks at site. The fit-up between the replacement couplings and the existing penstocks is very good and the welding has progressed without any significant quality issues. Manufacturing of the remaining couplings in Quebec continues, and BC Hydro's quality inspector continues to perform surveillance and participate in witness and hold points in accordance with the manufacturing inspection and testing plan.

For the turbines and generators contract, the quality of the assembly and installation work at site continues to be good. For the turbine spiral case flexible couplings, the modified design (half-welded coupling) has been implemented on unit 1 and unit 2. A leakage test was performed on the unit 1 coupling in March 2024 by filling the spiral casing with water from the tailrace. No leakage was observed from the coupling during the test, giving BC Hydro and the contractor confidence to proceed with spiral case and penstock filling from the reservoir later in 2024. For the generator assembly, BC Hydro continues to have an independent specialist perform regular quality audits of the stator core stacking and stator winding activities. BC Hydro continues to meet with the turbines and generators contractor on a weekly basis to discuss upcoming inspections, quality issues and the overall quality assurance program.

For the electrical and mechanical balance of plant, there were no significant quality issues during the reporting period.

3.4 Commissioning

A comprehensive commissioning plan for the Site C Project has been developed and is being implemented as equipment is constructed and installed. The plan includes a detailed schedule to sequence commissioning activities, including each test, its duration, and the resources required. The commissioning process is comprised of safely testing and proving intended function and integration of Site C equipment with other systems.

The commissioning of the Site C assets will follow a process that includes: testing/pre-commissioning; dry commissioning (energization); wet commissioning (offline) once the reservoir reaches a certain elevation; wet commissioning (online); then handover to BC Hydro Operations as the final step.

The commissioning team began working on the detailed workplan for the dry and wet commissioning over two years ago, and this commissioning workplan is based on BC Hydro's decades of experience building hydroelectric generating stations and operating the BC Hydro system, and on accepted industry standards.

3.5 Assets In Service

Before all major pieces of equipment and assets are placed into service on the Project, inspecting, testing, and commissioning activities are completed to ensure that all components are fit for service and safe to transition to operations.

The pre-commissioning testing includes offline testing of individual pieces of equipment. Once the offline testing is completed, BC Hydro prepares and signs a Commissioning Notice to Energize, which states that the asset is safe to connect to the BC Hydro transmission grid and the online testing can commence. At the conclusion of the online testing, the signing of a Commissioning Notice to Operate formalizes the handover of the asset from the Project team to BC Hydro Operations. The commissioning process undertaken for the earthfill dam and associated assets will form part of the comprehensive dam safety and reservoir filling plan.

Once assets are placed in service, BC Hydro Operations is responsible for the long-term operations and maintenance of the equipment and assets.

As of March 31, 2024, the following permanent assets have been placed into operational service on the Project:

- Site C substation;
- 500 kV gas-insulated switchgear expansion at the Peace Canyon substation; and
- Two new 500 kV transmission lines that connect the Site C substation to the Peace Canyon substation.

4 Project Schedule

4.1 Project In-Service Dates

BC Hydro is currently on track to achieve the approved final unit in-service date in 2025.

Table 6 shows the status of key Project milestones in relation to the approved final unit in-service date in 2025.

Table 6 In-Service Dates

Description	In-Service Dates based on Approved Budget and Schedule (June 2021)[10]	Status
5L5 500 kV Transmission Line	October 2020	Complete
Site C Substation	October 2020	Complete
5L6 500 kV Transmission Line	July 2023	Complete
Unit 1 (first power)	December 2024	On Track
Unit 2	February 2025	On Track
Unit 3	May 2025	On Track
Unit 4	July 2025	On Track
Unit 5	September 2025	On Track
Unit 6	November 2025	On Track

[10] In-service dates based on Treasury Board's approval of the revised budget and schedule in June 2021.

5 Project Governance, Costs and Financing, and Risk

5.1 Project Governance

During the reporting period, activities supporting Project governance included:

- The BC Hydro Board of Directors continued to meet on a monthly basis to provide governance, financial approvals of committed contracts over $75 million (and their related changes), and received updates on Project progress and key remaining risks;
- The Project Assurance Board continued to meet monthly to provide independent due diligence and oversight of the Site C Project to enable the Project to be fit for purpose and to be completed safely, on time and on budget;
- The commercial sub-committee of the Project Assurance Board continued to meet monthly to provide oversight on claims management, commercial strategy and contractual negotiations;
- The Technical Advisory Board continued to provide technical expertise and guidance to the Project Assurance Board and support to the Project team;
- Ernst & Young Canada continued to provide independent oversight for the Project, specifically with risk management, which included reviewing Project risks and the analysis for the schedule and costs for the Project, and the evaluation of commercial management;
- BC Hydro and Ernst & Young Canada worked closely and collaboratively to initiate a cost risk analysis and schedule risk analysis with a January 1, 2024, data date;
- Special advisor Peter Milburn continues to work with the Project to ensure that his recommendations, which have all been implemented, continue to be sustained. Mr. Milburn worked closely with BC Hydro in advance of undertaking a cost risk analysis and schedule risk analysis in early January 2024.

5.2 Project Budget Summary

As of March 31, 2024, the life-to-date actual costs are $13.1 billion, which results in an estimated $2.9 billion of remaining costs based on the forecast of $16 billion. The Project remains on track to be completed within the 2021 approved $16 billion budget. BC Hydro, with oversight from the Project Assurance Board, continues to actively manage the Project budget and potential Project risks for the remaining work.

5.3 Project Expenditure Summary

Table 7 includes a breakdown of the $16 billion Project budget, approved in June 2021, by key work area, life-to-date actual expenditures to March 31, 2024, and the remaining budget.

Table 7 Project Budget by Key Work Area ($ million)

Description	Project Budget[11]	Actuals, Life-to-Date (as of March 31, 2024)	Remaining Budget (as of March 31, 2024)
Dam, Power Facilities and Associated Structures and Transmission[12]	8,258	7,570	688
Off Dam Site Works, Direct Construction Supervision and Site Services[13]	2,895	2,371	524
Total Direct Construction Cost	**11,153**	**9,941**	**1,212**
Indirect Costs[14]	2,082	1,544	538
Total Construction and Indirect Costs	**13,235**	**11,485**	**1,750**
Interest During Construction and Contingency	2,765	1,645	1,120
Total	**16,000**	**13,130**	**2,870**

11 The total Project budget was approved in June 2021 by Treasury Board.

12 Key items included are river diversion infrastructure, earthfill dam and related works, spillways, powerhouse, generation equipment and transmission and substation work.

13 Key items included are highway re-alignment and reservoir related work, direct construction supervision, and site services such as worker accommodation.

14 Key items included are mitigation and compensation programs, development and regulatory costs, project management, engineering and other support services such as Project controls, contracts management, environmental, and Indigenous relations.

Table 8 provides a summary of the approved total Project budget, the current forecasts, and related variances. The table also presents the cumulative plan and actual costs to March 31, 2024, and the related variances. The plan amount reflects the Project budget of $16 billion approved in June 2021 and the related preliminary forecasted annual spend at that time.

Table 8 Total Project Budget Compared to Forecast to Completion and Life-to-Date Plan Compared to Actuals to March 31, 2024 ($ million)

	Total Project			Life-to-Date (LTD) to March 31, 2024		
Description	**Budget**	**Forecast to Completion**	**Variance**	**Plan**	**Actual**	**Variance**
Total Construction & Indirect Costs	13,235	13,235	0	12,104	11,485	619
Interest During Construction and contingency	2,765	2,765	0	2,028	1,645	383
Total	**16,000**	**16,000**	**0**	**14,132**	**13,130**	**1,002**

Details of the variances between life to date actual and plan are in Appendix H.

Table 9 provides a Fiscal 2024 summary, for the plan, actual cost and related variance based on the 2023/24 to 2025/26 Service Plan.

Table 9 2023/24 to 2025/26 Service Plan Fiscal 2024 Plan Compared to Actuals ($ million)

Description	2023/24 to 2025/26 Service Plan, Fiscal 2024	Actuals, Fiscal 2024	Variance
Total Project	2,064	2,110	(46)

Details of the variances between actual and plan are in Appendix H.

5.4 Site C Project Financing

Most of BC Hydro's capital projects, including the Site C Project, are debt financed. The Site C Project costs are included as part of BC Hydro's overall borrowing and included in the Government of B.C.'s budget and fiscal plan. The debt and related interest costs are managed corporately by BC Hydro.

5.5 Material Project Risks and Opportunities

Material project risks and opportunities are identified and reviewed by BC Hydro management and the Project Assurance Board on an ongoing basis. Project risks are uncertain events that, if they occur, could result in a negative impact or loss to a project. Similarly, opportunities are uncertain events that, if they occur, could result in a positive impact, or benefit, to a project.

As the Project progresses through implementation phase, the Project risks and opportunities will continue to evolve.

The criteria for selecting which risks and opportunities to include in internal and external reporting include both objective and subjective measures; these criteria have been utilized to select the risks and opportunities included in this report.[15]

Refer to Table 10 and Table 11 for a list of the material Project risks and opportunities as of March 31, 2024.

Table 10 Material Project Risks

Risk Description	Impact and Response Plan Summary
Safety incident resulting in a fatality or disabling injury	**Impact:** Serious worker injury or fatality; Project delays and associated costs. **Response**: Continue to monitor safety performance through BC Hydro's field-based Safe Work Observations program and ongoing safety management and analytics; support continuous improvements to the Safe Work Observations program to reinforce safety behaviours in the field; continue to share safety learnings; work with Project contractors on more collaborative safety incident investigations and track/follow-up on corrective actions; work with WorkSafeBC and contractors on safety equipment and process audits and programs focused on high hazard work activities at site; conduct joint safety planning workshops for upcoming work scopes; and continue to include safety in BC Hydro and contractor onboarding orientations to promote and encourage a strong safety culture across the Project.

[15] The risks and opportunities included in Table 10 and Table 11 are grouped thematically. The lists do not include risks and opportunities that are subject to confidentiality obligations or solicitor-client privilege, or that disclose commercially sensitive information relating to matters that are currently outstanding, including procurements and negotiations that are in progress at the time of this report, the disclosure of which would be harmful to BC Hydro's commercial interests.

Risk Description	Impact and Response Plan Summary
Adits or right bank drainage tunnel may need additional structural support post reservoir filling	**Impact:** Requirement for additional structural support, resulting in additional costs. **Response**: Design additional support as required and implement measures to address as-found conditions.
Penstock flexible couplings do not perform as expected	**Impact:** Schedule delays and/or additional costs. **Response**: Ongoing modification and on-site testing of the couplers. Implement alternative design and supply as needed.
First unit commissioning delay	**Impact**: Delay to unit 1 in-service and potential additional costs. **Response:** A commissioning plan has been developed. The plan is being implemented with commissioning activities starting as early as possible.
Generating station and spillways hydromechanical equipment supply specification is different from that of installer	**Impact:** Rework, equipment damage, claims from sub-contractors. **Response:** BC Hydro will facilitate integration between the original equipment manufacturer and the installation contractor to resolve any differences.
Erosion of outlet riprap material	**Impact:** Cost of remediation work, and potential generation flow restrictions on GM Shrum and Peace Canyon generation stations. **Response:** Complete both temporary and permanent solutions to prevent erosion, monitor and survey underwater conditions at outlet area for any signs of erosion, build physical model of the tunnel outlet for testing of surfaces under different flows.
Project contractors cannot attract and retain sufficient skilled craft workers	**Impact:** Contractors may not be able to adequately source, supply, attract, and retain sufficient labour, including leaders in the hourly craft workforce such as forepersons, lead hands and senior journeypersons due to workforce demographics, increased competition for labour from other major projects, and the requirement for specialized workers. This may result in potential impacts to schedule, safety, productivity, and cost. **Response**: Contractors provide labour sourcing and supply plans, provide advance notice of foreign workers, and participate in local job fairs. BC Hydro encourages and facilitates capacity-building initiatives and monitors employee turnover rates and labour conditions on other projects.
Risk of contractor claims	**Impact**: Increased construction management and contract management effort required to respond to and investigate claims; settlement of claims may result in increased costs. **Response**: Ensure sufficient commercial management resources in place, proactively resolve claims as received, and ensure commercial management procedures are in place and are being followed.
Project pays higher contractors' craft labour market increases	**Impact:** Increased labour market pressures could result in industry benchmarks exceeding the contracted baseline, resulting in Project cost increases. **Response**: Follow the contractual provisions related to labour escalation rates.
Additional coordination effort required between balance of plant (permanent upstream fishways and other out structures) and other contractors	**Impact:** Additional interface works identified during wrap-up resulting in additional cost impacts. **Response:** Define, negotiate, and track performance of the additional wrap-up work.

Risk Description	Impact and Response Plan Summary
Higher interest during construction on Project than planned due to increases in weighted average cost of debt rates	**Impact**: Although BC Hydro hedges debt based on BC Hydro's approved hedging strategy, risk remains for fluctuations in short-term interest rates which are not hedged and due to the regulatory accounting for realized gains / losses on hedges during the current Revenue Requirement Application period. These could result in higher interest during construction for the Project than budgeted. **Response**: BC Hydro is implementing its approved hedging strategy and closely manages the annual expenditures and the schedule for first power in-service, which is when the majority of the interest during construction will cease on the Project.
Increasing scope for the Indigenous cultural centre design work	**Impact:** Redesign or additional design work results in higher cost estimates for the construction of the cultural centre. **Response:** Continue to engage with Indigenous Nations to obtain their input into the conceptual design. Prepare and evaluate cost estimates prior to construction.
BC Hydro estimate for tunnel backfill may be below current market	**Impact:** Estimates to be revised following a change in contractor, with potential cost increases due to changes in requirements, construction methodology and inflation. **Response:** Prepare a revised estimate based on current market conditions and proactively negotiate pricing with potential contractor.

Table 11 Material Project Opportunities

Opportunity Description	Impact and Response Plan Summary
Lower interest during construction due to timing of Project expenditures	**Impact**: Lower Project interest costs than the amount budgeted. **Response:** Monitor Project expenditure timing and manage expenditures effectively.

6 Key Procurement and Contract Developments

6.1 Key Procurements

The vast majority of the major Site C contracts have been awarded. The remaining procurements on the Project are summarized in Table 12. This table does not include certain Project completion activities, such as roads, site reclamation, right bank drainage tunnel structural work, and diversion tunnel backfill work.

Table 12 Remaining Major Project Procurements and Delivery Models

Component	Contract	Procurement Model	Anticipated Timing
Reclamation Program	Multiple seeding supply contracts and reclamation contracts to be awarded over three to four years	Design-Bid-Build	2024 season: • Four planting packages identified and awarded. One additional planting package identified. This additional package is expected to be awarded in spring 2024. • Two reclamation packages identified; one package awarded. Second package is expected to be awarded in spring 2024. 2025 season: • Two planting packages identified; procurement will start in 2024. • Two reclamation packages identified; procurement will start in 2024. 2026 season: • Six planting packages identified; procurement will start in 2025.

6.2 Major Construction Contracts Exceeding $50 Million

Since inception of the Project, 14 major construction contracts have been awarded that exceed $50 million in value, as shown in Table 13. The contract values reflect the current value including executed approved changes to the end of the reporting period.

All construction contracts have been procured and awarded in accordance with BC Hydro procurement policies.

Table 13 Major Project Construction Contracts Awarded

Contract	Contract Value at March 31, 2024[16] ($ million)	Contract Execution Date
Site Preparation: North Bank	60	July 2015
Worker Accommodation	708	September 2015
Main Civil Works[17]	3,362	December 2015
Turbines and Generators	536	March 2016
Transmission and Clearing	92	October 2016
Quarry and Clearing	171	February 2017
Generating Station and Spillways Civil Works[18]	2,970	March 2018
Hydromechanical Equipment	79	April 2018
Transmission Line Construction	139	May 2018
Clearing and Aggregates	72	December 2018
Highway 29	379	October 2019
Balance of Plant Mechanical	93	July 2021
Balance of Plant Electrical (includes balance of plant architectural; heating, ventilation, and air conditioning; and fire detection and protection work)	301	September 2021
Balance of Plant Permanent Upstream Fishway and Other Out Structures	97	January 2022

16 Contract value reflects the current value including executed change orders to the end of the reporting period. Contract values are rounded to the nearest million.

17 Includes some of the scope of work for the right bank foundation enhancements.

18 Includes some of the scope of work for the right bank foundation enhancements.

6.3 Contracts Exceeding $10 Million

For open contracts procured and awarded in excess of $10 million, refer to Appendix F.

6.4 Contract Management

6.4.1 Material Changes to the Major Contracts

The main civil works contract is a unit price contract and, as such, variations in quantities and design are expected over the term of the contract. Since contract award in December 2015, the main civil works contract value has increased by $1.61 billion to reflect approved changes to March 31, 2024. These approved changes include work for the right bank foundation enhancements.

The generating station and spillways contract is also a unit price contract and, as such, variations in quantities and design are expected over the term of the contract. Since contract award in March 2018, the generating station and spillways contract value has increased by $1.37 billion to reflect approved changes to March 31, 2024. These approved changes include work for the right bank foundation enhancements.

7 Indigenous Engagement

Pursuant to the Environmental Assessment Certificate and Federal Decision Statement, BC Hydro is required to engage with 13 Indigenous Nations with respect to the construction stage of the Project. This consultation includes the provision of information on construction activities, support for the permit review process, and review and implementation of mitigation, monitoring and management plans, and permit conditions.

During the reporting period, BC Hydro continued to engage with Indigenous Nations on Project activities and milestones. Representatives from 10 Indigenous Nations attended an Environmental Forum meeting on March 6. Included was an update on the Methylmercury Monitoring Program in the future reservoir.

7.1.1 Indigenous Procurement, Training and Employment

BC Hydro continues to advance economic opportunities for Indigenous Nations through capacity building and procurement opportunities. Approximately $760 million in Site C directed procurement opportunities have been awarded to companies designated by Indigenous Nations since the beginning of the Project, pursuant to BC Hydro's Indigenous Procurement Policy. Information on BC Hydro's Indigenous Procurement Policy can be found on the BC Hydro website at the following link: https://www.bchydro.com/work-with-us/suppliers/indigenous-procurement.html.

Indigenous procurement is tracked as a performance metric in BC Hydro's Service Plan, with an overall target of reaching $1.625 billion in directed Indigenous procurement opportunities between 2014/15 and 2026/27. This goal supports BC Hydro's ongoing reconciliation initiatives by providing opportunities for Indigenous Nations to share in the benefits of the work that BC Hydro does to build, operate, and maintain its system.

Indigenous procurement on the Site C Project has been a strong contributor to BC Hydro meeting and exceeding its cumulative Service Plan target in this metric. Working on Site C has helped businesses designated by Indigenous Nations to build and grow their reputations, expand the scale of their operations, and develop new expertise to compete in the regional economy.

In March 2024, 115 Indigenous people were working on the Site C Project, which represents approximately 6% of the total workforce.

7.1.2 Cultural Centre

BC Hydro continued to work with Indigenous Nations on the development of the future cultural centre. The cultural centre project is an important accommodation for the cultural impacts of Site C. The facility will showcase local Indigenous culture and history in the region, and store and display many of the artifacts uncovered during the construction of Site C. The participating Nations have agreed on a conceptual

design for the facility and are now proceeding to the development of the detailed design of the building and exhibits.

7.1.3 Permanent Naming of Site C Dam and Reservoir

BC Hydro has invited Indigenous Nations to participate in the permanent naming of Site C assets, specifically the dam and future reservoir. Participation in the naming of Site C provides the opportunity to acknowledge the presence of the Project on Indigenous traditional lands and contributes to reconciliation.

In spring 2023, BC Hydro initiated engagement on Site C dam and reservoir naming with the 13 Indigenous Nations identified in the Site C Environmental Assessment Certificate and Federal Decision Statement. As a result of this engagement, recommended Indigenous language names have been identified and advanced for consideration.

8 Litigation

The details of open proceedings as of March 31, 2024, are summarized in Table 14.

Table 14 Litigation Status Summary

Description		Date
B.C. Supreme Court: Treaty Infringement Claims		
West Moberly First Nations	Civil claim filed.	January 15, 2018
	Settlement of claims related to Site C.	June 24, 2022
B.C. Supreme Court: Civil Claims		
Building and Construction Trades Council	Civil claim filed. No steps have been taken in litigation that require a response from BC Hydro.	March 2, 2015
Michael Acko, etal (Residents of Old Fort community)	Civil claim filed.	January 18, 2021
	Response to claim filed.	September 8, 2021
Allianz Global Risks US Insurance Company, etal	Civil claims filed. Claims were filed by BC Hydro to preserve BC Hydro's rights to claim under Site C property insurance for losses related to left bank tension crack events and the rockfall event near a diversion tunnel inlet portal.	February 5, 2021 July 13, 2021

Description		Date
Vezer Industrial Professionals Canada Ltd.	Civil claim served. No steps have been taken in litigation that require a response from BC Hydro.	March 29, 2022
Armitage	Civil claim filed. Response to claim filed.	October 24, 2022 January 5, 2023
B.C. Supreme Court: Civil Claims – *Expropriation Act*		
Property owners	Of 19 notices of claims filed to keep open each plaintiffs' rights to claim further compensation under the *Expropriation Act,* seven have been resolved during this period and 12 remain active. BC Hydro is preparing to file responses to the outstanding claims.	July 2019 to March 2024

9 Permits and Government Agency Approvals

9.1 Background

BC Hydro continues to be issued permits and authorizations in accordance with its construction timelines. As of March 31, 2024, 640 of the estimated 684 provincial and federal permits and authorizations required throughout the life of the Project had been obtained and are actively being managed. This includes all required regulatory approvals to commence reservoir filling.

Multiple conditions are attached to each permit or authorization, which cover subjects such as air quality, water quality, fish and aquatics, wildlife, heritage, health and safety, construction environmental management and Indigenous Nations consultation. As of March 31, 2024, all required conditions and submissions have been met in accordance with the schedule and requirements of the conditions.

9.2 Federal Authorizations

Site C requires federal authorizations under the *Fisheries Act* (issued by Fisheries and Oceans Canada) and the *Canadian Navigable Waters Act* (formerly *Navigation Protection Act*) (issued by Transport Canada). All major federal authorizations for the construction and operation of the Site C dam and reservoir were received in

July 2016. One amendment to the federal *Fisheries Act* Authorization, regarding the temporary placement of fill downstream of the earthfill dam, was issued in July 2022.

Additional *Canadian Navigable Waters Act* approvals and notifications for discrete works in the reservoir (e.g., shoreline works, debris booms and Highway 29 bridges) have been issued at the regional level. As of March 31, 2024, a total of 135 federal approvals and notifications have been issued and are actively being managed. Three future approvals are planned.

9.3 Provincial Permits

Site C requires provincial permits primarily under the *Land Act*, *Water Sustainability Act*, *Forest Act*, *Wildlife Act*, *Heritage Conservation Act*, and *Mines Act*. These permits include investigative permits, licences to occupy land, water licence approvals, leaves to commence construction and leaves to construct, and licences to cut vegetation, among others.

As of March 31, 2024, 494 of the estimated 535 provincial permits and approvals that are required throughout the life of the Project had been obtained and are actively being managed. These include permits for the dam site area, worker accommodation, Highway 29 realignment and decommissioning of the existing highway sections that are being realigned, transmission line and eastern, middle, and western reservoir, fish habitat enhancement sites, and reservoir filling. Future provincial permits are being planned for the operation of the generating station and the permanent upstream fishway.

9.4 Environmental Assessment Certificate

Compliance with the Project conditions in the Environmental Assessment Certificate is regularly monitored, and evidence is collected by various federal and provincial regulatory agencies, the Independent Environmental Monitor, BC Hydro and contractors.

As with any large construction project, refinements to the design are expected. As of March 31, 2024, BC Hydro has requested and received from the Environmental Assessment Office, 11 amendments to the Project's Environmental Assessment Certificate to reflect changes in the Project design. The amendments have not resulted in any material impacts to the cost of the Project.

BC Hydro is currently complying with all requirements of the Environmental Assessment Certificate amendments.

All amendments and amendment requests are posted on the Environmental Assessment Office website.

In addition, all mitigation and monitoring plans required under the Environmental Assessment Certificate are posted on the Site C Project website at Environmental & Socio-Economic Plans & Reports | Site C (sitecproject.com).

9.5 Annual Compliance Report

As detailed in the Environmental Assessment Certificate, the Project is required to submit an annual compliance report describing the status of compliance with the conditions of the certificate. The Project has met all required conditions and submitted its ninth annual compliance report on time on March 28, 2024. This report can be found at this link: EAC-Annual-Compliance-Report-2023_0.pdf (sitecproject.com).

10 Environment

10.1 Mitigation, Monitoring and Management Plans

As per the requirements of the Environmental Assessment Certificate and Federal Decision Statement, the 2023 Vegetation and Wildlife Mitigation and Monitoring Plan Annual Report, details the results of the various vegetation and wildlife programs that occurred in 2023 and can be found on the Site C Project website at this link: Environmental & Socio-Economic Plans & Reports | Site C (sitecproject.com). This report included reports for:

- Songbird monitoring/breeding bird surveys
- Bank Swallow Monitoring
- Ground-nesting Raptor Monitoring
- Bald Eagle Nest Surveys
- Waterbird Surveys
- Cavity Nest Bird Monitoring
- Wildlife Trees
- Fisher Den Boxes
- Portage Mountain Bat Monitoring
- Bat Box Monitoring
- Artificial Snake Hibernacula Monitoring
- Rare Plant Pre-construction Surveys
- Experimental Rare Plant Translocation

The Site C amphibian and reptile salvage permit was also submitted for renewal in anticipation of the upcoming salvage needs.

10.2 Project Environmental Compliance

Environmental compliance on the Project remains high.

Effective January 1, 2024, the site environmental compliance team stopped tracking the total number of compliance points inspected and switched to focusing on observed non-compliances and tracking progress to remedy them.

A final inspection report, based on a December 2023 inspection, was issued by the Environmental Assessment Office in January 2024.

During the reporting period, the Environmental Assessment Office completed one remote inspection with an information request that focused on the Project's compliance with the Individual Farm Mitigation Plan. In March 2024, a preliminary report related to this inspection was issued for review by BC Hydro, to which a reply was submitted in April 2024. That inspection report has not yet been issued as final by the Environmental Assessment Office.

10.3 Potentially Acid-Generating Rock Management

The Project's Construction Environmental Management Plan has a well established potentially acid-generating rock management plan that employs a variety of recognized techniques to identify, test, monitor and treat, if necessary, any potentially acid-generating rock during construction. Any potentially acid-generating rock sites located within the reservoir will be rendered inert once the reservoir is filled. Any potentially acid-generating rock sites remaining outside the reservoir post construction will be addressed through location specific prescriptions provided by qualified environmental professionals.

The April 2022 Environmental Assessment Office order related to potentially acid-generating rock exposures has necessitated revisions to the Construction Environmental Management Plan. The revision process began in October 2022, and included a consultation period, which was initiated in April 2023 and concluded in October 2023 when BC Hydro published the revised plan on the Project website,

and notified Regulators that the revised plan would be followed from that date forward.

In parallel with these revisions, this order has accelerated the need to consider potential mitigation options for potentially acid-generating rock exposures on the dam site that will not be covered by the reservoir. For this, the Project is seeking engineered options and cost estimates for a subset of the potentially acid-generating rock exposures across the Project that will not be covered by the reservoir or that have been identified in past Environmental Assessment Office inspection reports. The engineered mitigation for one of these exposures went into construction during the reporting period and is expected to be mostly complete by spring 2024. To avoid interference with the haul road, a small component of this engineered mitigation cannot be competed until after the temporary debris boom handling apparatus is removed, which is expected sometime in summer 2024. Results of this effort and the other work to mitigate the remaining potentially acid-generating rock exposures will be summarized in future progress reports.

The Environmental Assessment Office continues to assure BC Hydro that it will not pursue enforcement against the April 2022 order.

10.4 Heritage

In the reporting period, the heritage program provided guidance on the identified Indigenous sites of importance, planned and commenced pre-construction archaeological impact assessment field work, and provided ongoing heritage support for Project construction. The scope of the heritage program is significantly smaller than in previous years since there are few new work areas requiring archaeological assessment.

10.5 Temporary Fish Passage Facility

BC Hydro assumed operations of the temporary fish passage facility, effective April 1, 2024. The temporary fish passage facility was in its normal winter shut-down mode during the reporting period.

10.6 Wetland Compensation Plan

BC Hydro and the contractor continue to work on advancing wetland re-builds and new construction options in the Peace Region. Two more wetland re-builds are scheduled for construction by 2025.

10.7 Greenhouse Gas Monitoring

In October 2022, BC Hydro began collecting data to support a pre-reservoir fill greenhouse gas (**GHG**) emission study. Three locations upstream of the dam site were selected for terrestrial flux-chamber measurements, and soil organic carbon and vegetation sampling. Monitoring at these three locations continued through the reporting period.

10.8 Agricultural Mitigation and Compensation Plan

The BC Hydro Peace Agricultural Compensation Fund spring 2024 grant intake closed on January 19, with the application review process taking place on March 7, 2024. During this reporting period, $173,510 in grant funding was distributed to nine projects to support agricultural production and related economic activity in the Peace Region. As of March 31, 2024, the fund has distributed nearly $3 million to 97 projects.

11 Employment and Training Initiatives and Building Capacity Initiatives

11.1 Labour

Since the beginning of the Project, unions that have participated in the construction of Site C are listed in Table 15.

Table 15 Participating Unions

Union
Construction Maintenance and Allied Workers (**CMAW**)
Christian Labour Association of Canada (**CLAC**), Local 68
Canada West Construction Union (**CWU**)
Construction and Specialized Workers Union (**CSWU**), Local 1611
International Union of Operating Engineers (**IUOE**), Local 115
Millwrights Union, Local 2736
Ironworkers, Local 97
International Brotherhood of Electrical Workers (**IBEW**)
MoveUP, Local 378
Pile Drivers Union, Local 2404
Boilermakers, Lodge 359
United Association of Journeymen & Apprentices of the Plumbing & Pipefitting Industry of the U.S. & Canada, Local 170
Teamsters, Local 213

In addition, ten unions affiliated with the B.C. Building Trades are signatory to the special project needs agreement for the installation of the turbines and generators.

The Site C balance of plant contractors are signatory to a special project needs agreement between the Construction Labour Relations Association and the Bargaining Council of B.C. Building Trades Unions.

11.2 Employment

Contractors submit monthly workforce data electronically to BC Hydro. Table 16 presents the monthly number of construction contractors, non-construction contractors, engineers, and Project team workers for this period.

As with any construction project, the number of workers – and the proportion from any particular location – will vary month-to-month and also reflects the seasonal nature of construction work.

Table 16 Site C Jobs Snapshot Reporting Period – January 2024 to March 2024

Month	Number of B.C. Primary Residents11F[19]	Total Number of Workers12F[20]
January 2024	1,967	2,518
February 2024	2,087	2,721
March 2024	2,130	2,801

Data is subject to change based on revisions received from the contractors.

In March 2024, there were 2,801 total workers on the Site C Project. Residents of British Columbia made up 76% of the workforce (2,130), while 20% of the workforce (411 workers) lived in the Peace River Regional District. The onsite contractor workforce number also includes 15% women (312 workers) and 6% Indigenous (115 workers). There were 149 apprentices working on the Project, which is 16% of the apprenticeable trades within the construction and non-construction workforce. These workers were working for various contractors as apprentice carpenters, electricians, millwrights, ironworkers, mechanics, boilermakers and plumbers. Refer to Appendix D for an overview of the current Site C workforce that includes the following information from January to March 2024: the Site C jobs snapshot (Table D-1), the Site C apprentices snapshot (Table D-2), the Site C job classification groupings (Table D-3), and the Indigenous inclusion snapshot (Table D-4).

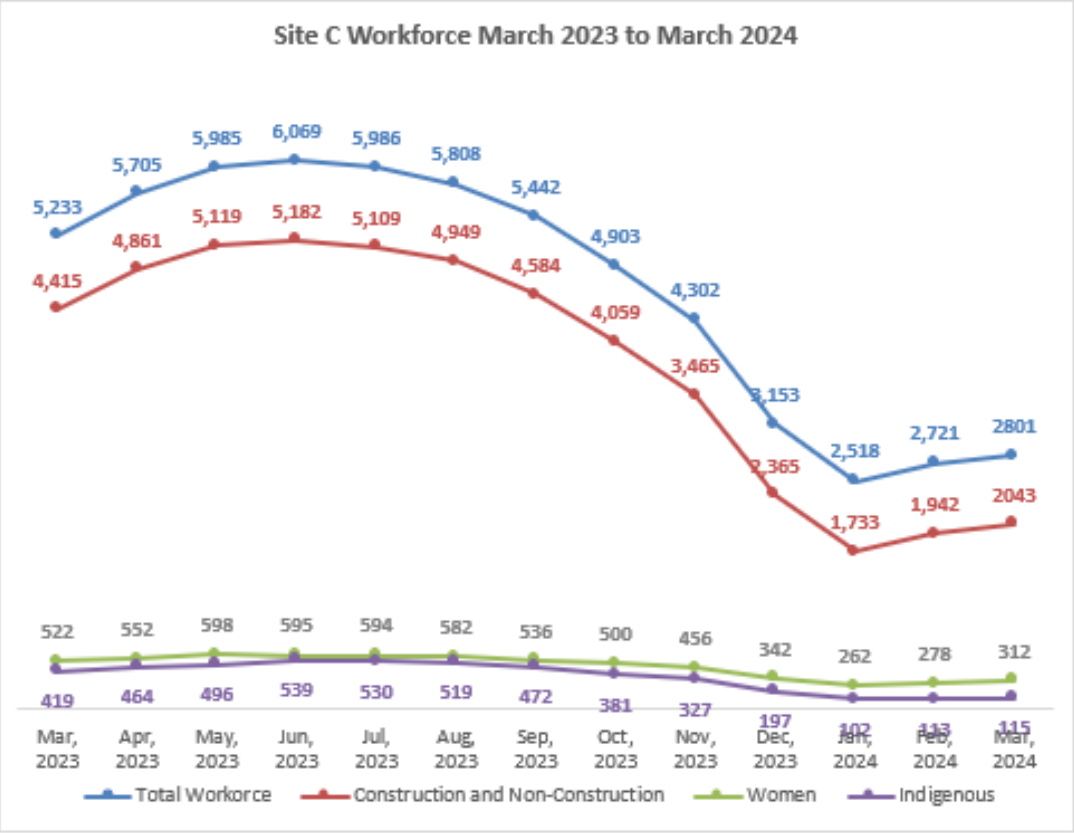
[19] Employment numbers provided by Site C contractors and consultants are subject to revision. Data not received by the Project deadline may not be included in the above numbers. Employment numbers are direct only and do not capture indirect or induced employment.

[20] Total workers include:

- Construction and non-construction contractors performing work on the Site C dam site, transmission corridor, reservoir clearing area, public roadwork, worker accommodation and services; and
- The Project team, which includes Engineers and BC Hydro construction management and other onsite and offsite personnel. An estimate is provided where possible if primary residence is not given.

Figure 2 shows the monthly Site C workforce over the period from March 1, 2023, to March 31, 2024.

Figure 2 Site C Workforce March 2023 to March 2024[21]



11.3 Training and Capacity-Building Initiatives

BC Hydro has included apprentice targets in the generating station and spillways civil works contract, the transmission lines and the substation contracts, the balance of plant contracts and the Highway 29 work procured by BC Hydro, as appropriate.

Northern Lights College Foundation continues to distribute the BC Hydro Trades and Skilled Training Bursary Awards, established in 2013. As of March 31, 2024, a total

[21] The Indigenous workers and women workers numbers are a subset of the construction and non-construction contractors workforce number.

of 293 students had received bursaries, including 136 Indigenous students who have benefitted from the bursary in programs such as electrical, welding, millwright, cooking, social work, and many others.

Joint BC Hydro and Contractor Site Training

BC Hydro continues to implement the Builders Code. The Builders Code is a standard code of conduct for workers on construction sites in B.C. that defines an acceptable worksite as one that is safe and productive, where all workers work without the stress or distraction caused by discrimination, bullying, hazing, or harassment.

12 Community Engagement and Communication

12.1 Local Government and Community Engagement Activities

BC Hydro continues to advance commitments within four community agreements: the District of Chetwynd (2013), the District of Taylor (2014), the City of Fort St. John (2016), and the District of Hudson's Hope (2017). A community agreement between BC Hydro and the Peace River Regional District has yet to be finalized.

The Regional Community Liaison Committee, which is comprised of local elected officials and local First Nations communities, most recently met for its regularly scheduled meeting on December 6, 2023. With endorsement of the Regional Community Liaison Committee members, the frequency of meetings has been reduced from quarterly to semi-annually.

Eight local governments and four local First Nations communities (McLeod Lake Indian Band, Doig River First Nation, Saulteau First Nations, and Blueberry River First Nations) as well as the two MLAs for Peace River North and Peace River South, are invited to participate as committee members. Representatives from the Project's major contractors may also attend the meetings as invited guests.

12.1.1 District of Hudson's Hope Well Water System

In fall 2022, the District initiated a three-phase plan to switch its raw water source from the well water system to the Peace River. BC Hydro and the District of Hudson's Hope finalized an agreement that will provide funding to support the initial two phases of this plan. The District has installed a surface water intake along with upgrades to the treatment facility and is providing the community with potable water. The District intends to continue to operate the surface water system until 2025. In the meantime, the District is pursuing design options for a permanent facility as well as municipal funding approvals.

12.1.2 Generate Opportunities Fund

In 2016, BC Hydro launched the Generate Opportunities Fund (**GO Fund**) to support Peace Region non-profit organizations. The GO Fund is being distributed to organizations that provide services to vulnerable populations including children, families and seniors.

The GO Fund is administered by Northern Development Initiative Trust on behalf of BC Hydro. During this reporting period, BC Hydro distributed approximately $23,000 to three non-profit organizations in the Peace Region and as of March 31, 2024, 97 projects had received approximately $850,000 since the fund was launched.

More information about the GO Fund can be found at the following link: Generate Opportunities (GO) Fund | Site C (sitecproject.com).

12.1.3 Community Relations and Construction Communications

BC Hydro continued to implement its construction communications program throughout the reporting period. The program includes updating and maintaining the Project website (www.sitecproject.com) with current information, photos and videos of construction activities, as well as providing information to local and regional stakeholders as required.

Community Engagement

Site C Community Relations continued to respond to media and public inquiries about reservoir fill timing through January to the end of March 2024. Community Relations has begun preparing for two community information sessions in the Peace region, scheduled for May 7 in Fort St John and May 8 in Hudson's Hope. The sessions will highlight the status of construction and the plan to start reservoir filling. In consultation with local government and Indigenous communities, the Regional Community Liaison Committee has agreed to reduce its meeting frequency from quarterly to semi-annually in 2024, with the next meeting set for June 5.

Construction Bulletins

Bi-weekly construction bulletins are posted on the Project website and sent by email to a web-subscriber list. There were six construction bulletins issued this reporting period.

Public Enquiries

In total, BC Hydro received 85 public enquiries between January 1 to March 31, 2024. Table 17 shows the breakdown of some of the most common enquiry types.

In total, BC Hydro has received more than 14,600 enquiries since August 2015.

Business Liaison and Outreach

No procurement notifications were sent out during the reporting period.

Table 17 Public Enquiries Breakdown by Topic

Enquiry Type[22]	January 1 to March 31, 2024
Employment Opportunities	39
Business Opportunities	8
General Information	18
Construction Impacts[23]	1
Other[24]	19

12.2 Labour and Training Plan

In accordance with an Environmental Assessment Certificate condition, a Labour and Training Plan was developed and submitted to the Environmental Assessment Office on June 5, 2015. This plan, as well as Environmental Assessment Certificate Condition 45, include annual reporting requirements to support educational institutions in planning their training programs to support potential workers in obtaining Project jobs in the future. This report has been issued to the appropriate training institutions in the northeast region annually since 2016. The most recent report was issued in July 2023.

12.3 Human Health

12.3.1 Health Care Services Plan and Emergency Service Plan

The on-site health clinic provides workers with access to primary and preventative health care and work-related injury evaluation and treatment services and is currently open seven days a week, 24 hours a day. Since opening the health clinic, there have been more than 51,000 patient interactions. During the reporting period, there were 674 patient interactions, of which 89 were occupational and 585 non-occupational. Several preventive health themes were provided to workers

22 This table is a sample of enquiry types and does not include all enquiry types received. Some enquiries that were received cover more than one topic.

23 The nature of the construction impact enquiries are primarily related to air quality and dust, traffic and road conditions, and safety.

24 “Other” accounts for enquiries related to a variety of other topics, such as wildlife and beavers, river closure, and tour requests.

during the reporting period, including information on extreme cold, cancer symptoms, and eye health.

12.4 Property Acquisitions

Property acquisitions required for the Project remain on track. The land and rights required for reservoir filling have been acquired. During the reporting period, further acquisitions have been completed. Three acquisitions required for long term operational safety remain outstanding and are expected to be complete in spring 2024.

In cases where BC Hydro acquired or expropriated land or rights for the Project under the *Expropriation Act*, notices of claim have been filed by owners to keep open their rights to claim further compensation under the *Expropriation Act* as noted in section 8 of this report.

12.5 Plans During Next Six Months

Table 18 shows the key milestones for activities planned during the next six months, from April to September 2024.

As noted in Table 18, some of the required key milestones are at risk or late. In particular, many of the plan dates included in the table supported the possibility that reservoir filling could start in late fall 2023, one year earlier than the approved schedule. With the decision in November 2023 to stay on track with the approved Project schedule with reservoir filling in fall 2024, the forecast dates in Table 18 are shown as late. Plan dates will be adjusted as contract changes are approved to amend milestone dates, that are consistent with the approved schedule.

BC Hydro remains on track to achieve the approved final unit in-service date of 2025.

Table 18 Key Milestones for Activities Planned During the Next Six Months (April 2024 to September 2024)

Milestone	Performance Measurement Baseline (June 2021)	Plan Date (Control Date[25])	Forecast[26]	Status[27] (Measured by Month)
Balance of Plant				
Permanent Fish Facility Complete (generating station and spillways contractor)	n/a	November 2023	April 2024	Late
Powerhouse Drainage & Dewatering for Tailrace Fill Units 1-3 Complete	January 2023	January 2024	April 2024	Late
All Work in Powerhouse Bay 1 is Complete (Mechanical)	March 2023	April 2024	June 2024	Late
All Work in Powerhouse Bay 2 is Complete (Mechanical)	June 2023	April 2024	June 2024	Late
All Work in Powerhouse Bay 2 is Complete (Electrical)	n/a	April 2024	June 2024	Late
All Work in Powerhouse Bay 1 is Complete (Electrical)	n/a	June 2024	June 2024	At Risk
Powerhouse AC Station Service for Tailrace Filling	n/a	April 2024	June 2024	Late
Spillway and Intake AC Station Service Complete	n/a	May 2024	July 2024	At Risk
Generating Station and Spillways				
Intake Operating Gate and High-Pressure Unit Assembly and Installation Complete - Intake Unit 1	January 2022	June 2023	April 2024	Late
Intake Operating Gate and High-Pressure Unit Assembly and Installation Complete - Intake Unit 3	April 2022	June 2023	April 2024	Late
Gate and Wire Rope Hoist Assembly and Installation Complete – Spillway Operating Gate 3 (generating station and spillways contractor)	June 2023	August 2023	April 2024	Late
Intake Operating Gate and High-Pressure Unit Assembly and Installation Complete - Intake Unit 2	July 2022	June 2023	April 2024	Late
Intake Operating Gate and High-Pressure Unit Assembly and Installation Complete - Intake Unit 4	April 2023	July 2023	April 2024	Late
Spillway Operating Gates 1-3 Wire Rope Hoists Installed (generating station and spillways contractor)	June 2023	August 2023	May 2024	Late
Low Level Outlet Gates 4 to 6 – High Pressure Unit Installation Complete	April 2023	August 2023	July 2024	Late

[25] As of March 31, 2024, control dates reflects plan, adjusted for approved contract changes to milestone dates.

[26] As of March 31, 2024.

[27] As of March 31, 2024.

Milestone	Performance Measurement Baseline (June 2021)	Plan Date (Control Date[25])	Forecast[26]	Status[27] (Measured by Month)
Main Civil Works				
Reservoir Filling, excluding tunnel conversion work complete	August 2024	August 2024	August 2024	On Track
Ready for Reservoir Filling	August 2024	August 2024	August 2024	On Track
Turbines and Generators				
Unit 1 – Ready to Turn	May 2023	June 2023	May 2024	Late
Unit 2 – Ready to Turn	August 2023	October 2023	May 2024	Late
Unit 3 – Ready to Turn	October 2023	February 2024	July 2024	Late
Reservoir Level Sufficient for penstock fill	n/a	October 2024	September 2024	On Track
Transmission				
5L15 In-Service Date	July 2023	July 2023	August 2024	Late

13 Impacts on Other BC Hydro Operations

During the reporting period, the operation of system storage at Williston Reservoir (including G.M. Shrum and Peace Canyon generating stations) was planned to meet flow releases necessary for Site C construction, and this operation continues. Water releases from the Peace Canyon generating station were maintained at or below the levels necessary for Project construction. BC Hydro maintained adequate vacant storage in Williston Reservoir to protect Site C construction works from flows that could otherwise exceed the capacity of the diversion works.

The Site C Project team continues to work closely with BC Hydro Operations on the integrated planning required in advance of filling the Site C reservoir.

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Quarterly Progress Report No. 33

Appendix A

Site Photographs

Figure A-1 **Removal of a causeway that was blocking a section of river channel during the construction of fish habitat. Water from the river will gradually fill the channel | January 2024**

Figure A-2 **The lower flexible coupling (located between the bottom of the penstock and the turbine scroll case) is lowered through the unit 6 access hatch at the coupling chamber | January 2024**

Figure A-3 **The newly opened fish habitat located downstream of the earthfill dam. Construction on the fish habitat included deepening the channels and embedding logs in the channels for fish to rest | February 2024**

Figure A-4 **Three one kilometre long, 500 kilovolt transmission lines will connect the Site C substation to the Site C powerhouse | February 2024**

Figure A-5 **Looking upstream at the earthfill dam, with the approach channel located behind and to the left of the spillways, penstocks, the powerhouse, and the operations building | February 2024**

Figure A-6 **Inside the powerhouse. Unit 1 (bottom of photo) is nearly complete and units 2 through 6 are in stages of construction | March 2024**

Figure A-7 The unit 3 rotor (part of the generator) is lowered into position | March 2024

Figure A-8 **Rebar framing is installed for the second of three transformer pads and blast walls. These walls are designed to contain fire and protect neighbouring units | March 2024**

Figure A-9 **The removal of the conveyor (transported glacial till for the core of the earthfill dam) framework from the south portion of the five-kilometre-long conveyor right-of-way is scheduled to be complete by late summer | March 2024**

Figure A-10 **The new Halfway River boat launch is being built adjacent to Highway 29. Prior to reservoir filling, boaters can access the Peace River from the existing Halfway River access | March 2024**

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Quarterly Progress Report No. 33

Appendix B

Work Completed Since Project Commencement in 2015)

Construction began on July 27, 2015, and is ongoing. Since the commencement of construction, the following work has been completed:

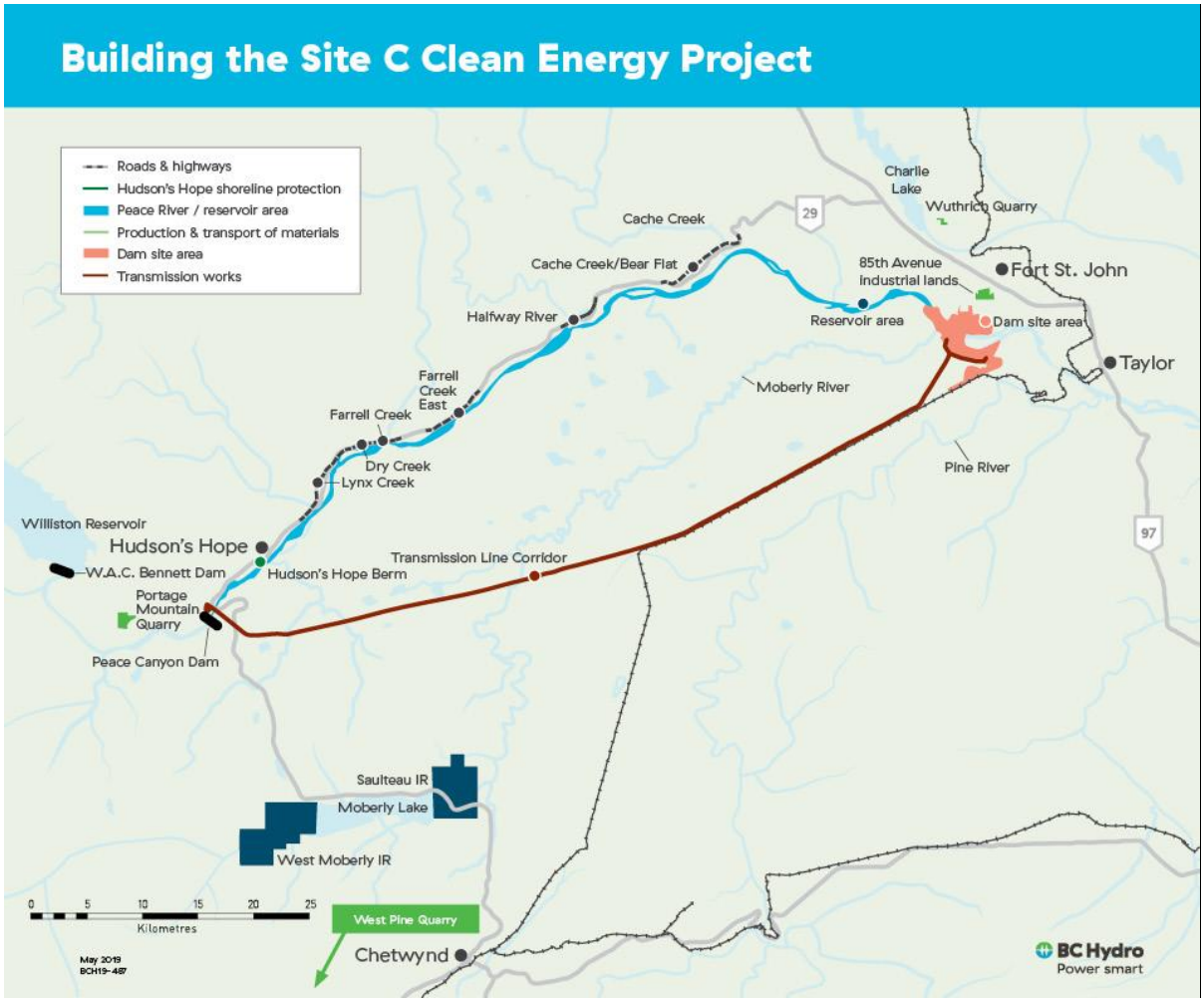
- Site preparation, including onsite access roads;
- Clearing of the left and right banks at the dam site and clearing of the lower reservoir area;
- Construction of the worker accommodation lodge and Peace River construction bridge;
- Powerhouse excavation, and the placement of 650,000 cubic metres of roller-compacted concrete in the powerhouse buttress;
- Spillways excavation, and the placement of 600,000 cubic metres of roller-compacted concrete in the spillways buttress;
- Construction of dam site access public roads;
- Construction of the Site C viewpoint;
- Construction of 50 affordable housing units in Fort St. John;
- Fish habitat enhancements downstream of the dam site;
- Excavation of the diversion tunnel inlet (upstream) and outlet (downstream) portals, allowing for the commencement of diversion tunnel excavations;
- Excavation of the right bank drainage tunnel, which will be used to monitor and drain the water from within the foundation under the powerhouse, spillways and dam buttresses and will eventually be connected to services within the powerhouse;
- Completion of two river diversion tunnels, which are used to reroute a short section of the Peace River to allow for the construction of the main earthfill dam;

- Completion of the upstream and downstream cofferdams;
- Construction and commissioning of the temporary fish passage facility;
- Diversion of the Peace River around the Site C construction site;
- Completion of the Peace Canyon 500 kV gas-insulated switchgear expansion to enable connection of Site C to the BC Hydro electrical system;
- Completion of the Site C substation and the first of two new 500 kV transmission lines that connect Site C to the Peace Canyon generating station;
- Completion of the finishing concrete work inside the 454-metre-long left bank drainage adit;
- Earthfill dam excavation, and the placement of 450,000 cubic metres of roller-compacted concrete in the dam and core buttress, marking the completion of the Project's overall roller-compacted concrete placement program. In total, nearly 1.7 million cubic metres of roller-compacted concrete was placed since 2017;
- Completion of the steel super-structure for the powerhouse;
- Completion of the second of two new 500 kV transmission lines that connect Site C to the Peace Canyon generating station;
- Completion of the bridges at Dry Creek, Lynx Creek, Farrell Creek, Halfway River, and Cache Creek as part of the Highway 29 realignment;
- Completion of the shoreline protection berm at Hudson's Hope;
- Completion of the Maurice Creek spawning shoals;
- Completion of the headworks gantry crane;
- Completion of the concrete work for the intakes;

- Completion of the 96 steel piles in the spillway and downstream of the powerhouse, as part of the right bank foundation enhancements;
- Completion of the concrete pile caps in the powerhouse tailrace excavation;
- Completion of the Highway 29 realignment;
- Decommissioning of the old sections of Highway 29 that were realigned;
- Completion of the earthfill dam to the elevation required to enable reservoir filling;
- Completion of the tunnel conversion process, which involved installing four large rings inside one of the two tunnels that are currently diverting the Peace River around the dam site, to restrict the flow of water through the tunnel;
- The removal of the right bank cofferdam and the placement of riprap in the tailrace channel;
- The completion of the approach channel, including the enhancements that were part of the right bank foundation enhancements. These enhancements included bedrock surface excavations and cleaning, the installation of waterproofing lining materials, grouting, and reinforced concrete and granular fill placements;
- The final placements of riprap in the approach channel;
- Completion of all concrete placements in the powerhouse; and
- The installation of all six turbine runners.

Figure B-1 shows the location of the key Site C components that are being constructed.

Figure B-1 Site C Project Components



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Site C Clean Energy Project

Quarterly Progress Report No. 33

Appendix C

Safety

Safety Incidents

From January 1 to March 31, 2024, no serious safety incidents or lost time injuries were recorded. However, there was one all-injury incident requiring medical treatment:

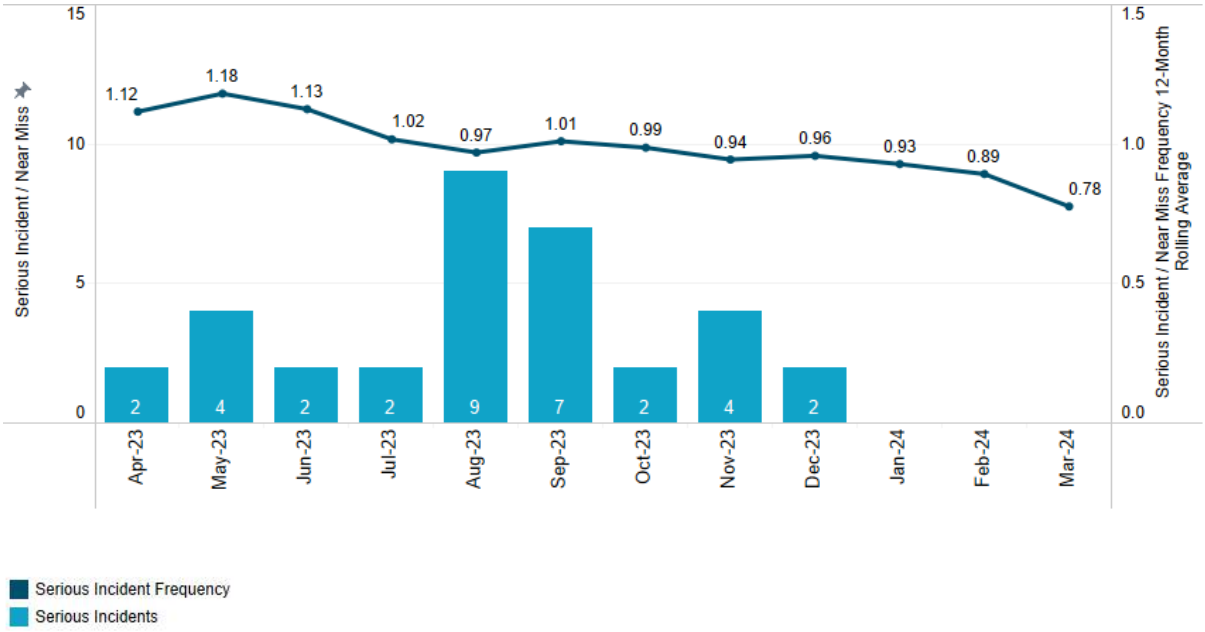
All Injury Incidents (includes all work-related medical attention requiring treatment incidents, lost time injuries, and fatalities):

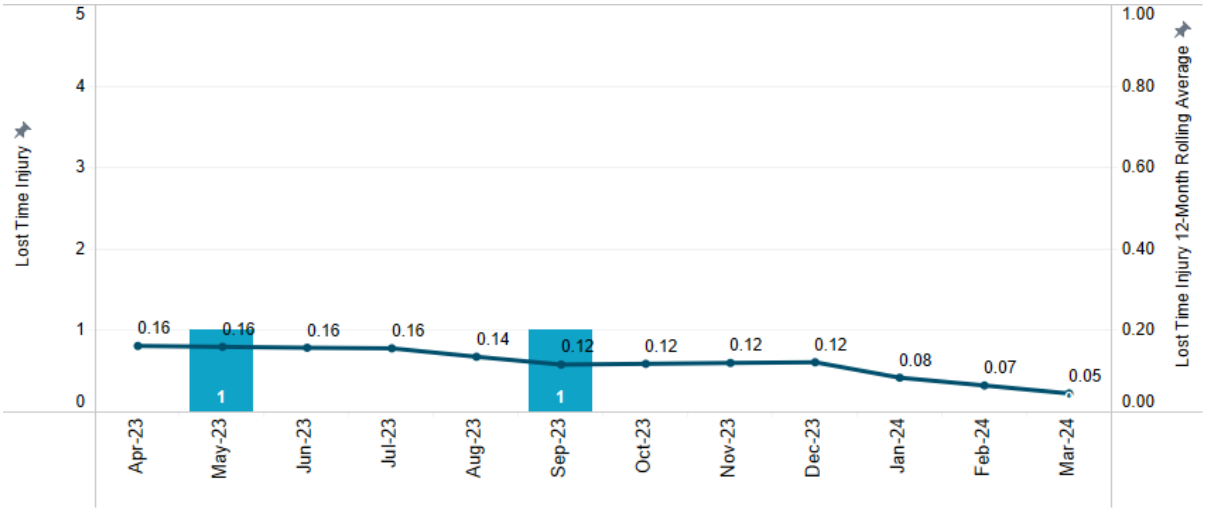
1. A worker slipped on the curved flooring of the penstock, and suffered an ankle strain requiring the use of an air cast.

Safety Performance Frequency Metrics

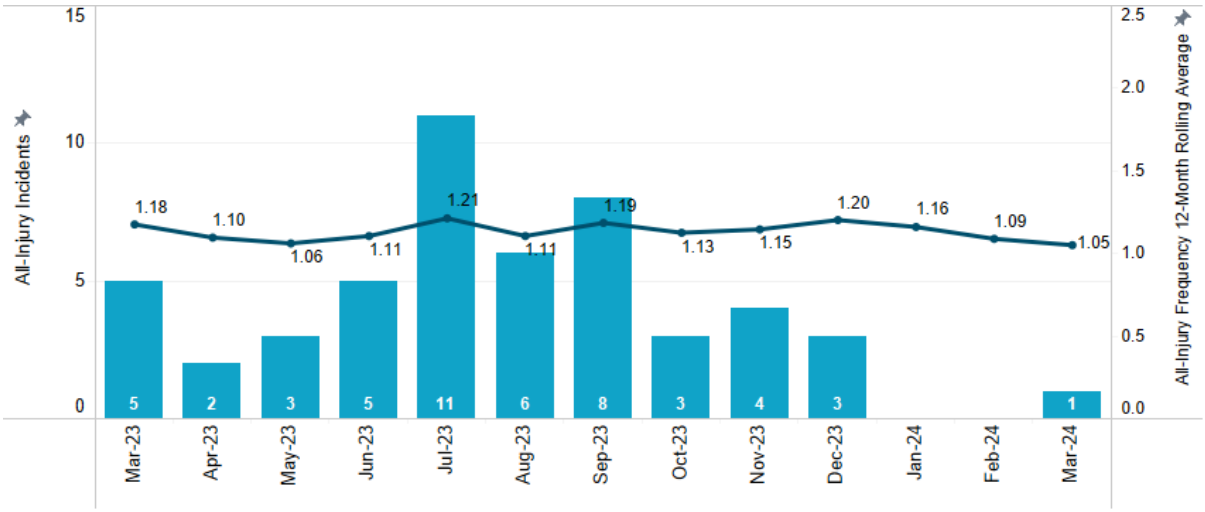
The following graphs provide information on employee and contractor serious incidents/near miss frequency, lost time injury frequency and all-injury frequency from April 2023 to March 2024.

Figure C-1 Employee and Contractor Serious Incident/Near Miss Frequency, Lost Time Injury Frequency and All-injury Frequency




Lost Time Injury
Lost Time Injury 12-Month Rolling Average
0.16
0.16
0.16
0.16
0.14
0.12
0.12
0.12
0.12
0.08
0.07
0.05
1
1
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Lost Time Injury Frequency
Lost Time Injury Incidents

1


All-Injury Incidents
All-Injury Frequency 12-Month Rolling Average
1.18
1.10
1.06
1.11
1.21
1.11
1.19
1.13
1.15
1.20
1.16
1.09
1.05
5
2
3
5
11
6
8
3
4
3
1
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
All-Injury Frequency
All-Injury Incidents

Regulatory Inspections and Orders

Table C-1 lists the safety regulatory inspections and orders received from WorkSafeBC and the Ministry of Energy, Mines and Low Carbon Innovation from January 1 to March 31, 2024.

Table C-1 Safety Regulatory Inspections and Orders

#	Date of Inspections	Regulatory Agency	PPM Subproject	Inspection Report Number Title	Inspection Report Type	Inspection Report Status	Number of Orders Issued	Subject of Order	Regulation Order / Reference
1	February 1, 2024	WorkSafeBC	Turbine Generator	202417791005A	Confined Space Entry	In Progress	14	Confined space entry, ventilation, exposure control plans, noise exposure and employer and prime contractor responsibilities.	Orders: OHS9.26(2), OHS9.25(4), OHS9.7(2)(a), OHS5.61, OHS5.64(1), OHS9.9(2)(a), OHS9.10, OHS5.50(1), OHS5.53(3)(a), OHS5.57(3), OHS7.3(1), OHS7.7(1)(b), WCA21(1)(a), WCA21(2)(e) References: WCA88(1), WCA88(2), OHS9.24, OHS9.25(1), OHS9.32(1), OHS5.58(1), WCA23(1), OHS3.9, OHS3.23(2), OHS5.55(1), OHS5.65, OHS5.68, OHS5.69(1)(a), OHS12.1..
2	February 1, 2024	WorkSafeBC	Turbine Generator	202417791006A	Confined Space Entry	In Progress	6	Confined space entry, employer and prime contractor responsibilities.	Orders: OHS9.25(1), OHS9.9(2)(a), OHS9.10, OHS5.61, WCA21(1)(a)(i), WCA24(1)(b) References: WCA88(1), WCA88(2)
3	March 12, 2024	WorkSafeBC	All	202417791025A	2024 Construction Initiative: Falls from elevations	Closed	0		Reference(s): OHS11.2(1)(b); OHS13.4; OHS13.33(1)
4	March 12, 2024	WorkSafeBC	Balance of Plant	202417876024A	2024 Construction Initiative: Struck by mobile equipment	Closed	0		Reference(s): WCA24(1); WCA21(2)(e); OHS20.3(1); OHS16.6(1); OHS16.6(2); OHS16.6(3)
5	March 12, 2024	WorkSafeBC	Balance of Plant	202417876025A	2024 Construction Initiative: Focus overexertion and repetitive strain	Closed	0		Reference(s): WCA21(1); OHS4.47: OHS4.49; OHS4.50(1); OHS4.52(1); OHS4.53(1)(a)
6	March 20, 2024	WorkSafeBC	Balance of Plant	202417876028A	2024 Construction Initiative: Falls from elevations	Closed	1	Pre-use inspection of scaffolding	Order: OHS13.3 Reference(s): OHS13.2(1)(a); OHS13.11(1)(a); OHS13.13
7	March 21, 2024	WorkSafeBC	Balance of Plant	202417876029A	2024 Construction Initiative: Falls from elevations	Closed	1	Mis-use of ladder	Order: OHS13.2(1)(a) Reference(s): OHS20.4(1); OHS4.39(1); OHS13.3; OHS13.4; OHS13.5(1); OHS13.6(1)
8	March 21, 2024	WorkSafeBC	Balance of Plant	202417876030A	2024 Construction Initiative: Falls from elevations	Closed	0		Reference(s): OHS20.4(1); OHS13.2(1)(a); OHS13.3; OHS13.4; OHS13.5(1); OHS13.6(1)
9	March 28, 2024	WorkSafeBC	Balance of Plant	202417876031A	First Aid	Closed	0		Reference(s): OHS3.17(1); OHS3.21(1)(a); OHS3.21(1)(c); OHS3.21(3)(a); OHS3.21(3)(b); OHS3.21(3)(c); OHS3.20

Total **22**

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Quarterly Progress Report No. 33

Appendix D

Workforce Overview

Table D-1 Current Site C Jobs Snapshot (January 2024 to March 2024)[28]

	Number of B.C. Workers and Total Workers	Construction and Non-Construction Contractors[29] (Including Some Subcontractors). Excludes Work Performed Outside of B.C. (e.g., Manufacturing)	Engineers and Project Team[30]	Total
January 2024	B.C. Workers	1,233	734	1,967
	Total Workers	1,733	785	2,518
February 2024	B.C. Workers	1,363	724	2,087
	Total Workers	1,942	779	2,721
March 2024	B.C. Workers	1,426	704	2,130
	Total Workers	2,043	758	2,801

Data is subject to change based on revisions received from the contractors.

Employment numbers are provided by Site C contractors and are subject to revision. Data not received by the Project deadline may not be included.

BC Hydro has contracted companies for major contracts, such as the main civil works, who have substantial global expertise. During the month of March 2024, there were no workers in specialized positions working for a Site C construction or non-construction contractor, who were subject to the Labour Market Impact Assessment process under the Federal Temporary Foreign Worker Program. Additionally, there were 22 management and professionals working for Site C construction and non-construction contractors through the Federal International Mobility Program.

28 Employment numbers are direct only and do not capture indirect or induced employment.

29 Construction and non-construction contractors total workforce employment numbers include work performed on the Site C dam site, transmission corridor, reservoir clearing areas, public roadwork, worker accommodation and services.

30 Engineers and Project team are comprised of both onsite and offsite workers. The Project team includes BC Hydro construction management and other offsite personnel. An estimate is provided where possible if primary residence is not given.

Table D-2 Site C Apprentices Snapshot (January 2024 to March 2024)

Month	Number of Apprentices
January 2024	118
February 2024	140
March 2024	149

Data is subject to change based on revisions received from the contractors.

Table D-3 Current Site C Job Classification Groupings

Biologists and Laboratory	Carpenters	Inspectors	Construction managers/ supervisors	Crane Operators	Electricians	Engineers
Foresters	Health Care Workers	Heavy Equipment Operators	Housing Staff	Heating, Ventilation, and Air Conditioning	Kitchen Staff	Labourers
Mechanics	Millwrights	Office Staff	Pipefitters	Plumbers	Sheet Metal Workers	Truck Drivers
Underground Mining	Welders	Surveyors	Security Guards	Boilermakers	Cement Masons	Social Science
Ironworkers	Other construction trades	Office managers/ supervisors				

Data is subject to change based on revisions received from the contractors.

Table D-4 Indigenous Inclusion Snapshot (January 2024 to March 2024)

Month	Number of Indigenous Workers
January 2024	102
February 2024	113
March 2024	115

Data is subject to change based on revisions received from the contractors.

The information shown has been provided by BC Hydro's construction and non-construction contractors and their subcontractors that have a contractual requirement to report on Indigenous inclusion in their workforce.

Employees voluntarily self-declare their Indigenous status to their employer and there may be Indigenous employees that have chosen not to do so; therefore, the number of Indigenous employees may be higher than shown in Table D-4.

As with any construction project, the number of workers, and the proportion from any location will vary month-to-month and reflects the seasonal nature of construction work. The number of workers will also vary as a contract's scope of work is completed by the contractor.

Women

In March 2024, there were 312 women working for Site C construction and non-construction contractors. The number of women was provided by on-site construction and non-construction contractors and engineers that have a contractual requirement to report on the number of women in their workforce.

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Quarterly Progress Report No. 33

Appendix E

Technical Advisory Board Report and Independent International Dam Experts Report

Site C Project, Technical Advisory Board

Dr. Norbert R. Morgenstern
Dr. Wynfrith Riemer
Mr. Joseph L. Ehasz, P.E.
Dr. Peter J. Mason

2024 February 12

BC Hydro
333 Dunsmuir St.
Vancouver, B.C.
V6B 5R3

Attention: **Site C Project Assurance Board**

Subject: **Current Status of the Site C Project**

In August 2023, the TAB presented a comprehensive report on the evolution on the design and construction of the Site C project and its preparedness for filling (TAB Report No. 26). In that report the TAB summarized a number of challenges on the design and construction of the project and their reconciliation. It concluded that all aspects related to safety have been satisfied and the proposed reservoir filling plan proposed at that time was appropriate. The outline of the report is presented here as Appendix A and copies of this report are available upon request.

Since that time, the TAB has met for updates of project status on the following dates: September 26, November 1 and December 4, 2023, and February 5, 2024. The agendas for these meetings are included as Appendix B.

In addition, the PAB has been updated at its monthly meetings with regards to design, quality and construction. A TAB Member is on the PAB Board and is on the monthly PAB Agenda. This informs the PAB as to the latest engineering features and construction aspects of the Project.

Since Report No. 26, construction has proceeded consistent with the design intent and hence there has been no change with respect to matters related to safety. The major change since the report of August 2023 has been a postponement of reservoir filling until late August of this year. This has been required due to project status and other environmental and operational considerations. The TAB agrees that the new reservoir filling schedule is appropriate, and no new issues related to safety have arisen.

The TAB is content with the preparedness within BC Hydro for reservoir fill in terms of comprehensive instrumentation and preparations for the appropriate review of performance during filling.

Respectfully submitted,

Dr. Norbert R. Morgenstern

Dr. Wynfrith Riemer

Mr. Joseph L. Ehasz, P.E.

Dr. Peter J. Mason

List of Appendices

Appendix A - Outline of the TAB Report No. 26

Appendix B - Agendas of Meetings

Appendix A

Outline of the TAB Report No. 26

1. Introduction
   - 1.1 Meeting Organization
2. Overview of TAB involvement in design and construction of Site C
3. Project Update
4. Technical Commentary
   - 4.1 Status of Water Retaining Structures
     - 4.1.1 Dam
     - 4.1.2 Concrete Structures
     - 4.1.3 Approach Channel
     - 4.1.4 Right Bank Foundation Enhancements (RBFE)
   - 4.2 Status of hydraulic works required for Reservoir Filling
     - 4.2.1 Concept for Reservoir Filling
     - 4.2.2 Diversion Tunnels
     - 4.2.3 Spillway and Stilling Basin
     - 4.2.4 Other Structures and other Aspects
     - 4.2.5 Achieved Construction Quality on the Structures
   - 4.3 Reservoir Filling
     - 4.3.1 Reservoir Filling Plan
     - 4.3.2 Surveillance Plans for Dam Site
     - 4.3.3 Surveillance Plans for Reservoir Slopes
5. Additional Commentary
   - 5.1 Right Bank Drainage Tunnel (RBDT)
   - 5.2 Review of Powerhouse Components
     - 5.2.1 Penstock Flexible Joints
   - 5.3 Tracking Log

Appendix B

Agendas of Meetings

September 26, November 1 and December 4, 2023, and February 5, 2024

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Site C Clean Energy Project
Technical Advisory Board
Conference Call
Sept 26, 2023

Location: Teams Meeting Screenshare

AGENDA
8:00 am to noon (PST)
Teams meeting will open at 7:45am to test system

Sept 26, 2023

1. Project Update [redacted]
2. Reservoir Filling Plan Addendum [redacted]
3. Penstock Coupling Update and Hydro Mech [redacted]
4. Update on Approach Channel and Tailrace [redacted]
5. Geology Update [redacted]

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Site C Clean Energy Project
Technical Advisory Board
Conference Call
Nov 1, 2023

Location: Teams Meeting Screenshare

AGENDA
8:00 am to noon (PST)
Teams meeting will open at 7:45am to test system

Nov 1, 2023

1. Project Update and Filling Schedule [redacted]
2. Approach Channel and Tailrace [redacted]
3. Tailrace Filling and Monitoring Update [redacted]
4. Penstock Coupling Update and Hydro Mech [redacted]
5. Engineering Certifications Orifice Sonar Monitoring [redacted]

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Site C Clean Energy Project
Technical Advisory Board
Conference Call
Dec 4, 2023

Location: Teams Meeting Screenshare

AGENDA
8:00 am to noon (PST)
Teams meeting will open at 7:45am to test system

Dec 4, 2023

1. Project Update and Filling Schedule [redacted]
2. Tailrace Filling and Monitoring Update [redacted]
3. Right Bank Drainage [redacted]

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Site C Clean Energy Project
Technical Advisory Board
Conference Call
February 5, 2024

Location: Teams Meeting Screenshare

AGENDA
8:00 am to 11:00 (PST)
Teams meeting will open at 7:45am to test system

1. Project Update [redacted]
2. Update on RBDT review [redacted]
3. Hydromechanical Equipment and Flexible Coupling Update [redacted]
4. Instrumentation Update [redacted]

Site C Technical Review Panel
John W. France, P.E., D.GE, D.WRE and Kaare Hoeg, ScD, NAE
REPORT NO. 8
February 13, 2024

This report presents an update to the Technical Review Panel's (Panel's) findings subsequent to Panel Reports Nos. 1 through 7, issued on January 22, 2021, February 15, 2021, April 6, 2021, August 12, 2021, February 28, 2022, September 23, 2022, and May 22, 2023.

Since May 22, 2023, the Panel has participated in virtual briefings to the Technical Advisory Board (TAB) by the Engineering Design Team (EDT) on June 6, July 20, September 26, November 1, and December 4, 2023, and February 5, 2024, during which the EDT updated the TAB on activities related to the right bank foundation enhancements, the approach channel, and the earthfill dam, which are the components of the project within the scope of the Panel's assignment. The Panel participated live in most of these briefings, but in some cases of schedule conflicts Panel members reviewed recordings of the briefings. In addition, Panel member France visited the site on August 16 and 17, 2023.

FINDINGS

The Panel's opinions expressed in the previous reports remain unchanged. The work associated with the right bank foundation enhancements, the approach channel, and the earthfill dam has generally been progressing as anticipated at the time of preparation of Panel Report No. 7.

The right bank foundation enhancement work is essentially complete except for enhancements to the right bank drainage tunnel (RBDT) and the RBDT access to the powerhouse (RBDTA) which are in progress.

Regarding the right bank foundation enhancement work and the embankment dam, the Panel considers that these project components are ready for reservoir filling. Reservoir filling had been planned for the fall of 2023, but filling needed to be postponed until August 2024, because of the status of other project components and environmental and operational considerations. The Panel agrees that the planned filling schedule beginning in August 2024 is reasonable and appropriate.

Since Panel Report No. 7 the approach channel has been completed except for the freeboard zone rip rap which will be completed soon. In addition, the embankment dam has been completed, diversion tunnel conversion has been completed, and the tailrace has been filled to normal tailrace level. Information presented to the Panel has continued to indicate quality construction is being completed. Plans for enhancements to the RBDT and RBDTA are nearing completion and should soon be ready for implementation.

Instrumentation at the right bank and at the embankment dam is being closely monitored, and to date monitoring data have not indicated any significant concerns.

STATEMENT OF LIMITATIONS

The Panel functioned as advisors of the methodologies used by the EDT for analysis and design of the right bank foundation enhancements, the approach channel, and the earthfill dam, based on

Site C Technical Review Panel
John W. France, P.E., D.GE, D.WRE and Kaare Hoeg, ScD, NAE
REPORT NO. 8
February 13, 2024

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information provided by the EDT. Given the large amount of work being completed by the EDT and the associated voluminous documentation, it was not possible for the Panel to perform a detailed review of all of the material in the available time. In particular, the Panel has not performed detailed checks of calculations and designs completed by the EDT. Such detailed checks are provided by the quality control/quality assurance programs for the Project. The Panel provides its opinions concerning the methods and approaches being used based on information provided by the Project Team. However, the ultimate decisions and responsibilities for the designs remain with BC Hydro.

Our advisory services were performed within the limits prescribed by BC Hydro in a manner consistent with the level of care and skill normally exercised in the current standard of professional engineering practice. No other representation to BC Hydro, expressed or implied, and no warranty or guarantee is included or intended.

Respectfully submitted,

John W. France

Kaare Hoeg

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Site C Clean Energy Project

Quarterly Progress Report No. 33

Appendix F

Summary of Individual Contracts Exceeding $10 Million

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Appendix G

Project Progression

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Appendix H

Detailed Project Expenditure

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