BC Hydro
Power smart

Site C Clean Energy Project

Quarterly Progress Report No. 34

F2025 First Quarter

April 1, 2024 to June 30, 2024

PUBLIC

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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 May 2024).

Construction on Site C began on July 27, 2015.

Quarterly Progress Report No. 34 covers the period April 1 to June 30, 2024 (**the reporting period**).

As of June 30, 2024, the Site C Project (**the Project**) is approximately 87% 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.

During the reporting period, construction progressed on the generating station and spillways civil works, cranes and hydromechanical equipment. All concrete placements for the powerhouse, intakes and spillways were completed in March 2024.

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 are scheduled to 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 were completed in June 2024.

Final commissioning is progressing for the six intake gates on permanent power and permanent controls consistent with the approved schedule.

Final commissioning is progressing for the three spillway operating gates on permanent power and permanent controls consistent with the approved schedule.

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 was completed in the of spring 2024. Final commissioning is progressing for the six spillway low-level operating gates on permanent power and permanent controls and is scheduled to be completed consistent with the approved schedule.

All of the planned work for stabilizing the bedrock foundation for the dam, powerhouse and spillways has been completed as of the end of March 2024, except for a couple of minor deficiencies such as minor riprap placements on the embankment of the tailrace above the water line that are not required to be completed prior to reservoir fill.

The mechanical and electrical work continued to progress in all areas and all generating units inside the powerhouse.

The mechanical contractor has completed the final work on the unit 1 and unit 2 common systems and is in the process of transferring the completed work, including the required documentation, over to BC Hydro.

The electrical contractor continued the 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 transmission system, with the commissioning of the main step-up transformer in process and energization planned for mid summer. The contractor is also in the process of constructing the exterior of the isolated phase bus and main step-up transformer for units 3 and 4, and the exterior of the isolated phase bus and main step-up transformer for units 5 and 6. Both of these main step-up transformers are in place on their concrete pads.

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 construction of the permanent upstream fishway is complete and the facility is being commissioned.

During the reporting period, the contractor continued working on all six turbine and generator units. The assembly of unit 1 and unit 2 are nearly complete and the units are scheduled to be ready for the start of wet commissioning when the penstocks can be filled with water after reservoir fill.

The contractor continues to modify the lower couplings between the penstocks and turbine scroll cases to a half-welded design. The lower couplings for units 1, 2 and 3 are complete and all six couplings are scheduled to be complete by mid-2024. Leakage tests have been performed on the units 1 and 2 couplings by filling the spiral casing with water from the tailrace. No leakage was observed from the couplings during the tests.

The turbines and generators for units 4, 5 and 6 are scheduled to be ready for wet commissioning by early to mid-2025.

The assembly and installation of the remaining two transmission towers on the intake structures was completed in April. The stringing of the conductor for the first transmission line was completed in June and the transmission line is expected to be

energized in August. The conductors for the remaining two transmission lines were strung across the approach channel in June and the rest of the conductor stringing to the powerhouse is expected to be completed and energized in late 2024.

Work continues to progress in the right bank drainage tunnel and left bank drainage adit.

The construction of the earthfill dam is essentially complete, including the final work on the toe of the dam, road construction, and the installation of the duct banks for lighting and instrumentation.

Work commenced on the foundation for the emergency response building located in the powerhouse yard adjacent to the penstock for generating unit 1.

The decommissioning and removal of the conveyor belt system that transported glacial till to the earthfill dam was completed this reporting period and the reclamation of the conveyor right of way and 85th Avenue Industrial Lands is in progress.

The reclamation work for Area A of the damsite was initiated and this work was completed after the reporting period, in July 2024.

Work on the Halfway River East boat launch, D.A. Thomas road upgrading, and the Hudson's Hope Recreation site resumed during the reporting period and are expected to be complete in 2025. The reclamation of Portage Mountain Quarry is expected to be completed in fall 2024.

1.3 Managing Quality Issues in the Powerhouse

The identifying and reporting of nonconformances continues to be an important part of quality management on Site C. While overall quality performance continues to be good, during the reporting period, two larger quality issues in the powerhouse were discovered and remediation plans were implemented.

In June, an unauthorized weld was found by the turbines and generators contractor on the units 1 to 5 rotor poles. The contractor's engineering assessment has concluded that the tack welds need to be removed (unit 6 is not affected). A program is underway at site that includes removing the poles from the units 1 to 5 generator rotors, grinding off the tack weld and re-installing the poles. The remediation work on unit 1 is complete, the remediation work on units 2 and 5 is underway.

During BC Hydro's commissioning of the 600V switchgear in mid-June, an issue was identified with the circuit breakers in the powerhouse. The issue relates to the "stabs," which are fixed bus bar components that connect to the clamping mechanism of the circuit breaker. The bus bar stabs were over machined, leaving the stabs out of tolerance for a secure connection to the circuit breaker clamping mechanism. BC Hydro is working with the switchgear supplier to complete permanent corrective repairs to the breakers. BC Hydro has confirmed that this issue is not present with the circuit breakers at the spillways and intakes.

Neither of these quality issues is expected to have an impact on the approved Project schedule for first power in late 2024.

1.4 Look Ahead – July 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 also provide permanent power to the generating station in support of the final commissioning activities, is expected to be completed in summer 2024, with the remaining two transmission lines expected to be completed in late 2024.

The approved schedule is for reservoir filling to start in fall 2024, but as a result of the work completed in 2023, may start as early as late-August 2024, depending on weather, environmental and system conditions.

The Project team and Site C contractors will continue to work on the various commissioning activities required 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.

1.5 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 in the Project safety performance metrics, including lost time injury frequency and serious incident frequency, while all injury frequency remained the same.

During the reporting period, WorkSafeBC conducted three regulatory inspections and issued four regulatory orders to the Project. Of the three WorkSafeBC inspection reports, one was a 'clean sheet' with no orders. The regulatory orders address various safety aspects including the control of hazardous energy, including lockout and isolation practices and not having up-to-date written procedures for providing first aid.

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

BC Hydro continued to secure the appropriate permits, authorizations and leaves to commence construction required for the Project. As of June 30, 2024, 650 of the estimated 675 provincial and federal permits and authorizations have been received, including all required regulatory approvals to commence reservoir fill.

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. The temporary fish passage facility operated through the reporting period.

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

During the reporting period, BC Hydro continued to engage with Indigenous Nations on Project activities and milestones through regular Project update meetings and other venues. BC Hydro hosted four tours of the damsite and reservoir area with individual First Nations to share information on construction progress and reservoir fill.

In June 2024, 122 Indigenous people were working on the Site C Project, which represents approximately 6% of the total workforce.

Local Communities

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 was finalized on May 8, 2024.

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 June 5. With endorsement of the Regional Community Liaison Committee members, the frequency of meetings has been reduced from quarterly to semi-annually for 2024.

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.

1.7 Indigenous Burials

Indigenous representatives participated in a site visit to the two identified burial sites that are outside of the reservoir area, but within the stability impact lines of the Site C reservoir. The purpose of the visit was to collect baseline data and discuss the long-term monitoring plans for these sites, as part of BC Hydro's Reservoir Archaeology Monitoring Program.

1.8 Property Acquisitions

Property acquisitions required for the Project are now complete. During the reporting period, the three outstanding acquisitions required for long term operational safety were completed.

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.

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 June 30, 2024, is provided in Table 1. There were no changes to the performance indicators from the previous quarter (as of March 31, 2024).

Table 1 Project Status Dashboard

● On Target ● Moderate Issues ● At Risk

Status as of:		June 30, 2024
Overall Project Health	●	The overall Project health remains "amber." The Project is approximately 87% 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, and serious incident frequency, while all injury frequency remained the same. WorkSafeBC conducted three regulatory inspections and issued four regulatory orders to the Project. Of the three WorkSafeBC inspection reports, one was a 'clean sheet' with no orders. The regulatory orders address various safety aspects including the control of hazardous energy, including lockout and isolation practices and not having up-to-date written procedures for providing first aid.
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.
Schedule	●	Schedule status remains "amber." The Project remains on schedule to achieve the approved November 2025 final unit in-service date and is approximately 87% 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 June 30, 2024, the life-to-date actual costs are $13.5 billion, which results in an estimated $2.5 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.

Status as of:		June 30, 2024
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 June 30, 2024, 650 of the estimated 675 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 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.
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 April 1 to June 30, 2024, include the following:

April 2024

- Installation of the final three transmission towers on the intake structures.

May 2024

- Installation of the duct banks for lighting and instrumentation on the earthfill dam was completed.

June 2024

- Public safety signage installed at access points along the future reservoir in preparation for reservoir filling.
- Hydromechanical equipment installation completed on the spillway gates and intake gates.
- Completion of the coatings for the penstocks.

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.

1.12 Post-Reporting Period Update

Subsequent to the reporting period, BC Hydro achieved two significant milestones on the Site C Project.

First, on August 14, 2024, the first 500 kV transmission line between the South Bank Substation and the Site C powerhouse was successfully energized. The first transformer unit (connected to generating units 1 and 2) was also energized. This milestone allows BC Hydro to bring electricity into the powerhouse and is a crucial step toward achieving first power.

Second, on August 25, 2024, BC Hydro confirmed that all necessary construction areas had been completed to safely begin filling the Site C reservoir and reservoir fill was initiated. It will take about two to four months to fill the reservoir, with water levels rising between 30 centimetres and three metres a day. This milestone allows BC Hydro to bring water into the powerhouse and is a crucial step toward achieving first power. Throughout the reservoir filling process, BC Hydro will be commissioning, monitoring, and testing to ensure the highest safety standards are upheld.

Additional information on both these milestones will be provided in Quarterly Progress Report No. 35 (covering the period from July 1 to September 30, 2024).

2 Safety and Security

During the 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 and serious incident frequency, while all injury frequency remained the same.

2.1 Work Protection Practices (WPP) Good Catches

The Project team has seen an increase in WPP related good catches. WPP is BC Hydro's system for ensuring that hazardous energy in generating stations is safely isolated and locked out. A good catch refers to a potential safety hazard that is identified and addressed before causing harm.

During the reporting period, the Site C Construction Management team, the Site C Safety team, and the BC Hydro Station Field Operations team initiated a joint investigation with the turbines and generators contractor into a number of good catch incidents related to the isolation of hazardous energy and lockout. The investigations revealed opportunities to improve the knowledge and understanding of BC Hydro Safety Practice Regulations, opportunities to improve communications between BC Hydro Station Field Operations team and contractors, and challenges with coordinating work involving contractor lockout and BC Hydro's WPP. The Site C teams are working with the contractors to address these challenges and implement robust corrective actions.

2.2 Fiscal 2025 Q1 Safety Reviews

Construction management teams and the safety team have increased their focus on confined space, electrical safety, lockout / tagout, and WPP. The Site C teams have completed reviews of the following three safety programs at site:

1. **Confined space program:** BC Hydro's certified industrial hygienist reviewed the confined space program for the Project, identifying strengths and areas for improvement. Recommendations included enhancing signage on permanent confined spaces, improving the training for employees related to tailboard requirements, and better recordkeeping of employee tailboards.

2. **Contactor lockout / tagout programs:** Site C contractors have developed lockout / tagout programs to control hazardous energy when working on systems that are not yet turned over to BC Hydro. The contractor lockout / tagout review identified that some contractors need to update their lockout / tagout programs to comply with the lockout permitting provisions outlined in BC Hydro's Prime Contractor Safety Management Plan.

3. **WPP:** BC Hydro's WPP committee reviewed Site C's procedures for isolating hazardous energy and recommended reinforcing the roles and responsibilities for the contractor representatives, improving radio systems in the powerhouse for better communication during testing, and ensuring proper barriers and signage are in place.

2.3 Summary of Safety Performance Metrics

From July 2015 through June 2024, more than 61.7 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 62 non-serious incidents recorded. Of these, 16 incidents were classified as near misses, with the potential for causing harm,

[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.

42 incidents involved injuries that required first aid, and four incidents 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.

Table 2 Summary of Site C Safety Metrics

	Reported April 1, 2024 to June 30, 2024[2]	Reported Since Inception (July 27, 2015 to June 30, 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])	4	382

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.

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.

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	0.72	n/a	n/a
Lost Time Injury Frequency	0.17	0.16	0.12	0.12	0.05	0.03	n/a	n/a
All Injury Frequency	1.18	1.11	1.18	1.21	1.05	1.11	n/a	n/a

During this reporting period, the serious incident frequency improved and was 0.72 compared to 1.13 for the same period in 2023. Lost time injury frequency also showed significant improvement, dropping to 0.03 from 0.16. However, the all-injury frequency remained unchanged at 1.11.

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 April to June 2024, WorkSafeBC conducted three regulatory inspections and issued four regulatory orders to the Project. Of the three WorkSafeBC inspection reports, one was a 'clean sheet' with no orders. The regulatory orders address various safety aspects including the control of hazardous energy, including lockout and isolation practices and not having up-to-date written procedures for providing first aid.

There was one regulatory inspection with no orders 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)

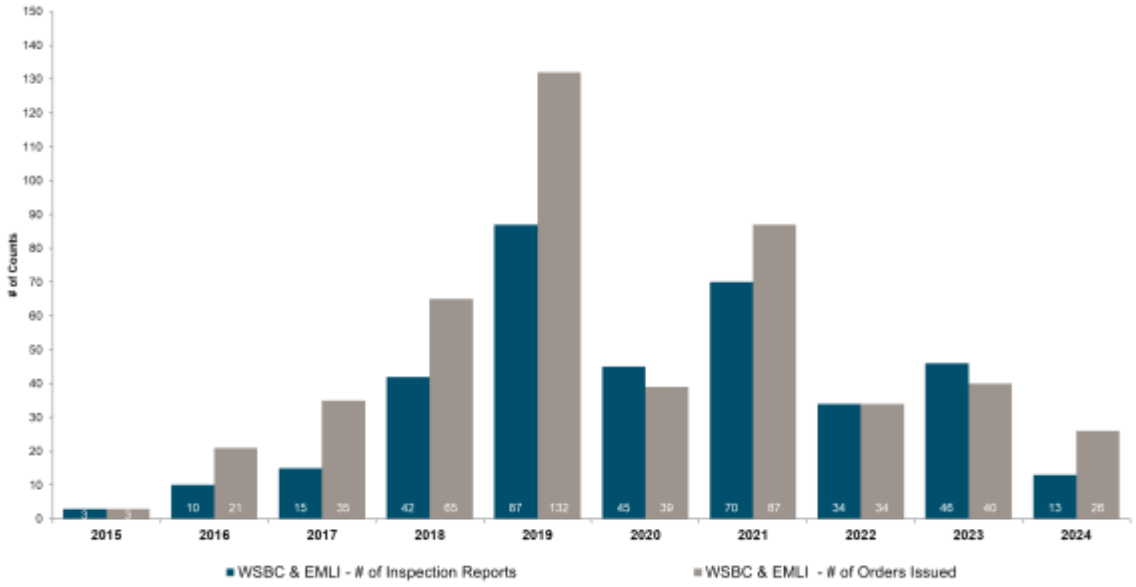
	Reported April 1 to June 30, 2024[9]	Reported Since Inception (July 27, 2015 to June 30, 2024)[9]
Regulatory Inspections	4	366
Regulatory Orders	4	482

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 June 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.

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 construction and commissioning activities for the powerhouse works, the spillway operating gates, the spillway low level outlet gates, and the intake gates are on track to be able to proceed with reservoir filling consistent with the approved schedule. All off dam site activities required prior to reservoir fill are substantially complete. Wet commissioning of the first generating unit will start once the reservoir is sufficiently filled to the level of the intakes for the penstocks.

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

Work continues to progress in the right bank drainage tunnel and left bank drainage adit.

Earthfill Dam

The construction of the earthfill dam is essentially complete, including the final work on the toe of the dam, road construction, and the installation of the duct banks for lighting and instrumentation.

Conveyor Belt System

The decommissioning and removal of the conveyor belt system that transported glacial till to the earthfill dam was completed this reporting period and the reclamation of the conveyor right of way and 85th Avenue Industrial Lands is in progress.

Area E

Planning for the physical reclamation of the Area E pit is expected to begin in August, 2024.

Area A Reclamation

The reclamation work for Area A of the damsite was initiated and this work was completed after the reporting period, in July 2024.

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.

All concrete placements for the powerhouse, intakes and spillways were complete as of 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 are scheduled to 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 were completed in June 2024.

Hydromechanical Equipment

The final commissioning is progressing for the six intake gates on permanent power and permanent controls consistent with the approved schedule.

The final commissioning is progressing for the three spillway operating gates on permanent power and permanent controls consistent with the approved schedule.

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 was completed in the of spring 2024. Final commissioning is progressing for the six spillway low-level operating gates on permanent power and permanent controls and is scheduled to be completed consistent with the approved schedule.

3.1.4 Right Bank Foundation Enhancements

All of the planned work for stabilizing the bedrock foundation for the dam, powerhouse and spillways has been completed as of the end of March 2024, except for a couple of minor deficiencies such as minor riprap placements on the embankment of the tailrace above the water line that are not required to be completed prior to reservoir fill.

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 continued to progress in all areas and on all generating units inside the powerhouse.

The mechanical contractor has completed the final work on the unit 1 and unit 2 common systems and is in the process of transferring the completed work, including the required documentation, over to BC Hydro.

The electrical contractor continued the 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 transmission system, with the commissioning of the main step-up transformer in process and energization planned for mid summer. The contractor is also in the process of constructing the exterior of the isolated phase bus and main step-up transformer for units 3 and 4, and the exterior of the isolated phase bus and main step-up transformer for units 5 and 6. Both of these main step-up transformers are in place on their concrete pads.

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 construction of the permanent upstream fishway is complete and the facility is being commissioned.

Work commenced on the foundation for the emergency response building located in the powerhouse yard adjacent to the penstock for generating unit 1.

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 turbine and generator units. The assembly of unit 1 and unit 2 are nearly complete and the units are scheduled to be ready for the start of wet commissioning when the penstocks can be filled with water after reservoir fill.

The contractor continues to modify the lower couplings between the penstocks and turbine scroll cases to a half-welded design. The lower couplings for units 1, 2 and 3 are complete and all six couplings are scheduled to be complete by mid-2024. Leakage tests have been performed on the units 1 and 2 couplings by filling the spiral casing with water from the tailrace. No leakage was observed from the couplings during the tests.

The turbines and generators for 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 was completed in April. The stringing of the conductor for the first transmission line was completed in June and the transmission line is expected to be energized in August. The conductors for the remaining two transmission lines were strung across the approach channel in June and the rest of the conductor stringing to the powerhouse is expected to be completed and energized in late 2024.

3.1.8 Highway 29 and Hudson's Hope Shoreline Protection Berm

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

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 work resumed in June and is expected to be completed in fall 2024.

Hudson's Hope Shoreline Protection Berm

The shoreline protection berm was completed in November 2022.

Construction on the D.A. Thomas Road upgrading resumed in May 2024 and is expected to be complete in 2025.

Work on the Hudson's Hope Recreation site resumed in May 2024 and is expected to be complete in 2025. The gangway installation will occur after reservoir filling.

Halfway River East Boat Launch

The remaining work to complete the intersection paving was completed in July 2024. The finishing work and gangway installation will occur after reservoir filling.

3.1.9 Reservoir

The following reflects progress to June 30, 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 worker accommodation facility housed an average of 1,000 workers on a daily basis, and room utilization was 57%.

The camp expansion dorms (overflow space consisting of 600 rooms) are in the process of being decommissioned and are scheduled to be removed from site between July to September 2024.

BC Hydro continues to explore options to decommission the worker accommodation camp facilities once they are no longer required for the Project, including discussions with potential buyers of 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.

During the reporting period, the temporary debris management system operated normally, experiencing below-normal freshet flows (low snow-pack combined with mild temperatures) and minimal debris. As a result, minimal debris collection and removal work took place.

Fish Habitat Creation on the Peace River

The Maurice Creek spawning shoal and the Wilder Creek littoral habitat work, located upstream of the dam site, were completed during the reporting period.

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 related to their remaining contract work and instrumentation reading and interpretation. Instrumentation monitoring during 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.

3.2.3 Large Cranes, Hydromechanical, and Turbines and Generators

During the reporting period, the focus continued to be on supporting equipment installation and commissioning activities at site, resolving open nonconformities and reviewing final quality documentation and record drawings.

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 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 and commissioning activities for these contracts, including the review of the technical submittals and contractor design drawings, field reviews, technical support to the commissioning team and performing additional factory acceptance testing and factory visits for the last diesel generator to be supplied as part of the 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 for 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.

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 manufacturers' 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 – April 2024 to June 2024

Contract	NCRs Reported April 1 to June 30, 2024	NCRs Closed April1 to June 30, 2024	NCRs Reported as of June 30, 2024	NCRs Closed as of June 30, 2024	NCRs Open as of June 30, 2024
Main Civil Works	43	46	2,124	2,119	5
Turbines and Generators (total = manufacturing + installation)	70 (=4+66)	85 (=0+85)	1,489 (=655+834)	1,345 (=645+700)	144 (=10+134)
Generating Station and Spillways Civil Works	30	49	1,854	1,840	14

For the generating station and spillways civil works sub-project, as the main structures are substantially complete, the contractor continues to focus their efforts on closing the remaining open nonconformity reports and handing over the gates and lifting beams for dry commissioning.

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 units 1, 2 and 3 and units 1 and 2 have been successfully leakage tested by filling the spiral casings with water from the tailrace. 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

In June, an unauthorized weld was found by the contractor on the units 1 to 5 rotor poles and the contractor's engineering assessment has concluded that the tack welds need to be removed (unit 6 is not affected). A program is underway at site to remove the poles from the units 1 to 5 generator rotors, grind off the tack weld and

re-install the poles. The remediation work on unit 1 is complete, the remediation work on units 2 and 5 is underway.

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

For the electrical balance of plant, during BC Hydro's commissioning of the 600V switchgear in mid-June, an issue was identified with the circuit breakers in the powerhouse. The issue relates to the "stabs," which are fixed bus bar components that connect to the clamping mechanism of the circuit breaker. The bus bar stabs were over machined, leaving the stabs out of tolerance for a secure connection to the circuit breaker clamping mechanism. BC Hydro is working with the switchgear supplier to complete permanent corrective repairs to the breakers. BC Hydro has confirmed that this issue is not present with the circuit breakers at the spillways and intakes, and that this issue will not impact the approved Project schedule for first power in late 2024.

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 June 30, 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 remains 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;
- Subsequent to the reporting period, BC Hydro and Ernst & Young Canada worked closely and collaboratively to initiate a cost risk analysis and schedule risk analysis with an August 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 subsequent to the reporting period in August 2024.

5.2 Project Budget Summary

As of June 1, 2024, the life-to-date actual costs are $13.5 billion, which results in an estimated $2.5 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 June 30, 2024, and the remaining budget.

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

Description	Project Budget[11]	Actuals, Life-to-Date (as of June 30, 2024)	Remaining Budget (as of June 30, 2024)
Dam, Power Facilities and Associated Structures and Transmission[12]	8,258	7,872	386
Off Dam Site Works, Direct Construction Supervision and Site Services[13]	2,895	2,416	479
Total Direct Construction Cost	**11,153**	**10,288**	**865**
Indirect Costs[14]	2,082	1,478	604
Total Construction and Indirect Costs	**13,235**	**11,766**	**1,469**
Interest During Construction and Contingency	2,765	1,764	1,001
Total	**16,000**	**13,530**	**2,470**

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 June 30, 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.

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 Total Project Budget Compared to Forecast to Completion and Life-to-Date Plan Compared to Actuals to June 30, 2024 ($ million)

	Total Project			Life-to-Date (LTD) to June 30, 2024		
Description	**Budget**	**Forecast to Completion**	**Variance**	**Plan**	**Actual**	**Variance**
Total Construction & Indirect Costs	13,235	13,235	0	12,249	11,766	483
Interest During Construction and contingency	2,765	2,765	0	2,159	1,764	395
Total	**16,000**	**16,000**	**0**	**14,408**	**13,530**	**878**

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 2024/25 to 2026/27 Service Plan Fiscal 2025 Plan Compared to Actuals ($ million)

Description	2024/25 to 2026/27 Service Plan, Fiscal 2025	Actuals, Fiscal 2025	Variance
Total Project	564	401	163

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 June 30, 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.
Wildfire on or off site	**Impact:** Injuries and fatalities, impacts to construction site, work stoppage and delay in Project schedule. **Response:** Notify and follow orders from BC Wildfire Service, contractor fire brigade on site, Fort St. John Fire Department off site, and conduct fire safety assessments and implement recommendations.
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.

[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
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.
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. 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.
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.

Risk Description	Impact and Response Plan Summary
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.
Additional regulatory conditions imposed prior to completion	**Impact:** Project may be required to comply with additional conditions associated with reclaiming the land once temporary works have been completed, or require permitting of some land for permanent non-farm use. Additional conditions may result in additional costs. **Response:** Proactive working with the Government and regulators to monitor and mitigate any additional requirements.
Water management requires additional funds after contract obligation is completed	**Impact:** Work progress impacted by failure to provide care of water and/or by environmental regulatory enforcement. **Response:** Negotiate to extend services.

1 **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 major 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: • Three planting packages identified and awarded. One additional planting package was identified for 2024 but it was re-scheduled and now is expected to be awarded in spring 2025. • Two reclamation packages identified; one package awarded. Second package is expected to be awarded in July 2024. 2025 season: • Four planting packages identified; procurement will start in fall 2024. • One reclamation package identified; procurement will start in 2024 or early 2025. 2026 season: • Three planting packages identified; procurement will start in 2025. • Four to six reclamation 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 June 30, 2024[16] ($ million)	Contract Execution Date
Site Preparation: North Bank	60	July 2015
Worker Accommodation	708	September 2015
Main Civil Works[17]	3,387	December 2015
Turbines and Generators	541	March 2016
Transmission and Clearing	92	October 2016
Quarry and Clearing	175	February 2017
Generating Station and Spillways Civil Works[18]	2,995	March 2018
Hydromechanical Equipment	80	April 2018
Transmission Line Construction	139	May 2018
Clearing and Aggregates	78	December 2018
Highway 29	379	October 2019
Balance of Plant Mechanical	98	July 2021
Balance of Plant Electrical (includes balance of plant architectural; heating, ventilation, and air conditioning; and fire detection and protection work)	321	September 2021
Balance of Plant Permanent Upstream Fishway and Other Out Structures	108	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 $1.64 billion to reflect approved changes to June 30, 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 $1.39 billion to reflect approved changes to June 30, 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 through regular Project update meetings and other venues. BC Hydro hosted four tours of the damsite and reservoir area with

individual Indigenous Nations to share information on construction progress and reservoir fill.

The Site C Environmental Forum is a mechanism where BC Hydro shares, discusses and collaborates on environmental aspects of the Site C Project with the 11 Indigenous Nations and two Métis organizations impacted by the Project. On May 29, the 36th Environmental Forum occurred, including a tour of Highway 29. In total, 17 representatives attended from 10 Nations. Sites visited included reclamation areas; the new boat launches; and the Portage Mountain Quarry. The topics of reservoir filling and monitoring for wildlife in distress were also discussed.

7.1.1 Culture and Heritage Resources Committee

The Site C Indigenous Relations team hosted the final meeting of the Site C Culture and Heritage Resource Committee on May 15. This committee was established to meet Condition 63 of the Environmental Assessment Certificate (**EAC**), which is to work with Indigenous Nations to manage the adverse effects on cultural resources. Over the past nine years, BC Hydro and the Indigenous Nations impacted by Site C have worked together to complete numerous projects that helped achieve the objectives to document and commemorate historical use of the Site C Project area. Those projects included educational signage at the North Bank viewpoint; a series of videos documenting historic use of the Peace River and the perspective of Indigenous Nations on the impacts of Site C; and a travelling exhibit of artifacts uncovered during construction that has been displayed in numerous communities. The final meeting on May 15 was a celebration of the accomplishments of the committee, and the relationships that have been developed through working together since 2015.

7.1.2 Indigenous Burials

Indigenous representatives participated in a site visit to the two identified burial sites that are outside of the reservoir area, but within the stability impact lines of the

Site C reservoir. The purpose of the visit was to collect baseline data and discuss the long-term monitoring plan for these sites, as part of BC Hydro's Reservoir Archaeology Monitoring Program.

7.1.3 Indigenous Procurement, Training and Employment

BC Hydro continues to advance economic opportunities for Indigenous Nations through capacity building and procurement opportunities. Approximately $782 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 for 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 June 2024, 122 Indigenous people were working on the Site C Project, which represents approximately 6% of the total workforce.

7.1.4 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. BC Hydro hosted three workshops with participating Nations this quarter to discuss details of the building design.

8 Litigation

The details of open proceedings as of June 30, 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
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

Description		Date
B.C. Supreme Court: Civil Claims – *Expropriation Act*		
Property owners	Of 27 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 20 remain active. BC Hydro has filed responses to eight of the outstanding claims, and is preparing to file responses to the remainder.	July 2019 to June 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 June 30, 2024, 650 of the estimated 675 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 June 30, 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 June 30, 2024, a total of 135 federal approvals and notifications have been issued and are actively being managed.

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 June 30, 2024, 508 of the estimated 529 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 June 30, 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 remains in compliance with all requirements of the Environmental Assessment Certificate amendments.

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

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.

On June 19, the Environmental Assessment Office issued a final inspection report focussed on individual Farm Mitigation Plans based on information requested from BC Hydro starting in October 2023. This inspection report contained four non-compliances, which resulted in the Environmental Assessment Office issuing an accompanying warning letter on June 19. The Environmental Assessment Office also initiated a remote inspection in April and conducted an on-site inspection on June 25. Final reports for these inspections have not been issued.

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 finished construction during the reporting period. To avoid interference with the haul road, a small component of this engineered mitigation at another exposure cannot be competed until after the temporary debris boom handling apparatus is removed, which is expected sometime in summer 2024. Lasty, engineering design effort for a third exposure was initiated during the reporting period, with the intention of implementing the mitigation during fall/winter 2024. 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

The temporary fish passage facility operated through the reporting period. Mechanical issues with some of the pumps prevented operation of the facility within all of the design criteria. Therefore, in addition to operating the temporary facility, BC Hydro conducted sessions of contingent fish capture via boat electrofishing downstream of the diversion tunnel outlet and released target species upstream.

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. The main focus in the reporting period was investigating potential wetland compensation sites.

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 Annual General Meeting was held on June 20, 2024. There was no new grant funding provided during this reporting period. As of June 30, 2024, the fund had 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 – April 2024 to June 2024

Month	Number of B.C. Primary Residents[19]	Total Number of Workers[20]
April 2024	2,092	2,808
May 2024	2,218	2,986
June 2024	2,208	2,953

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

In June 2024, there were 2,953 total workers on the Site C Project. Residents of British Columbia made up 75% of the workforce (2,208), while 21% of the workforce (463 workers) lived in the Peace River Regional District. The onsite contractor workforce number also includes 14% women (315 workers) and 6% Indigenous (122 workers). There were 185 apprentices working on the Project, which is 18% 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 April to June 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).

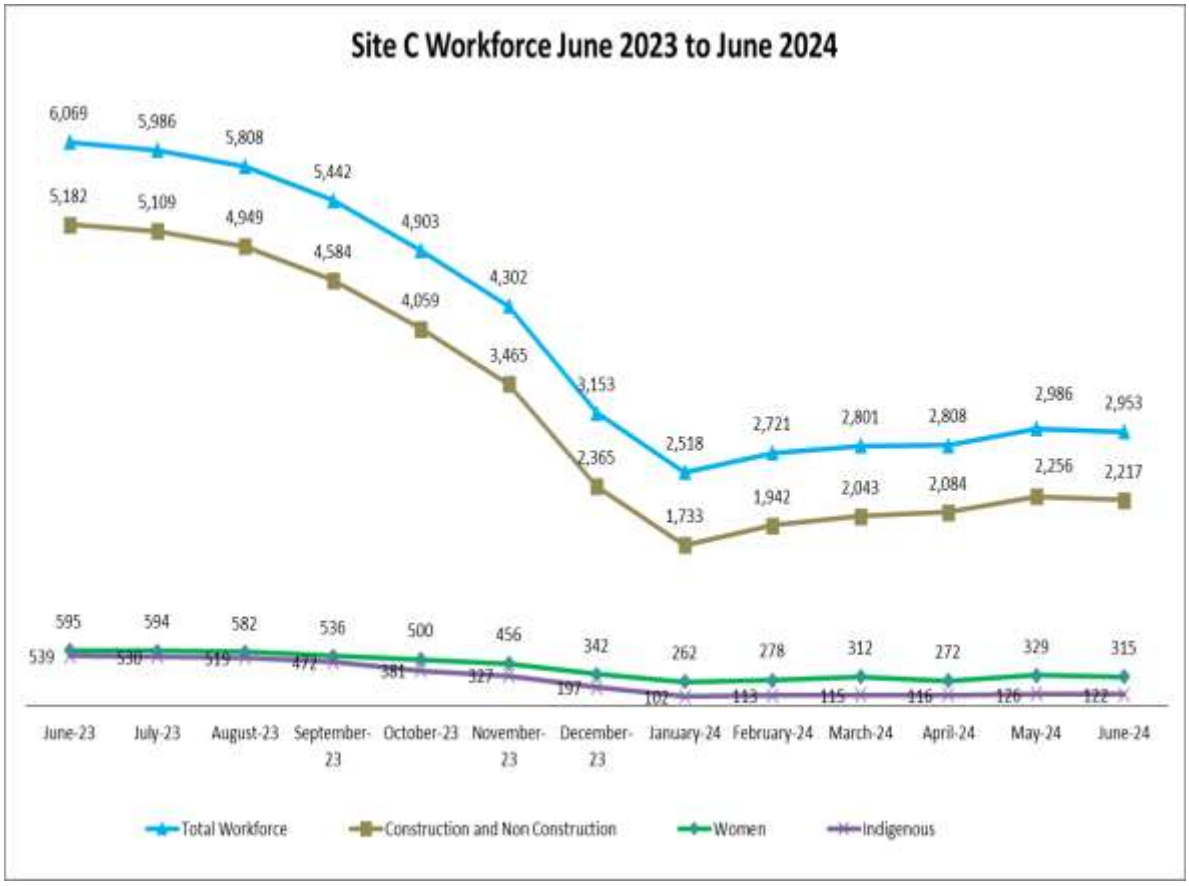
[19] Employment numbers provided by Site C contractors and consultants are subject to revision. Data not received by the Project deadline may not be included in the above numbers. Employment numbers are direct only and do not capture indirect or induced employment.

[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 June 1, 2023 to June 30, 2024.

Figure 2 Site C Workforce June 2023 to June 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.

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

Northern Lights College Foundation continues to distribute the BC Hydro Trades and Skilled Training Bursary Awards, established in 2013. As of June 30, 2024, a total of 294 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 was finalized on May 8, 2024.

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 June 5. With endorsement of the Regional Community Liaison Committee members, the frequency of meetings has been reduced from quarterly to semi-annually for 2024.

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. In early 2023, BC Hydro and the District of Hudson's Hope finalized an agreement that provided 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 $28,000 to three non-profit organizations in the Peace Region and as of June 30, 2024, 100 projects had received approximately $878,000 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 April to the end of June 2024. Two community information sessions were held in the Peace region on May 7 in Fort St John and May 8 in Hudson's Hope. The sessions were both well-attended and highlighted the status of the 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 November 27.

Construction Bulletins

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

Public Enquiries

In total, BC Hydro received 59 public enquiries between April 1 to June 30, 2024. Table 17 shows the breakdown of some of the most common enquiry types.

In total, BC Hydro has received more than 14,650 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]	April 1 to June 30, 2024
Employment Opportunities	17
Business Opportunities	6
General Information	11
Construction Impacts[23]	4
Other[24]	21

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 latest report was issued subsequent to the reporting period, in August 2024.

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 52,000 patient interactions. During the reporting period, there were 781 patient interactions, of which 113 were occupational and 668 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 a healthy lifestyle, awareness around tobacco use and the affects of air pollution.

12.4 Property Acquisitions

Property acquisitions required for the Project are now complete. During the reporting period, the three outstanding acquisitions required for long term operational safety were completed.

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 July to December 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 were established to support the possibility that reservoir fill 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 fill in fall 2024, the forecast dates in Table 18 have been updated to reflect the schedule with reservoir fill in fall 2024, and as a result, 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 reservoir fill in fall 2024, first power by the end of December 2024, and the approved final unit in-service date of 2025.

Table 18 Key Milestones for Activities Planned During the Next Six Months (July 2024 to December 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	2024	Late
Powerhouse Drainage & Dewatering for Tailrace Fill Units 1-3 Complete	January 2023	January 2024	August 2024	Late
All Work in Powerhouse Bay 1 is Complete (Mechanical)	March 2023	April 2024	August 2024	Late
All Work in Powerhouse Bay 2 is Complete (Mechanical)	June 2023	April 2024	August 2024	Late
All Work in Powerhouse Bay 2 is Complete (Electrical)	n/a	April 2024	August 2024	Late
All Work in Powerhouse Bay 1 is Complete (Electrical)	n/a	June 2024	August 2024	Late
Powerhouse AC Station Service for Tailrace Filling	n/a	April 2024	August 2024	Late
Spillway and Intake AC Station Service Complete	n/a	May 2024	August 2024	Late
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 June 30, 2024, control dates reflects plan, adjusted for approved contract changes to milestone dates. Many of the plan dates included in the table were established to support the possibility that reservoir filling could start in late fall 2023, one year earlier than the approved schedule.

[26] As of June 30, 2024. With the decision in November 2023 to stay on track with the approved Project schedule with reservoir filling in fall 2024, the forecast dates have been updated to reflect the schedule with reservoir filling in fall 2024, and as a result, are shown as late.

[27] As of June 30, 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	July 2024	Late
Unit 2 – Ready to Turn	August 2023	October 2023	August 2024	Late
Unit 3 – Ready to Turn	October 2023	February 2024	October 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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Appendix A

Site Photographs

Figure A-1 **A 440-tonne crane lifts the second section of the transmission tower into position on the intake structure. This tower is part of one of the transmission lines connecting the Site C substation to the powerhouse | April 2024**

Figure A-2 **The new Lynx Creek boat launch is being built just off the realigned Highway 29 near the Lynx Creek bridge. The boat launch will access the future Site C reservoir | April 2024**

Figure A-3 **The new Halfway River boat launch near the east-end of the Halfway River Bridge. The boat launch will access the future Site C reservoir | April 2024**

Figure A-4 **The second of three transmission towers was installed in April. Conductor stringing was completed in early May to connect these three towers to the Site C substation | May 2024**

Figure A-5 **The completed protection walls between the main transformers that step up the voltage from the generators from 13,700 volts to 500,000 volts. There are three sets of three protection walls that are now complete | May 2024**

Figure A-6 **Stringing of the conductor for one of the transmission lines connecting the Site C substation to the powerhouse. The drone lifts the pulling line while a powerline technician stands by to help guide the conductor through a sheave attached to the tower | May 2024**

Figure A-7 **Stringing of the conductor for one of the transmission lines connecting the Site C substation to the powerhouse. A drone is used instead of a helicopter to lift the pulling line. This pulling line is connected to the transmission line conductor to string the conductor onto the transmission towers | May 2024**

Figure A-8 **One of the many fish habitat offsets constructed as part of the Site C Project. Reclamation planting is complete at this location | May 2024**

Figure A-9 **Construction of generating unit 6. In the centre of the picture is the turbine shaft which connects the turbine to the generator rotor (once it is installed). The yellow lifting beam structure is used for ongoing maintenance | June 2024**

Figure A-10 **The upstream side of the Site C generating station where water will flow from the approach channel through the intake gates to the generating units, or into the spillways | June 2024**

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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;

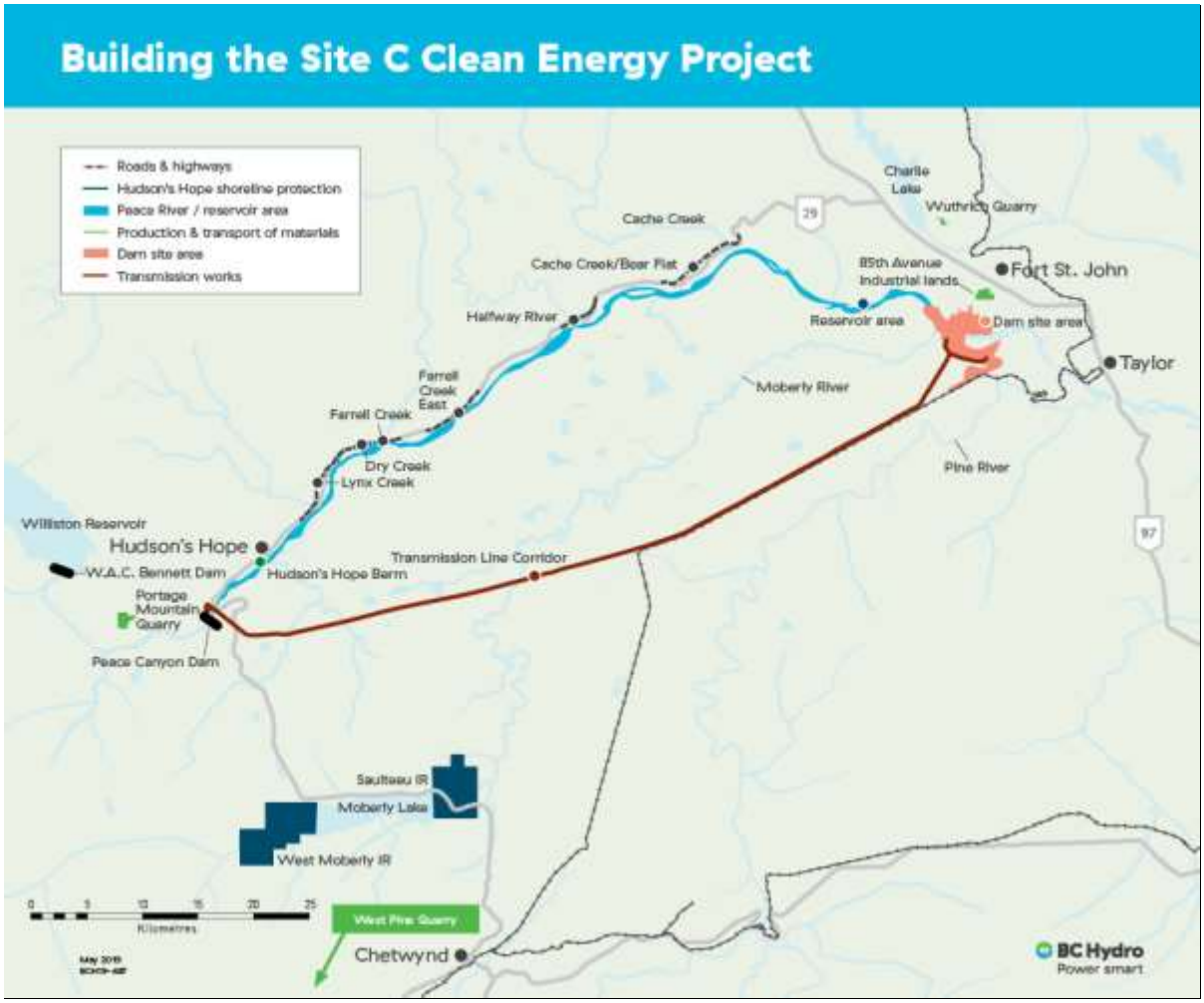
- Completion of the upstream and downstream cofferdams;
- Construction and commissioning of the temporary fish passage facility;
- Diversion of the Peace River around the Site C construction site;
- Completion of the Peace Canyon 500 kV gas-insulated switchgear expansion to enable connection of Site 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 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;
- The installation of all six turbine runners;
- Assembly and installation of the three transmission towers on top of the intake structures for the transmission lines that connect the Site C substation to the powerhouse;
- Completion of the coatings for the penstocks;

- Substantial completion of the construction of the earthfill dam including the final work on the toe of the dam, road construction, and the installation of the duct banks for lighting and instrumentation; and
- Construction of the permanent fishway is complete.

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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Appendix C

Safety

Safety Incidents

From April 1 to June 30, 2024, no serious safety incidents or lost time injuries were recorded. However, there were four all-injury incidents requiring medical treatment:

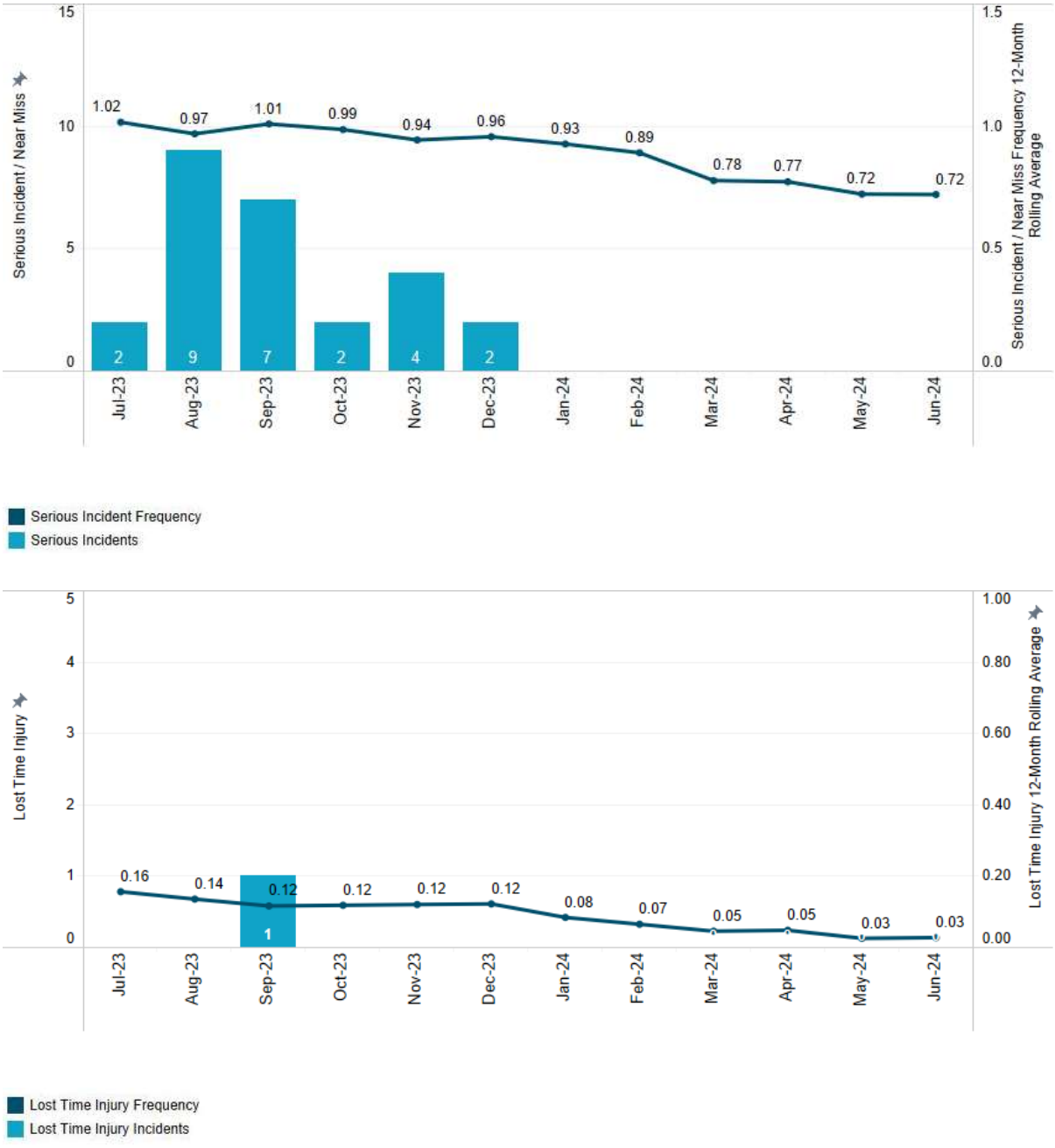
All Injury Incidents (includes all work-related medical attention requiring treatment incidents, lost time injuries, and fatalities):

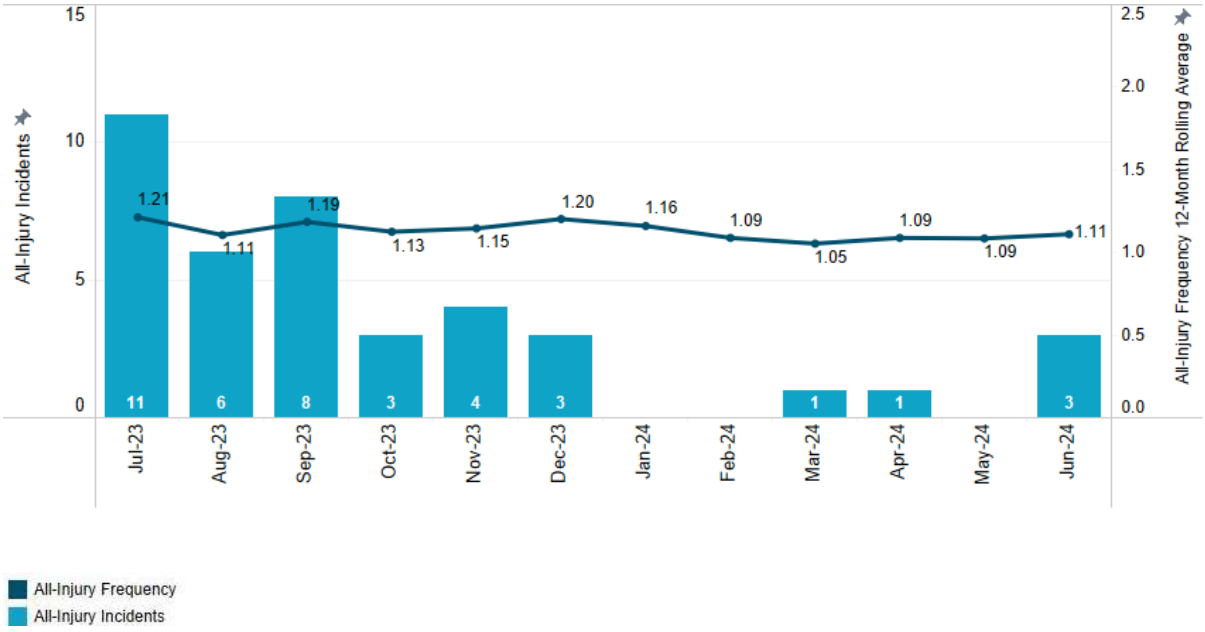
1. A worker was adjusting a 40-pound piece of steel in a metal bin when it shifted. The worker's finger was pinched and fractured.
2. A worker cut their thigh while changing the hook blade in their knife.
3. A worker cut their hand with a utility knife while removing a rubber baseboard.
4. A worker's shoulder was contacted by a bat and the worker subsequently received a rabies vaccination.

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 July 2023 to June 2024.

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




All-Injury Incidents
All-Injury Frequency 12-Month Rolling Average
15
10
5
0
2.5
2.0
1.5
1.0
0.5
0.0
1.21
1.11
1.19
1.13
1.15
1.20
1.16
1.09
1.05
1.09
1.09
1.11
11
6
8
3
4
3
1
1
3
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-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 April 1 to June 30, 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	April 4, 2024	WorkSafeBC	All	202420738013A	First aid procedures	Closed	1	Ensure written first aid procedures are up-to-date	Order: OHS3.17(1)(a) Reference(s): OHS3.14; OHS3.15; OHS3.20(b); OHS13.3; OHS13.6(1); OHS13.11(1); OHS13.13: WCA88(1); WCA88(2)
2	April 4, 2024	WorkSafeBC	Balance of Plant	202420738015A	Falls from heights, scaffolding, and first aid	Closed	0	n/a	Reference(s): OHS 13.11(1); OHS 13.3; OHS 13.13; OHS 13.17 (3)
3	April 11, 2024	Ministry of Energy, Mines and Low Carbon Innovation	Main Civil Works	223405	General site inspection	Closed	0	n/a	n/a
4	May 1, 2024	WorkSafeBC	Turbine Generator	202417876036A	De-energization and Lockout	Closed	3	Worker responsiblities on lockout and personal locks	Order(s): OHS 10.7(c); OHS 10.8(1); OHS 10.8(3) Reference(s): WCA88(1); WCA88(2); OHS10.4(1); OHS10.9(1)

Total 4

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Appendix D

Workforce Overview

Table D-1 Current Site C Jobs Snapshot (April 2024 June 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
April 2024	B.C. Workers	1,421	671	2,092
	Total Workers	2,084	724	2,808
May 2024	B.C. Workers	1,541	677	2,218
	Total Workers	2,256	730	2,986
June 2024	B.C. Workers	1,531	677	2,208
	Total Workers	2,217	736	2,953

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 June 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 (April 2024 to June 2024)

Month	Number of Apprentices
April 2024	175
May 2024	229
June 2024	185

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 (April 2024 to June 2024)

Month	Number of Indigenous Workers
April 2024	116
May 2024	126
June 2024	122

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 June 2024, there were 315 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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Appendix E

Technical Advisory Board Report and Independent International Dam Experts Report

There were no reports issued by the Technical Advisory Board or the independent international dam experts during the reporting period

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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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