

Site C Clean Energy Project

Quarterly Progress Report No. 36

F2025 Third Quarter

October 1, 2024 to December 31, 2024

PUBLIC

Table of Contents

1	Executive Summary	1
1.1	Overview and General Project Status	1
1.2	Key Milestones Achieved During Reporting Period	2
1.3	Construction Progress.....	3
1.4	Look Ahead – January 2025 to June 2025.....	6
1.5	Safety Performance	6
1.6	Upholding Commitments to the Environment, Indigenous Nations and Local Communities.....	7
1.7	Project Status Dashboard for the Quarter	11
1.8	Significant Project Updates for the Quarter	14
2	Safety and Security	15
2.1	Administrative Warning Letter	15
2.2	Safe Work Observations (SWO) Program.....	15
2.3	Worker Protection Practices.....	16
2.4	Summary of Safety Performance Metrics.....	17
2.5	Safety Performance Frequency Metrics	18
2.6	Regulatory Inspections and Orders.....	20
3	Construction, Engineering, Quality Management, Commissioning and Assets In Service.....	22
3.1	Construction	22
3.1.1	Reservoir Filling	23
3.1.2	Main Civil Works	24
3.1.3	Generating Station and Spillways	25
3.1.4	Right Bank Foundation Enhancements	27
3.1.5	Balance of Plant.....	27
3.1.6	Turbines and Generators	28
3.1.7	Transmission	29
3.1.8	Highway 29 and Hudson’s Hope Shoreline Protection Berm	29
3.1.9	Reservoir	30
3.1.10	Site Operations and Infrastructure	30
3.2	Engineering.....	31
3.2.1	Main Civil Works	31
3.2.2	Right Bank Foundation Enhancements	31
3.2.3	Large Cranes, Hydromechanical, and Turbines and Generators.....	32

	3.2.4	Generating Station and Spillways, Balance of Plant, and Equipment Supply.....	32
	3.2.5	Transmission	33
	3.2.6	Highway 29.....	33
	3.2.7	Technical Advisory Board and Independent International Dam Experts.....	34
	3.3	Quality Management.....	34
	3.3.1	Quality Nonconformance Management	35
	3.4	Commissioning	35
	3.5	Assets In Service	36
4		Project Schedule	37
	4.1	Project In-Service Dates	37
5		Project Governance, Costs and Financing, and Risk	38
	5.1	Project Governance	38
	5.2	Project Budget Summary	39
	5.3	Project Expenditure Summary	40
	5.4	Site C Project Financing.....	41
	5.5	Material Project Risks and Opportunities	42
6		Key Procurement and Contract Developments	44
	6.1	Key Procurements.....	44
	6.2	Major Construction Contracts Exceeding \$50 Million	45
	6.3	Contracts Exceeding \$10 Million	47
	6.4	Contract Management.....	47
	6.4.1	Material Changes to the Major Contracts	47
7		Indigenous Engagement	48
	7.1	Indigenous Procurement, Training and Employment	49
	7.2	Cultural Centre.....	49
8		Litigation.....	50
9		Permits and Government Agency Approvals.....	51
	9.1	Environmental Assessment Certificate.....	51
10		Environment	53
	10.1	Mitigation, Monitoring and Management Plans	53
	10.2	Project Environmental Compliance	53
	10.3	Potentially Acid-Generating Rock Management.....	53
	10.4	Temporary and Permanent Fish Passage Facilities.....	54
	10.5	Wetland Compensation Plan.....	55
	10.6	Greenhouse Gas Monitoring	55
	10.7	Agricultural Mitigation and Compensation Plan.....	55
11		Employment and Training Initiatives and Building Capacity Initiatives	56

11.1	Labour.....	56
11.2	Employment.....	57
11.3	Training and Capacity-Building Initiatives	59
11.4	Labour and Training Plan.....	59
12	Community Engagement and Communication	60
12.1	Local Government and Community Engagement Activities	60
12.1.1	District of Hudson’s Hope Water System.....	60
12.1.2	Generate Opportunities Fund	61
12.1.3	Community Relations and Construction Communications	61
12.2	Human Health	64
12.2.1	Health Care Services Plan and Emergency Service Plan.....	64
13	Plans During Next Six Months.....	64
14	Impacts on Other BC Hydro Operations.....	65

List of Figures

Figure 1	The Site C Dam Site (as seen in December 2024).	1
Figure 2	WorkSafeBC and Ministry of Energy and Climate Solutions Inspections and Orders, July 2015 to December 2024.....	22
Figure 3	Site C Workforce December 2023 to December 2024	58

List of Tables

Table 1	Project Status Dashboard	12
Table 2	Summary of Site C Safety Metrics.....	18
Table 3	Summary of Safety Performance Frequency Metrics (2023 vs 2024)	19
Table 4	Safety Regulatory Inspections and Orders (WorkSafeBC and Ministry of Energy and Climate Solutions.....	21
Table 5	Quality Management Nonconformity Report (NCRs) Metrics Reporting Period – July 2024 to December 2024.....	35
Table 6	In-Service Dates.....	38
Table 7	Project Budget by Key Work Area (\$ million)	40
Table 8	Total Project Budget Compared to Forecast to Completion and Life-to-Date Plan Compared to Actuals to December 31, 2024 (\$ million).....	41
Table 9	2024/25 to 2026/27 Service Plan Fiscal 2025 Plan Compared to Actuals (\$ million).....	41

Table 10	Material Project Risks.....	42
Table 11	Remaining Major Project Procurements and their Planned Delivery Models.....	45
Table 12	Major Project Construction Contracts Awarded.....	46
Table 13	Litigation Status Summary	50
Table 14	Participating Unions	56
Table 15	Site C Jobs Snapshot Reporting Period –October 2024 to December 2024.....	57
Table 16	Public Enquiries Breakdown by Topic	63
Table 17	Key Milestones for Activities Planned During the Next Six Months (January 2025 to June 2025).....	65

Appendices

Appendix A	Site Photographs
Appendix B	Work Completed Since Project Commencement in 2015
Appendix C	Safety
Appendix D	Workforce Overview
Appendix E	Technical Advisory Board Report and Independent International Dam Experts Report
Appendix F	Summary of Individual Contracts Exceeding \$10 Million PUBLIC
Appendix G	Project Progression PUBLIC
Appendix H	Detailed Project Expenditure PUBLIC

1 **1 Executive Summary**

2 **1.1 Overview and General Project Status**

3 Site C is the third dam and hydroelectric generating station on the Peace River in
4 northeastern British Columbia (B.C.). Once complete, Site C will produce about
5 5,100 gigawatt hours of energy per year – enough to power the equivalent of
6 450,000 homes or 1.7 million electric vehicles per year in B.C.

7 **Figure 1 The Site C Dam Site (as seen in**
8 **December 2024).**



9 Construction on Site C began on July 27, 2015.

10 Quarterly Progress Report No. 36 covers the period October 1 to
11 December 31, 2024 (**the reporting period**).

12 As of December 31, 2024, the Site C Project (**the Project**) is approximately
13 89% complete. BC Hydro remains on track to complete the Project within the budget
14 (\$16 billion) and schedule (final unit in-service date of November 2025), which were
15 approved in 2021.

1 The overall Project health status remains “green” due to several large Project
2 milestones that were achieved during the reporting period. However, a number of
3 potential risks remain, as outlined in this report.

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

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

12 **1.2 Key Milestones Achieved During Reporting Period**

13 On October 27, 2024, the first generating unit (first power) was successfully placed
14 into service approximately six weeks ahead of schedule. On December 14, 2024,
15 the second generating unit was placed into service approximately two months ahead
16 of schedule. Both generating units came into operation following the required testing
17 and commissioning processes.

18 The Site C Project remains on track to have all six generating units in-service by the
19 approved final unit in-service date in November 2025. Wet commissioning of the
20 third and fourth generating units is underway.

21 BC Hydro commenced reservoir filling on August 25, 2024, and on
22 November 7, 2024, the reservoir reached its normal operational level of 460 metres
23 to 461.8 metres elevation above sea level. The structural performance of the dam
24 site water-retaining structures, including the earthfill dam, the roller-compacted
25 concrete buttresses, the approach channel and the dam abutments continue to
26 perform as expected.

1.3 Construction Progress

Work on the Site C Project continues to advance consistent with the approved schedule. The Project remains on-track to have all six generating units in-service by the approved final unit in-service date of November 2025.

During the reporting period, construction continued to progress with the installation of the generating equipment and the electrical and mechanical balance of plant equipment. On October 27, 2024, the first generating unit (first power) was successfully placed into service approximately six weeks ahead of schedule. On December 14, 2024, the second generating unit was placed into service approximately two months ahead of schedule. The work to complete the installation and commissioning of the four remaining generating units is continuing.

The balance of plant mechanical and electrical work continues to progress in the powerhouse. The mechanical contractor has completed the final work on the unit 1 to unit 4 common systems and is in the process of transferring the completed work, including the required documentation, over to BC Hydro. The main focus of work for the mechanical contractor is completing the powerhouse systems including domestic water, heating piping and wastewater. The electrical contractor continues the installation of the electrical station service in the powerhouse, intakes, and spillways. In addition, the contractor has completed the four sections of isolated phase bus that connect the generators for unit 1 to unit 4 to the main step-up transformers. All of the work related to connecting the main step-up transformers to the BC Hydro transmission system is complete. The contractor is in the process of completing the sections of isolated phase bus for units 5 and 6. The architectural work in the operations building is nearing completion and the heating, ventilation and air conditioning work continues. The installation of the fire protection is also continuing.

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

1 installation of the redesigned upper flexible couplings began in February 2024. The
2 installation of the last of the six redesigned flexible couplings was completed in
3 October, and minimal leakage was detected in the flexible couplers for the three
4 penstocks (penstocks 1, 2 and 3) that have currently been filled with water. This
5 minor leakage was anticipated during the reservoir filling period (due to the added
6 water pressure on the couplers) and has been observed through the onset of cold
7 temperatures. Adjustments will be made to the seals in the flexible couplers
8 following the onset of warmer weather to address any ongoing minor leakage.

9 The final commissioning is progressing for the six intake gates on permanent power
10 and permanent controls, consistent with the approved schedule. The commissioning
11 of intake gates 1 and 2 was completed in advance of the commencement of
12 reservoir filling in late August, and the commissioning of intake gate 3 was
13 completed in November. The remaining intake gates are scheduled to be
14 commissioned in 2025 in advance of wet testing of their associated generating units.

15 The final commissioning is progressing for the three spillway operating gates on
16 permanent power and permanent controls. The gates will continue to be operated on
17 construction power with temporary controls through the spring of 2025, while the
18 commissioning of the permanent systems progresses.

19 Commissioning is progressing for the six spillway low-level operating gates on
20 permanent power and permanent controls and is scheduled to be completed in
21 summer 2025.

22 All of the planned work for stabilizing the bedrock foundations for the dam,
23 powerhouse and spillways was complete as of the end of March 2024, except for a
24 couple of minor deficiencies including riprap placements on the embankment of the
25 tailrace above the water line that were not required to be completed prior to reservoir
26 fill. Construction of the remaining work is scheduled for completion in the summer of
27 2025.

1 The commissioning of the permanent upstream fishway continues.

2 The first of three transmission lines between the powerhouse and the Site C
3 substation was completed and energized in August 2024. The construction of the
4 remaining two transmission lines was completed in November 2024. The second
5 transmission line is scheduled to be energized in January 2025 (completed
6 subsequent to the reporting period on January 17, 2025). The third and final
7 transmission line is scheduled to be energized in coordination with the
8 commissioning and energization of the generator step-up transformers for units 5
9 and 6.

10 The operations and maintenance of the right bank drainage tunnel and left bank
11 drainage adit continued during the reporting period. The remaining work required in
12 the right bank drainage tunnel and left bank drainage adit includes structural
13 enhancements to the shotcrete and rock bolt linings of the tunnels, and the
14 installation of the permanent portal structures and electrical and mechanical
15 systems.

16 The reclamation work for various contractor work areas is also in progress. This
17 includes the maintenance shop for the main civil works contractor, which was
18 decommissioned, removed, and remediated in December 2024. Other areas include
19 the roller compacted concrete batch plant and some contractor laydown areas. The
20 main civil works contractor's remaining equipment and materials have been
21 relocated to Area A and are in the process of being removed from the dam site,
22 which is expected to be complete by early 2025.

23 The reclamation work for Area A and Area E of the dam site was on-going during the
24 reporting period. The remaining reclamation is scheduled to be performed by First
25 Nations-designated businesses as material stockpiles and construction equipment
26 are removed. Reclamation is expected to continue through 2026.

1 Away from the dam site, the phase two reclamation work on the Portage Mountain
2 Quarry resumed in June and was completed in December 2024.

3 During the reporting period, construction on the D.A. Thomas Road upgrading was
4 paused for the winter and is expected to resume in the spring and be completed in
5 2025.

6 Work on the Hudson's Hope recreation site will resume in the spring and is expected
7 to be complete in 2025. The gangway and float installation will occur when the
8 reservoir has been deemed safe for boaters.

9 **1.4 Look Ahead – January 2025 to June 2025**

10 From January to June 2025, the focus on the Project is the safe completion of the
11 remaining major milestones.

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

15 All six of Site C's generating units are on track to be in-service by November 2025.
16 Unit 1 (first power) went into service on October 27, 2024, approximately six weeks
17 ahead of schedule. Unit 2 went into service on December 14, 2024, approximately
18 two months ahead of schedule. The four remaining units are scheduled to be
19 brought into service sequentially and within the following approved schedule: unit 3
20 (May 2025), unit 4 (July 2025), unit 5 (September 2025), and unit 6
21 (November 2025).

22 **1.5 Safety Performance**

23 During the reporting period, the Project saw a further reduction in workforce
24 numbers as more work fronts reached completion. Most of the remaining Project
25 activities are now concentrated around the powerhouse. Safety performance metrics

1 have improved compared to the same period in 2023, showing improvements in lost
2 time injury frequency, all-injury frequency, and serious incident frequency.

3 Between October and December 2024, WorkSafeBC conducted five regulatory
4 inspections and issued 14 regulatory orders related to the Project. One out of the
5 five inspections was a “clean sheet” with no orders. One inspection followed an
6 incident that occurred during the pressure testing of an air admission line when the
7 test plug released, striking the worker in the lower leg, resulting in the worker
8 needing to be hospitalized and requiring surgery. While the worker sustained serious
9 injuries, the long-term effects, including the possibility of a permanent disability, are
10 not yet known. The inspection report included five orders and one stop use order
11 related to the inflatable test plug.

12 Another WorkSafeBC inspection followed a serious near miss incident when a
13 worker using a battery-operated bandsaw cut into a live 600-volt cable causing a
14 small arc and tripping the breaker. The inspection resulted in six orders to BC Hydro
15 related to failures to lockout the equipment and for gaps in supervision and
16 instruction of workers. The orders also led to WorkSafeBC issuing an administrative
17 warning letter to BC Hydro.

18 Additionally, another WorkSafeBC inspection identified a non-compliance with traffic
19 management requirements when workers failed to implement the proper traffic
20 control measures while removing an excavator from a ditch. This resulted in two
21 orders related to a lack of required traffic control procedures and inadequate
22 personal protective equipment (**PPE**) for the workers directing traffic. These orders
23 have since been fully complied with, and no further regulatory action is required.

24 **1.6 Upholding Commitments to the Environment, Indigenous** 25 **Nations and Local Communities**

26 BC Hydro continued to secure the appropriate permits, authorizations and leaves to
27 commence construction required for the Project. As of December 31, 2024, almost

1 all permits (approximately 97%) for the construction of the Project have been issued.
2 The remaining approvals for the construction are related to the permanent upstream
3 fishway (Leave to Commence Operation, anticipated in spring 2025), the future
4 Peace River Construction Bridge decommissioning, minor works on Highway 29
5 (e.g., turnarounds) and the construction of the future Cultural Centre. All construction
6 permits continued to be managed and renewed, as needed, for demobilization and
7 reclamation works.

8 All key permits and approvals for Operations have been issued, including the
9 Fisheries Act Authorization, the Canadian Navigable Waters Act approval, and the
10 Conditional Water licences for diversion and use of water, as well as the storage of
11 water.

12 Work advanced in the areas of environmental monitoring and assessment, as well
13 as in the Project's fish and wildlife habitat, vegetation management, and heritage
14 programs.

15 During the reporting period, the commissioning of the permanent fish passage
16 facility continued. The commissioning activities were temporarily suspended on
17 October 2, 2024, to allow for modifications and repairs to be completed during the
18 winter closure period.

19 Environmental compliance on the Project remains high. During the reporting period,
20 the Environmental Assessment Office conducted a single on-site (October 9, 2024)
21 inspection on the Project. This inspection focused on waste management, acid rock
22 drainage management, fish passage, and reclamation. A final inspection report for
23 this inspection was received on October 25, 2024, and it concluded the Project
24 complied with all requirements.

25 On November 6, 2024, the Environmental Assessment Office (**EAO**) issued a final
26 inspection report based on a site inspection in June 2024, and information requests

1 BC Hydro responded to in July 2024. That inspection report focussed on
2 Methylmercury monitoring, acid rock drainage, the implementation of a recreation
3 fund, invasive weed management, erosion and sediment control, and residential
4 water well monitoring. The report concluded that the Project was in-compliance with
5 all but one of the issues (erosion and sediment control) and this one non-compliance
6 was remedied within days of its discovery in June 2024.

7 *Indigenous Engagement*

8 During the reporting period, BC Hydro continued to engage with Indigenous Nations
9 on Project activities and milestones through regular Project update meetings and
10 other venues.

11 BC Hydro held a meeting with the Reclamation Sub-committee, established to
12 engage with Indigenous Nations on the plans to reclaim work areas that were used
13 during the construction of Site C. The committee reviewed positive progress towards
14 implementing reclamation plans as construction winds down. The Reclamation Sub-
15 committee has provided valuable input to Site C reclamation planning and will
16 continue to monitor the implementation of those plans.

17 In November 2024, BC Hydro concluded the Cultural Monitoring Program and
18 hosted a farewell event for the last shift of cultural monitors. Over the past six years,
19 114 monitors from six Treaty 8 First Nations participated in the program, monitoring
20 construction activities throughout various components of the Site C Project. The
21 monitors' contributions and input have helped guide BC Hydro's approach to
22 construction and mitigating impacts to fish, wildlife and cultural heritage resources,
23 and BC Hydro plans to continue to share knowledge through future projects and
24 ongoing operations.

25 Indigenous procurement on the Site C Project has been a strong contributor to
26 BC Hydro meeting and exceeding its cumulative Service Plan target for this metric.

1 Working on Site C has helped businesses designated by Indigenous Nations to build
2 and grow their reputations, expand the scale of their operations, and to develop new
3 expertise to compete in the regional economy.

4 In December 2024, 66 Indigenous people were working on the Site C Project, which
5 represents approximately 5% of the total workforce.

6 *Local Communities*

7 BC Hydro continues to advance commitments within five community agreements:
8 the District of Chetwynd (2013), the District of Taylor (2014), the City of
9 Fort St. John (2016), the District of Hudson's Hope (2017), and the Peace River
10 Regional District (2024).

11 BC Hydro commenced reservoir filling on August 25, 2024, and on
12 November 7, 2024, the reservoir reached its normal operational level of 460 metres
13 to 461.8 metres elevation above sea level. Local governments in B.C. and Alberta,
14 along with provincial and territorial governments, the Site C Regional Community
15 Liaison Committee (**RCLC**), the Peace Valley Landowners Association (**PVLA**), and
16 the Peace Williston Advisory Committee (**PWAC**), were kept informed of filling
17 progress via emails on October 3, October 28 and November 7. Some downstream
18 local governments had some questions about the potential effects on municipal
19 water intake systems. Flow information was provided that included cautions that the
20 information was subject to change based on BC Hydro customer electricity demand
21 and the ongoing severe regional drought. Additional information requests by local
22 governments on reservoir filling and downstream flows were responded to on an
23 individual basis. While the discharge from Site C was at times near the licenced
24 minimum during reservoir filling, no local governments have indicated that the flows
25 caused a disruption in the water supply to their residents.

1 Regular updates on the progressive stages of reservoir filling were captured by our
2 photo and video contractor and posted on the Project website for public view.

3 The announcement that unit 1 was operational was communicated to local,
4 provincial and territorial governments, the Site C RCLC and the PWAC on
5 October 28, 2024. On December 14, 2024, when unit 2 went into service, the
6 achievement of this second major Project milestone was communicated via email.
7 The RCLC, which is comprised of local elected officials and local First Nations
8 communities, met for a final time on November 27, 2024.

9 **1.7 Project Status Dashboard for the Quarter**

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

16 The Project Status Dashboard as of December 31, 2024, is provided in [Table 1](#). The
17 status of the performance indicators for overall project health, scope, schedule, and
18 cost remain “green” due to the substantial construction and commissioning progress
19 made during the reporting period that enabled several large Project milestones to be
20 achieved.

1
2

Table 1 Project Status Dashboard

● On Target ● Moderate Issues ● At Risk

Status as of:		December 31, 2024
Overall Project Health	●	<p>The overall Project health status remains “green.”</p> <p>On October 27, 2024, the first generating unit (first power) was successfully placed into service approximately six weeks ahead of schedule and began providing electricity to BC Hydro customers. On December 14, 2024, the second generating unit was placed into service approximately two months ahead of schedule. In addition to achieving the in-service of units 1 and 2, BC Hydro completed the filling of the Site C reservoir on November 7, 2024. The reservoir is now being operated within its normal operating range of 460 metres to 461.8 metres elevation above sea level.</p> <p>The Project is approximately 89% 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.</p>
Safety	●	<p>The Safety status remains “amber”.</p> <p>During the reporting period, the Project saw a further reduction in the workforce as more work fronts reached completion, with most of the ongoing activities now concentrated around the powerhouse.</p> <p>Safety performance metrics have improved compared to the same period in 2023, showing improvements in lost time injury frequency, all-injury frequency, and serious incident frequency.</p> <p>Between October and December 2024, WorkSafeBC conducted five regulatory inspections and issued fourteen regulatory orders related to the Project.</p>
Scope	●	<p>The Scope status remains “green.”</p> <p>All major scopes of work for the Project have now been defined, and the Project is approximately 89% complete. The Project team continues to work to define the relatively small remaining scopes of work on the Project.</p>
Schedule	●	<p>The Schedule status remains “green.”</p> <p>The Project remains on schedule to have all six generating units in-service by November 2025 and achieve the approved Project schedule. The Project is approximately 89% complete.</p> <p>Reservoir filling was completed on November 7, 2024.</p> <p>On October 27, 2024, the first generating unit (first power) was successfully placed into service approximately six weeks ahead of schedule. On December 14, 2024, the second generating unit was placed into service approximately two months ahead of schedule.</p> <p>There continues to be uncertainty related to achieving the contractual schedules, and there are potential risks that could adversely affect these schedules.</p>
Cost	●	<p>The Cost status remains “green.”</p> <p>The Project remains on target to be completed within the budget of \$16 billion, which was approved in 2021. However, a number of cost risks remain, as described in this report.</p> <p>As of December 31, 2024, the life-to-date actual costs are \$14.2 billion, which results in an estimated \$1.8 billion of remaining costs based on the forecast of \$16 billion.</p>

Status as of:		December 31, 2024
Quality	●	<p>The quality status for the Project remains “green,” indicating that the work generally conforms to the requirements of the drawings and specifications. During the reporting period, the performance of the main dam, the approach channel, the structures and the hydromechanical equipment during the filling of the reservoir and early operations phase has continued to be good and is evidence of the good quality of work during the manufacturing and construction phases of the Project.</p> <p>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.</p>
Regulatory, Permits and Tenures	●	<p>The regulatory, permits and tenures status remains “green.”</p> <p>As of December 31, 2024, almost all permits (approximately 97%) for the construction of the Project have been issued. The remaining approvals for construction are related to the permanent upstream fishway (Leave to Commence Operation, anticipated in spring 2025), the future Peace River Construction Bridge decommissioning, minor works on Highway 29 (e.g., turnarounds) and the construction of the future Cultural Centre. All construction permits continued to be managed and renewed as needed for demobilization and reclamation works.</p> <p>All key permits and approvals for Operations have been issued, including the <i>Fisheries Act</i> Authorization, the <i>Canadian Navigable Waters Act</i> approval, and the Conditional Water licences for diversion and use of water, as well as the storage of water.</p>
Environment	●	<p>The environment status remains “green.”</p> <p>Environmental compliance on the Project remains high. During the reporting period, the Environmental Assessment Office conducted a single on-site (October 9, 2024) inspection on the Project. This inspection focused on waste management, acid rock drainage management, fish passage, and reclamation. A final inspection report for this inspection was received on October 25, 2024, and it concluded the Project complied with all requirements.</p>
Procurement	●	<p>The procurement status changed from “amber” to “green.”</p> <p>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 roads and site reclamation.</p>
Indigenous Relations	●	<p>The Indigenous Relations status remains “amber.”</p> <p>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.</p>
Stakeholder Engagement	●	<p>The stakeholder engagement status remains “green.”</p> <p>BC Hydro continues to work with the communities, regional district and stakeholder groups on the implementation of various community agreements.</p>

1.8 Significant Project Updates for the Quarter

Significant Project updates that occurred between October 1 to December 31, 2024, include the following:

October 2024

- The reservoir filling hold period began, during which, the reservoir elevation was held within a 1.5 metre range (452.5 metres to 454 metres) for 14 days.
- The installation of the last of the six redesigned flexible couplings was completed.
- The first generating unit went into service on October 27, approximately six weeks ahead of schedule.

November 2024

- Filling of the Site C reservoir was safely completed on November 7, 2024. The reservoir has now reached its normal operating range of 460 metres to 461.8 metres elevation above sea level.
- The first of three transmission lines between the powerhouse and the Site C substation was completed and energized in August 2024. The construction of the remaining two transmission lines was completed in November.

December 2024

- The second generating unit went into service in December 2024, approximately two months ahead of schedule.

Refer to [Appendix A](#) for Site Construction photos from the reporting period and refer to [Appendix B](#) for a list of work completed since the Project commenced in 2015.

2 Safety and Security

During the reporting period, the Project saw a further reduction in workforce numbers as additional work fronts reached completion. Most of the remaining Project work remains concentrated in and around the powerhouse. Compared to the same period in 2023, the Project's safety performance metrics have improved, including improvements in lost time injury frequency, all-injury frequency, and serious incident frequency.

2.1 Administrative Warning Letter

On December 10, 2024, BC Hydro received an Administrative Warning from WorkSafeBC related to an incident on October 15, 2024, at the Site C project. The warning related to an electrical hazard involving a cable splicing task on a temporary mechanical air handling unit. The WorkSafeBC officer identified a high risk of serious injury due to the uncontrolled electrical hazard and emphasized the requirement for written lockout procedures. WorkSafeBC issued this warning letter to motivate compliance without proceeding to an administrative penalty. BC Hydro took immediate action to develop and implement written lockout procedures for the equipment referenced in the order. The lockout procedures were fully implemented and reviewed with the crews in early December.

2.2 Safe Work Observations (SWO) Program

Site teams saw continued success with the implementation of the SWO program. SWOs are an opportunity for discussion and constructive feedback about safety responsibilities and safe work practices, behaviours, and conditions. The Project is on track to exceed its target for the number of SWOs this year, with 1,340 observations completed year-to-date. Work continues with evaluating the quality of SWOs using criteria and a scoring guide that was established by the safety team in 2023. The team meets monthly with members of the construction management team to review and score a sample of SWOs. Quality assessments of these reviews show

1 that while 28% of the evaluated observations meet "Good" standards, there remains
2 opportunity for improvement with 42% rated as "Fair" and 30% requiring
3 improvement. Notably, there has been a positive trend in recent months related to
4 the quality metrics, with October 2024 achieving the highest number of "Good"
5 quality observations to date, indicating that ongoing coaching and feedback efforts
6 are yielding results. The distribution of observations across work areas has been
7 consistent, with Turbine Generator (**TG**) work accounting for the largest portion of
8 observations, followed by the Balance of Plant activities. Monthly observation
9 volumes have remained strong, averaging approximately 150 observations per
10 month through most of 2024. As the Project nears completion, site teams will
11 continue to leverage this important program to strengthen the safety culture and
12 build sustained safety awareness during critical commissioning activities.

13 **2.3 Worker Protection Practices**

14 The Project made progress in transitioning from temporary to permanent power
15 systems throughout the reporting period, marking an important evolution in our
16 safety protocols. Units 5 and 6, along with the third set of step-up transformers, were
17 successfully integrated under Work Protection Practices (**WPP**), with Spillway and
18 station service assets following as planned. This transition from contractor-planned
19 temporary power isolations to permanent power systems represented an
20 enhancement to our infrastructure and an opportunity to better coordinate isolations.
21 To support this change, additional sessions of WPP Category C training were
22 delivered, developing internal capability for planning isolations. The training
23 established a core group of authorized workers capable of understanding and
24 planning isolation procedures. This approach ensured better integration with
25 BC Hydro's established safety systems as we moved from the construction to the
26 operational phases of the Project.

2.4 Summary of Safety Performance Metrics

From July 2015 through December 2024, more than 63.9 million work hours have been completed across the Project, with no fatalities and one permanent partial disabling injury in August 2017.¹

During this reporting period, one serious lost time injury and three serious safety incidents were recorded. In addition, there were 56 non-serious incidents recorded. Of these 56 incidents, 29 incidents were classified as near misses, with the potential for causing harm, 25 incidents involved injuries that required first aid, and two 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.

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.

1

Table 2 Summary of Site C Safety Metrics

	Reported October 1, 2024 to December 31, 2024 ²	Reported Since Inception (July 27, 2015 to December 31, 2024) ²
Fatality ³	0	0
Permanently Disabling Injury ⁴	0	1
Serious Incidents ⁵	4	216
Lost Time Injuries ⁶	1	51
All-Injury Incidents ⁷ (Lost Time Injuries ⁶ and Medical Attention Requiring Treatment ⁸)	3	393

2

2.5 Safety Performance Frequency Metrics

3

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.

6

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.

1
2

**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	0.43	0.34
Lost Time Injury Frequency	0.17	0.16	0.12	0.12	0.05	0.03	0.04	0.09
All Injury Frequency	1.18	1.11	1.18	1.21	1.05	1.11	0.82	0.69

3 During this reporting period, the serious incident frequency improved and was 0.34
4 compared to 0.97 for the same period in 2023. Lost time injury frequency also
5 improved to 0.09 from 0.12, and the all-injury frequency improved to 0.69 from 1.21.

6 Key safety concerns identified through incidents and observations included improper
7 electrical isolation practices, winter weather hazards, unauthorized access to testing
8 areas, inadequate chemical safety controls, and gaps in contractor coordination.
9 Hand injuries and vehicle incidents in snowy conditions emerged as trends in the
10 reported incidents. While the reduction in high-risk construction activities contributed
11 to the overall lower incident frequencies, the increase in Work Protection Practices
12 (**WPP**) related good catches and near misses highlighted the need for enhanced
13 focus on procedural compliance, particularly during critical commissioning and
14 energization activities.

15 Refer to [Appendix C, Figure C-1](#) for a graphic summary of Site C safety performance
16 metrics, including both BC Hydro employees and Project contractors.

1 2.6 Regulatory Inspections and Orders

2 WorkSafeBC, under the authority of the *Worker’s Compensation Act*, is the primary
3 regulator with jurisdiction over safety for the Project. WorkSafeBC oversees worker
4 safety (employee and contractor) for the Project, both on and off the dam site. The
5 Ministry of Energy and Climate Solutions is the regulatory authority for worker safety
6 on any work fronts subject to the *Mines Act*, including West Pine Quarry, Portage
7 Mountain Quarry, and Area E.

8 As shown in [Table 4](#), from October to December 2024, WorkSafeBC conducted
9 five regulatory inspections and issued 14 regulatory orders to the Project. Of the five
10 WorkSafeBC inspection reports, one of the five was a ‘clean sheet’ with no orders.
11 One inspection followed a serious incident that occurred during the pressure testing
12 of an air admission line when the test plug released, striking the worker in the lower
13 leg, resulting in the worker needing to be hospitalized and requiring surgery. While
14 the worker sustained serious injuries, the long-term effects, including the possibility
15 of a permanent disability, are not yet known. The inspection report included five
16 orders and one stop use order related to the inflatable test plug.

17 Another WorkSafeBC inspection followed a serious near miss incident when a
18 worker using a battery-operated bandsaw cut into a live 600-volt cable causing a
19 small arc and tripping the breaker. The inspection resulted in six orders to BC Hydro
20 related to failures to lockout the equipment and for gaps in supervision and
21 instruction of workers. The orders also led to WorkSafeBC issuing an administrative
22 warning letter to BC Hydro.

23 Additionally, another WorkSafeBC inspection identified a non-compliance with traffic
24 management requirements when workers failed to implement the proper traffic
25 control measures while removing an excavator from a ditch. This resulted in two
26 orders related to the lack of required traffic control procedures and inadequate
27 personal protective equipment (**PPE**) for the workers directing traffic. These orders

1 have since been fully complied with, and no further regulatory action is required.
 2 There were no regulatory inspections conducted by the Ministry of Energy and
 3 Climate Solutions during this reporting period.

4 **Table 4 Safety Regulatory Inspections and**
 5 **Orders (WorkSafeBC and Ministry of**
 6 **Energy and Climate Solutions**

	Reported October 1 to December 31, 2024 ⁹	Reported Since Inception (July 27, 2015 to December 31, 2024) ⁹
Regulatory Inspections	5	380
Regulatory Orders	14	502

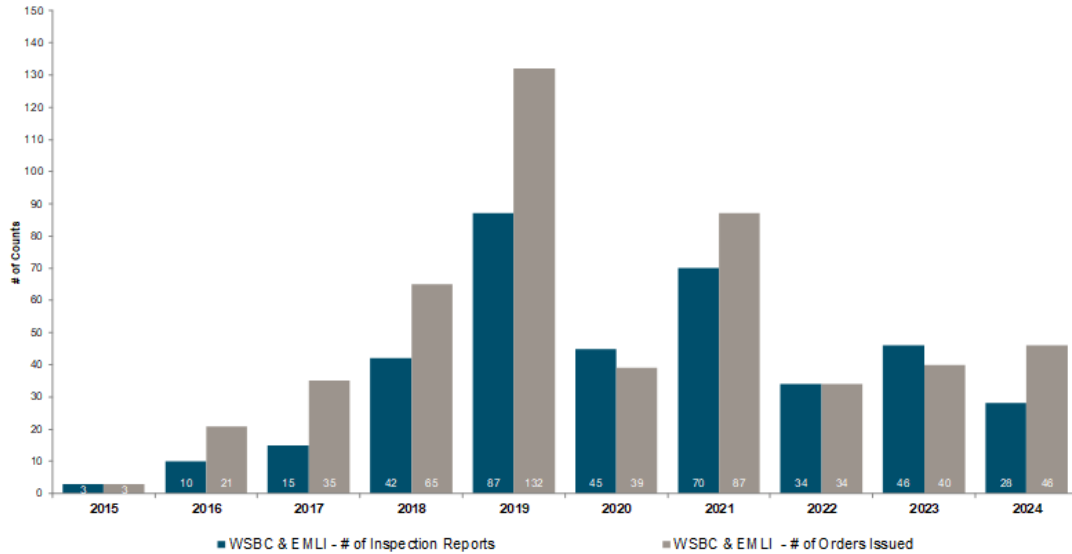
7 [Figure 2](#) shows the number of regulatory inspections and orders issued for the
 8 Project since 2015.

9 Refer to [Appendix C, Table C-1](#) for a summarized listing of the regulatory inspection
 10 reports.

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

1
2
3

Figure 2 WorkSafeBC and Ministry of Energy and Climate Solutions Inspections and Orders, July 2015 to December 2024



4 **3 Construction, Engineering, Quality Management,**
5 **Commissioning and Assets In Service**

6 **3.1 Construction**

7 Work on the Site C Project continues to advance consistent with the approved
8 schedule. Reservoir filling was safely completed on November 7, 2024, when it
9 reached the normal operating range of 460 metres to 461.8 metres above sea level.
10 The monitoring of the slopes around the reservoir also commenced at the start of
11 reservoir filling and to date, all reservoir slopes are performing as expected.

12 The Project remains on-track to have all six generating units in-service by the
13 approved final unit in-service date of November 2025. However, there continues to
14 be uncertainty related to achieving the contractual schedules, and there are
15 identified risks that could adversely affect these schedules.

1 On October 27, 2024, the first generating unit (first power) was successfully placed
2 into service approximately six weeks ahead of schedule and began providing
3 electricity to BC Hydro customers.

4 On December 14, 2024, the second generating unit was placed into service
5 approximately two months ahead of schedule.

6 Wet commissioning of the third and fourth generating units is underway.

7 **3.1.1 Reservoir Filling**

8 Reservoir filling was approved and commenced as planned on August 25. In
9 advance of the start of reservoir filling, all required regulatory, construction and
10 commissioning activities were completed. Diversion tunnel 1 was closed on
11 August 28, diversion tunnel 2 was closed on September 4, and water is now being
12 safely passed downstream through the spillway.

13 On October 1, the reservoir filling hold period began. During this period, the reservoir
14 elevation was held within a 1.5 metre range (452.5 metres to 454 metres) for
15 14 days. During the reservoir filling hold period, the structural performance of the
16 dam site water retaining structures, including the earthfill dam, the roller-compacted
17 concrete buttresses, the approach channel and the dam abutments was assessed
18 under stable conditions. Prior to and during the reservoir filling hold period, the dam
19 site water retaining structures were performing as expected, and the Technical
20 Advisory Board and the Engineering Design Team supported the continued filling of
21 the reservoir after the reservoir filling hold period. The reservoir continued to fill at a
22 rate of approximately 0.3 metres per day, reaching the normal reservoir operating
23 range of 460 metres to 461.8 metres above sea level on November 7, 2024. The
24 monitoring of the slopes around the reservoir also commenced at the start of
25 reservoir filling and to date, all reservoir slopes are performing as expected. As the
26 reservoir was filling, it was anticipated that small movements would occur in the
27 slopes around the reservoir, including the appearance of tension cracks and shallow

1 slides along and above the reservoir shoreline. For example, small movements in
2 the slopes near the Moberly confluence and downstream of the historic Attachie
3 slide have occurred. In the area of instability noted downslope of a BC Hydro
4 property near Farrell Creek, the reservoir slopes are performing as expected with
5 some shallow sloughing and erosion. Communication with the residents continues to
6 remind them to avoid the slopes. Some amount of erosion and slope instability has
7 occurred along many sections of the reservoir shoreline. Some of these changes are
8 likely visible to the public, for example from the highway or private properties. All of
9 the changes observed to date are within the range of expectations for slope
10 performance. BC Hydro completed the filling of the Site C reservoir on
11 November 7, 2024. The reservoir has now reached its normal operating range of
12 460 metres to 461.8 metres elevation above sea level.

13 **3.1.2 Main Civil Works**

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

16 *Right Bank Drainage Tunnel and Left Bank Drainage Adit*

17 The operations and maintenance of the right bank drainage tunnel and left bank
18 drainage adit continued during the reporting period. The remaining work required in
19 the right bank drainage tunnel and left bank drainage adit includes structural
20 enhancements to the shotcrete and the rock bolt linings of the tunnels, and the
21 installation of the permanent portal structures and electrical and mechanical
22 systems.

23 *Earthfill Dam*

24 The construction of the earthfill dam is complete, with the exception of some final
25 instrumentation that is being installed and the completion of an earthfill bench on the

1 downstream side of the dam near the powerhouse. The paving of the dam roads is
2 expected to occur in 2025.

3 *Conveyor Belt System*

4 The decommissioning and reclamation of the conveyor belt system that transported
5 glacial till to the earthfill dam is complete. The remediation of the 85th Avenue
6 Industrial Lands is complete and the roads that were removed for till production will
7 be reinstated in 2026.

8 *Main Civil Works Contractor - Work Area Reclamation*

9 The reclamation work for various contractor work areas is in progress. This includes
10 the maintenance shop for the main civil works contractor, which was
11 decommissioned, removed, and remediated in December 2024. Other areas include
12 the roller compacted concrete batch plant and some contractor laydown areas. The
13 main civil works contractor's remaining equipment and materials have been
14 relocated to Area A and are in the process of being removed from the dam site,
15 which is expected to be complete by early 2025.

16 *Area A and Area E Reclamation*

17 The reclamation work for Area A and Area E of the dam site was on-going during the
18 reporting period. The remaining reclamation is scheduled to be performed by First
19 Nations-designated businesses as material stockpiles and construction equipment
20 are removed. Reclamation is expected to continue until 2026.

21 **3.1.3 Generating Station and Spillways**

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

1 *Generating Station and Spillways Civil Works*

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

4 All concrete placements for the powerhouse, intakes and spillways were complete
5 as of March 2024.

6 *Penstocks*

7 The penstock upper flexible couplings (penstock sections that allow the penstocks to
8 expand and contract) were redesigned to fully meet BC Hydro's specifications. The
9 installation of the redesigned upper flexible couplings began in February 2024. The
10 installation of the last of the six redesigned flexible couplings was completed in
11 October, and minimal leakage was detected in the flexible couplers for the three
12 penstocks (penstocks 1, 2 and 3) that have currently been filled with water. This
13 minor leakage was anticipated during the reservoir filling period (due to the added
14 water pressure on the couplers) and has been observed through the onset of cold
15 temperatures. Adjustments will be made to the seals in the flexible couplers
16 following the onset of warmer weather to address any ongoing minor leakage.

17 *Hydromechanical Equipment*

18 The final commissioning is progressing for the six intake gates on permanent power
19 and permanent controls, consistent with the approved schedule. Commissioning of
20 intake gates 1 and 2 was completed in advance of the commencement of reservoir
21 filling in late August and commissioning of intake gate 3 was completed in
22 November. The remaining intake gates are scheduled to be commissioned in 2025
23 in advance of wet testing of their associated generating units.

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

1 The gates will continue to be operated on construction power with temporary
2 controls through the spring of 2025, while the commissioning of the permanent
3 systems progresses.

4 Commissioning is progressing for the six spillway low-level operating gates on
5 permanent power and permanent controls and is scheduled to be completed in the
6 summer of 2025, consistent with the approved schedule.

7 **3.1.4 Right Bank Foundation Enhancements**

8 All the planned work for stabilizing the bedrock foundations for the dam, powerhouse
9 and spillways was complete as of the end of March 2024, except for a couple of
10 minor deficiencies, including riprap placements on the embankment of the tailrace
11 above the water line that were not required to be completed prior to reservoir fill.

12 Construction of the remaining work is scheduled for completion in the summer of
13 2025.

14 **3.1.5 Balance of Plant**

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

19 The mechanical and electrical work continues to progress in the powerhouse.

20 The mechanical contractor has completed the final work on the unit 1 to unit 4
21 common systems and is in the process of transferring the completed work, including
22 the required documentation, over to BC Hydro. The main focus of work for the
23 mechanical contractor is completing the powerhouse systems including domestic
24 water, heating piping and wastewater.

25 The electrical contractor continues the installation of the electrical station service in
26 the powerhouse, intakes, and spillways. In addition, the contractor has completed

1 the four sections of isolated phase bus that connect the generators for unit 1 to
2 unit 6 to the main step-up transformers. All of the work related to connecting the
3 main step-up transformers to the BC Hydro transmission system is complete. The
4 final handover of Transformer 3 is awaiting warmer weather to complete the final
5 outdoor inspections. At the spillway and headworks, the main electrical systems are
6 complete and the contractor is completing the remaining deficiencies.

7 The architectural work in the operations building is nearing completion and the
8 heating, ventilation and air conditioning work continues. The installation of the fire
9 protection is also continuing and the piping portion of the fire protection is nearing
10 completion.

11 The commissioning of the permanent upstream fishway continues.

12 The walls, roof and doors have now been installed in the emergency response
13 building, which is located in the powerhouse yard adjacent to the penstock for
14 generating unit 1. Remaining works includes primarily interior finishes such as
15 framing, lighting and mechanical systems.

16 **3.1.6 Turbines and Generators**

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

20 During the reporting period, the contractor continued working on all turbine and
21 generator units, including the wet commissioning of the first unit. Units one and two
22 are now in service and providing electricity to BC Hydro customers. Wet
23 commissioning of the third generating unit is underway and is expected to be put in
24 service in February.

1 The fourth generating unit is scheduled to be ready for the start of wet
2 commissioning in February 2024. The turbines and generators for units 5 and 6 are
3 scheduled to be ready for wet commissioning in spring 2025.

4 **3.1.7 Transmission**

5 The first of three transmission lines between the powerhouse and the Site C
6 substation was completed and energized in August 2024. The construction of the
7 remaining two transmission lines was completed in November 2024. The second
8 transmission line is scheduled to be energized in January 2025 (completed
9 subsequent to the reporting period on January 17, 2025). The third and final
10 transmission line is scheduled to be energized in coordination with the
11 commissioning and energization of the generator step-up transformers for units 5
12 and 6.

13 **3.1.8 Highway 29 and Hudson's Hope Shoreline Protection Berm**

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

17 *Portage Mountain Quarry*

18 The reclamation of the Portage Mountain Quarry started in August 2023 and the first
19 phase of reclamation was completed in December 2023. Phase two of the
20 reclamation work resumed in June and was completed in December 2024.

21 *Hudson's Hope Shoreline Protection Berm*

22 The shoreline protection berm near Hudson's Hope was completed in
23 November 2022.

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

1 Work on the Hudson's Hope recreation site resumed in May 2024 and is expected to
2 be complete in 2025. The gangway and float installation will occur after the reservoir
3 has been deemed safe for boaters.

4 *Halfway River East Boat Launch*

5 The final work to complete the intersection paving was completed in July 2024. The
6 finishing work and gangway installation will occur after the reservoir has been
7 deemed safe for boaters.

8 **3.1.9 Reservoir**

9 All work under the reservoir subproject has been completed and the contracts have
10 been closed out.

11 **3.1.10 Site Operations and Infrastructure**

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

15 *Worker Accommodation*

16 During the reporting period, the worker accommodation facility housed an average of
17 575 workers daily. The room utilization was 36 percent for this period.

18 The contract for the worker accommodations was originally set to expire on
19 December 31, 2024, based on the Worker Accommodations bed night model.
20 However, based on an updated schedule forecast for the remaining number of
21 workers required to complete the Project, the term of the contract may be extended
22 to July 31, 2025.

23 Options continue to be explored to decommission the remaining worker
24 accommodation camp facilities once they are no longer required for the Project,

1 including discussions with potential buyers of the dormitories to align with work
2 completions.

3 *Debris Management*

4 During the reporting period, the collection and removal of woody debris from the
5 reservoir forebay continued through late November until forebay freeze-up, removing
6 a total of 99,200 cubic metres of debris to date.

7 **3.2 Engineering**

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

13 **3.2.1 Main Civil Works**

14 BC Hydro commenced reservoir filling on August 25, 2024, and on
15 November 7, 2024, the reservoir reached its normal operational level of 460 metres
16 to 461.8 metres elevation above sea level. Instrumentation monitoring and
17 surveillance inspections related to the structural performance of the dam site
18 water-retaining structures, including the earthfill dam, the roller-compacted concrete
19 buttresses, the approach channel and the dam abutments continue to indicate
20 positive results.

21 **3.2.2 Right Bank Foundation Enhancements**

22 BC Hydro continued to engage the independent international dam experts, Technical
23 Advisory Board and other subject matter experts to provide oversight of activities
24 associated with the performance of the foundation enhancements and construction
25 of the Project.

1 **3.2.3 Large Cranes, Hydromechanical, and Turbines and Generators**

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

5 The engineering team oversaw the operation of the spillway gates during the
6 reservoir filling period and early operations phase of the generating station to ensure
7 the safe and reliable performance of the spillway.

8 **3.2.4 Generating Station and Spillways, Balance of Plant, and Equipment** 9 **Supply**

10 During the reporting period, work focused on the production of record drawings for
11 the powerhouse, intakes, penstocks, and spillways. Also, various certificates of
12 compliance were prepared to complete the generating stations and spillways scope
13 of work following reservoir fill. The monitoring of assets is ongoing now that reservoir
14 fill is complete.

15 The balance of plant scope of work continued with the preparation and issuance of
16 issued-for-construction drawings, as needed, to support the integration design for
17 contractor-designed equipment for the balance of plant mechanical; electrical
18 (includes architectural, heating, ventilation, and air conditioning, and fire detection
19 and protection work); and the permanent upstream fishway and other out structures
20 contract packages. The balance of plant team also prepared a proponent technical
21 information package for the permanent electrical and mechanical equipment for the
22 right bank drainage tunnel and left bank drainage adit. Support for the construction
23 and commissioning activities for these contracts, including the review of the
24 technical submittals and contractor design drawings, field reviews, and technical
25 support to the commissioning team, also continued. The balance of plant team also
26 had technical specialists on site to support the water-to-wires equipment
27 (e.g., turbines-generators, isolated phase buses, generator circuit breakers,

1 generator step-up transformers, etc.) commissioning work. The final 13.8 kV
2 emergency backup generator was also delivered to site and placed on a foundation
3 pad.

4 Engineering support to construction for the BC Hydro designed protection and
5 controls and telecom systems continued. With issued-for-construction drawings now
6 being provided by contractors for contractor designed, supplied, and installed
7 equipment, a major focus for the engineering team is integration and interface
8 design and support during integrated testing for BC Hydro protection and control
9 systems that interface with contractor-supplied equipment.

10 **3.2.5 Transmission**

11 Transmission Engineering continues to provide construction support and produce
12 record drawings for the transmission lines that will connect the Site C substation to
13 the Site C powerhouse. Geotechnical engineering support is also being provided to
14 determine potential future maintenance requirements.

15 **3.2.6 Highway 29**

16 Engineering support for record drawings and certificates of conformance are in
17 progress on the Halfway River segment.

18 Engineering support is also being provided for the design of turnarounds as part of
19 the landslide-generated wave response plan.

20 Small, non-structural surface cracks have been identified in the concrete decking of
21 the Halfway River and Cache Creek bridges. These cracks do not pose any safety
22 risks related to the structural integrity of the bridges but may required additional
23 maintenance or repair. The monitoring of these cracks was initiated to determine the
24 root cause and to develop a solution to repair the cracks. A recommendation to
25 repair the cracks is expected in 2025.

1 **3.2.7 Technical Advisory Board and Independent International Dam** 2 **Experts**

3 Video conference meetings continued to be held with the Technical Advisory Board
4 and the independent international dam experts during the reporting period. Updates
5 were provided by the engineering team on the performance of the right bank
6 foundation enhancements, the approach channel, and the earthfill dam during the
7 reservoir filling period. The next advisory board meeting is scheduled for June 2025.

8 **3.3 Quality Management**

9 BC Hydro continues to implement the Site C Quality Management Plan in order to
10 achieve the quality objectives of the Project. When a quality issue is identified during
11 construction, BC Hydro and its contractors continue to work to rectify the issue to
12 ensure that the quality of the completed work achieves the quality specifications.

13 During the reporting period, the performance of the main dam, the approach
14 channel, the structures and the hydromechanical equipment during the reservoir
15 filling and early operations phase has continued to be good and is evidence of the
16 good quality of work during the manufacturing and construction phases of the
17 Project.

18 For the generating station and spillways civil works sub-project, the main
19 construction activities are complete, and BC Hydro is focussing its efforts on
20 rectifying outstanding deficiencies and collating quality documentation to facilitate
21 the handover of assets to the operations team.

22 For the turbines and generators sub-project, unit 1 was put into commercial service
23 on October 27 and continues to perform in accordance with expectations. On
24 November 12, during the commissioning of unit 2, and there was an electrical
25 flashover event on the unit 2 brushgear slipring. BC Hydro and the contractor
26 investigated the root cause of the event, developed corrective actions and
27 implemented the repairs. Unit 2 was put into commercial service on December 14

1 and it continues to perform in accordance with expectations. Lessons learned from
 2 the brushgear flashover event will be applied to all units. For unit 3, the mechanical
 3 offline commissioning (overspeed testing) was successfully completed on
 4 November 25 and online electrical testing will commence in January 2025. For
 5 units 4 to 6, the quality of the assembly and installation work continues to be good
 6 and there are no significant installation quality issues to report.

7 For the electrical and mechanical balance of plant subprojects, there are no
 8 significant quality issues to report.

9 **3.3.1 Quality Nonconformance Management**

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

12 [Table 5](#) summarizes quality nonconformity instances during the reporting period.

13 **Table 5 Quality Management Nonconformity**
 14 **Report (NCRs) Metrics**
 15 **Reporting Period – July 2024 to**
 16 **December 2024**

Contract	NCRs Reported October 1 to December 31, 2024	NCRs Closed October 1 to December 31	NCRs Reported as of December 31, 2024	NCRs Closed as of December 31, 2024	NCRs Open as of December 31, 2024
Turbines and Generators (total = manufacturing + installation)	68 (= 0+68)	101 (= 0+101)	1634 (= 655+979)	1487 (= 646+841)	147 (= 9+138)
Generating Station and Spillways Civil Works	9	21	1888	1881	7

17 **3.4 Commissioning**

18 A comprehensive commissioning plan for the Site C Project has been developed
 19 and is being implemented as equipment is constructed and installed. The plan
 20 includes a detailed schedule to sequence commissioning activities, including each

1 test, its duration, and the resources required. The commissioning process is
2 comprised of safely testing and proving intended function and integration of Site C
3 equipment with other systems.

4 The commissioning of the Site C assets follows a process that includes:
5 testing/pre-commissioning; dry commissioning (energization); wet commissioning
6 (offline); wet commissioning (online); then handover to BC Hydro Operations as the
7 final step.

8 The pre-commissioning testing includes offline testing of individual pieces of
9 equipment. Once the offline testing is completed, BC Hydro prepares and signs a
10 Commissioning Notice to Energize, which states that the asset is safe to connect to
11 the BC Hydro transmission grid and the online testing can commence. At the
12 conclusion of the online testing, the signing of a Commissioning Notice to Operate
13 formalizes the commercial operation and places the unit in service. The
14 commissioning process undertaken for the earthfill dam and associated assets will
15 form part of the comprehensive dam safety and reservoir filling plan.

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

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

22 **3.5 Assets In Service**

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

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

- 3 • Site C substation;
- 4 • 500 kV gas-insulated switchgear expansion at the Peace Canyon substation;
- 5 • Two new 500 kV transmission lines that connect the Site C substation to the
6 Peace Canyon substation;
- 7 • Two of three new 500 kV transmission lines that connect the Site C substation
8 to the Site C powerhouse (second transmission line was completed subsequent
9 to the reporting period on January 17, 2025);
- 10 • Two out of three sets of new Generator Step Up Transformers (second set
11 completed subsequent to the reporting period on January 17, 2025); and
- 12 • Unit 1 and unit 2.

13 **4 Project Schedule**

14 **4.1 Project In-Service Dates**

15 The Project remains on-track to have all six generating units in-service by the
16 approved final unit in-service date of November 2025.

17 [Table 6](#) shows the status of key Project milestones in relation to the approved
18 schedule with a final unit in-service date in November 2025.

1

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	Complete (October 27, 2024)
Unit 2	February 2025	Complete (December 14, 2024)
Unit 3	May 2025	On Track
Unit 4	July 2025	On Track
Unit 5	September 2025	On Track
Unit 6	November 2025	On Track

2

5 Project Governance, Costs and Financing, and Risk

3

5.1 Project Governance

4

During the reporting period, activities supporting Project governance included:

5

- The BC Hydro Board of Directors met in October 2024 and December 2024 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;

6

7

- The Project Assurance Board met in October 2024 and December 2024 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;

8

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

-
- 1 • The commercial sub-committee of the Project Assurance Board continued to
2 meet monthly to provide oversight on claims management, commercial strategy
3 and contractual negotiations;
 - 4 • The Technical Advisory Board continued to provide technical expertise and
5 guidance to the Project Assurance Board and support to the Project team;
 - 6 • Ernst & Young Canada continued to provide independent oversight for the
7 Project, specifically with respect to risk management, which included reviewing
8 Project risks, the analysis of the Project costs, commercial management, and
9 schedule progress;
 - 10 • During the reporting period, BC Hydro and Ernst & Young Canada worked
11 closely and collaboratively to complete a cost risk analysis with a
12 December 1, 2024, data date;
 - 13 • Special advisor Peter Milburn continues to work with the Project to ensure that
14 his recommendations, which have all been implemented, continue to be
15 sustained. Mr. Milburn worked closely with BC Hydro in advance of undertaking
16 the cost risk analysis with a December 1, 2024, data date.

17 **5.2 Project Budget Summary**

18 As of December 31, 2024, the life-to-date actual costs for the Project are
19 \$14.2 billion, which results in an estimated \$1.8 billion of remaining costs based on
20 the forecast of \$16 billion. The Project remains on track to be completed within the
21 budget of \$16 billion which was approved in 2021. BC Hydro, with oversight from the
22 Project Assurance Board, continues to actively manage the Project budget and
23 potential Project risks for the remaining work.

1 **5.3 Project Expenditure Summary**

2 [Table 7](#) includes a breakdown of the \$16 billion Project budget, approved in
 3 June 2021, by key work area, life-to-date actual expenditures to December 31, 2024,
 4 and the remaining budget.

5 **Table 7 Project Budget by Key Work Area**
 6 **(\$ million)**

Description	Project Budget ¹¹	Actuals, Life-to-Date (as of December 31, 2024)	Remaining Budget (as of December 31, 2024)
Dam, Power Facilities and Associated Structures and Transmission ¹²	8,258	8,198	60
Off Dam Site Works, Direct Construction Supervision and Site Services ¹³	2,895	2,468	427
Total Direct Construction Cost	11,153	10,666	487
Indirect Costs ¹⁴	2,082	1,616	466
Total Construction and Indirect Costs	13,235	12,282	953
Interest During Construction and Contingency	2,765	1,894	871
Total	16,000	14,176	1,824

7 [Table 8](#) provides a summary of the approved total Project budget, the current
 8 forecasts, and related variances. The table also presents the cumulative plan and
 9 actual costs to December 31, 2024, and the related variances. The plan amount

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.

1 reflects the Project budget of \$16 billion approved in June 2021 and the related
2 preliminary forecasted annual spend at that time.

3 **Table 8 Total Project Budget Compared to**
4 **Forecast to Completion and Life-to-Date**
5 **Plan Compared to Actuals to**
6 **December 31, 2024 (\$ million)**

Description	Total Project			Life-to-Date (LTD) to December 31, 2024		
	Budget	Forecast to Completion	Variance	Plan	Actual	Variance
Total Construction & Indirect Costs	13,235	13,235	0	12,538	12,282	256
Interest During Construction and contingency	2,765	2,765	0	2,394	1,894	500
Total	16,000	16,000	0	14,932	14,176	756

7 Details of the variances between life to date actual and plan are in [Appendix H](#).

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

10 **Table 9 2024/25 to 2026/27 Service Plan**
11 **Fiscal 2025 Plan Compared to Actuals**
12 **(\$ million)**

Description	2024/25 to 2026/27 Service Plan, Fiscal 2025	Actuals, Fiscal 2025	Variance
Total Project	1,583	1,046	537

13 Details of the variances between actual and plan are in [Appendix H](#).

14 **5.4 Site C Project Financing**

15 Most of BC Hydro’s capital projects, including the Site C Project, are debt financed.
16 The Site C Project costs are included as part of BC Hydro’s overall borrowing and
17 included in the Government of B.C.’s budget and fiscal plan. The debt and related
18 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

For the reporting period ending December 31, 2024, no material opportunities have been identified. Please refer to [Table 10](#) for the list of material project risks.

Table 10 Material Project Risks

Risk Description	Impact and Response Plan Summary
Safety incident resulting in a fatality or disabling injury	<p>Impact: Serious worker injury or fatality; Project delays and associated costs.</p> <p>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.</p>

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

Risk Description	Impact and Response Plan Summary
Adits or right bank drainage tunnel may need additional structural support post reservoir filling	<p>Impact: Requirement for additional structural support, resulting in additional costs.</p> <p>Response: Design additional support as required and implement measures to address as-found conditions.</p>
Defects or deficiencies surface during installation or commissioning for units 3 to 6	<p>Impact: Delay to unit 3 in-service and potential additional costs.</p> <p>Response: A commissioning plan has been developed. The plan is being implemented with commissioning activities starting as early as possible.</p>
Project cannot close out on time	<p>Impact: Project does not transition to operations as planned, requiring additional effort and trailing cost.</p> <p>Response: Prepare and coordinate close out plan with operations; identify key project resources; close out project in segments as it becomes operational; meet the requirements of Generation Project Acceptance Checklist (GPAC)</p>
Risk of contractor claims	<p>Impact: Increased construction management and contract management effort required to respond to and investigate claims; settlement of claims may result in increased costs.</p> <p>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.</p>
Project pays higher contractors' craft labour market increases	<p>Impact: Increased labour market pressures could result in industry benchmarks exceeding the contracted baseline, resulting in Project cost increases.</p> <p>Response: Follow the contractual provisions related to labour escalation rates.</p>
Additional coordination effort required between balance of plant (permanent upstream fishways and other out structures) and other contractors	<p>Impact: Additional interface works identified during wrap-up resulting in additional cost impacts.</p> <p>Response: Define, negotiate, and track performance of the additional wrap-up work.</p>
District of Hudson's Hope may seek further funding for water supply system to address deficiencies	<p>Impact: Additional contribution for the water supply system and potential reputational risk to BC Hydro.</p> <p>Response: BC Hydro has installed a water conveyance system into the shoreline protection berm to enable access by the District of Hudson's Hope. BC Hydro has agreed through an MOU to provide project management and an increased contribution to the cost of the permanent replacement system.</p>
Increasing scope for the Indigenous cultural centre design work	<p>Impact: Redesign or additional design work results in higher cost estimates for the construction of the cultural centre.</p> <p>Response: Continue to engage with Indigenous Nations to obtain their input into the conceptual design. Prepare and evaluate cost estimates prior to construction.</p>

Risk Description	Impact and Response Plan Summary
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: Proactively work 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 required care of water and/or by environmental regulatory enforcement. Response: Negotiate to extend services.

1 **6 Key Procurement and Contract Developments**

2 **6.1 Key Procurements**

3 The vast majority of the major Site C contracts have been awarded. The remaining
4 major procurements on the Project are summarized in [Table 11](#).

1
2

Table 11 Remaining Major Project Procurements and their Planned Delivery Models

Component	Contract	Procurement Model	Anticipated Timing
Permanent Roads	Permanent road construction contract(s)	Design-Bid-Build	Procurement will start in 2025
Cultural Centre	Cultural centre design and construction contract	Design-Build	Procurement will start in 2025
Reclamation Program	Multiple contracts to be awarded over the next two years	Design-Bid-Build	<p>2025 season:</p> <ul style="list-style-type: none"> • Three seedling packages; procurement started in fall 2024 and awarded in January 2025. • Two planting packages identified; procurement started in fall 2024 and awarded in January 2025. • One physical works package identified; procurement started in fall 2024 and is scheduled to be awarded in April 2025. <p>2026 season:</p> <ul style="list-style-type: none"> • Three seedling packages; procurement will start in fall 2025. • Two planting packages identified; procurement will start in fall 2025. • One physical works package identified; procurement will start in fall 2025.

3 **6.2 Major Construction Contracts Exceeding \$50 Million**

4 Since inception of the Project, 14 major construction contracts have been awarded
5 that exceed \$50 million in value, as shown in [Table 12](#). The contract values reflect
6 the current value including executed approved changes to the end of the reporting
7 period.

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

1
2

Table 12 Major Project Construction Contracts Awarded

Contract	Contract Value at December 31, 2024 ¹⁶ (\$ million)	Contract Execution Date
Site Preparation: North Bank	60	July 2015
Worker Accommodation	709	September 2015
Main Civil Works ¹⁷	3,355	December 2015
Turbines and Generators	621	March 2016
Transmission and Clearing	92	October 2016
Quarry and Clearing ¹⁸	150	February 2017
Generating Station and Spillways Civil Works ¹⁹	3,075	March 2018
Hydromechanical Equipment	80	April 2018
Transmission Line Construction	139	May 2018
Clearing and Aggregates	80	December 2018
Highway 29	379	October 2019
Balance of Plant Mechanical	105	July 2021
Balance of Plant Electrical (includes balance of plant architectural; heating, ventilation, and air conditioning; and fire detection and protection work)	328	September 2021
Balance of Plant Permanent Upstream Fishway and Other Out Structures	119	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 The Quarry and Clearing value only reflects work executed under the blanket Master Services Agreement related to construction. Unique purchase orders with this vendor not under this Master Services Agreement are not included in this table but are identified in Table F-2 where they exceed \$10 million.

¹⁹ Includes some of the scope of work for the right bank foundation enhancements.

1 **6.3 Contracts Exceeding \$10 Million**

2 For open contracts procured and awarded in excess of \$10 million, refer to
3 [Appendix F](#).

4 **6.4 Contract Management**

5 **6.4.1 Material Changes to the Major Contracts**

6 The main civil works contract is a unit price contract and, as such, variations in
7 quantities and design are expected over the term of the contract. Since contract
8 award in December 2015, the main civil works contract value has increased by a
9 total of \$1.61 billion to reflect approved changes to December 31, 2024. These
10 approved changes include work for the right bank foundation enhancements. The
11 overall contract value has decreased this quarter as variations in quantities are
12 reconciled and finalized for the completed scopes of work. The contractor has now
13 achieved substantial completion under the contract.

14 The generating station and spillways contract is also a unit price contract and, as
15 such, variations in quantities and design are expected over the term of the contract.
16 Since contract award in March 2018, the generating station and spillways contract
17 value has increased by a total of \$1.47 billion to reflect approved changes to
18 December 31, 2024. These approved changes include work for the right bank
19 foundation enhancements and diversion tunnel backfilling.

20 The turbines and generators contract is a milestone based contract for the design,
21 supply, installation, testing and commissioning of six turbines, generators, governors
22 and exciters. Since the March 2016 contract award date, the contract has increased
23 by a total of \$156.8 million to reflect approved changes to December 31, 2024,
24 which includes contract amendments in 2022 and 2024.

25 The balance of plant contracts are split between three contractors and include the
26 following scopes of work: (1) mechanical; (2) electrical (includes architectural,

1 heating, ventilation, and air conditioning, and fire detection and protection work); and
2 (3) permanent upstream fishway and other out structures. Since the contract award
3 dates in 2021 and 2022, the contract values have increased to reflect approved
4 changes to December 31, 2024 as follows: the mechanical contract has increased
5 by a total of \$34.6 million, the electrical contract has increased by a total of
6 \$103.0 million, and the permanent upstream fishway and other out structures has
7 increased by a total of \$31.9 million.

8 **7 Indigenous Engagement**

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

15 During the reporting period, BC Hydro continued to engage with Indigenous Nations
16 on Project activities and milestones through regular Project update meetings and
17 other venues.

18 BC Hydro held a meeting with the Reclamation Sub-committee, established to
19 engage with Indigenous Nations on the plans to reclaim work areas used during the
20 construction of Site C. The committee reviewed positive progress towards
21 implementing reclamation plans as construction winds down. The Reclamation Sub-
22 committee has provided valuable input to Site C reclamation planning and will
23 continue to monitor the implementation of those plans.

24 In November, BC Hydro concluded the Cultural Monitoring Program and hosted a
25 farewell event for the last shift of cultural monitors. Over the past six years,
26 114 monitors from six Treaty 8 First Nations participated in the program, monitoring

1 construction activities throughout various components of the Site C Project. The
2 monitors' contributions and input have helped guide BC Hydro's approach to
3 construction and mitigating impacts to fish, wildlife, and cultural heritage resources,
4 and BC Hydro plans to continue to share knowledge through future projects and
5 ongoing operations.

6 **7.1 Indigenous Procurement, Training and Employment**

7 BC Hydro continues to advance economic opportunities for Indigenous Nations
8 through capacity building and procurement opportunities. Over \$807 million in Site C
9 directed procurement opportunities have been awarded to companies designated by
10 Indigenous Nations since the beginning of the Project, pursuant to BC Hydro's
11 Indigenous Procurement Policy. Information on BC Hydro's Indigenous Procurement
12 Policy can be found on the BC Hydro website at the following link:
13 <https://www.bchydro.com/work-with-us/suppliers/indigenous-procurement.html>.

14 In November 2024, 142 Indigenous people were working on the Site C Project,
15 which represents approximately 10 percent of the total workforce.

16 **7.2 Cultural Centre**

17 BC Hydro continued to work with Indigenous Nations on the development of the
18 future cultural centre. The cultural centre project is an important accommodation for
19 the cultural impacts of Site C. The facility will showcase local Indigenous culture and
20 history in the region, and store and display many of the artifacts uncovered during
21 the construction of Site C. During the reporting period, BC Hydro hosted one
22 workshop to discuss the details of the cultural centre building design with
23 participating Nations and hosted one First Nation community meetings /
24 presentations.

1 **8 Litigation**

2 The details of open proceedings as of December 31, 2024, are summarized in
3 [Table 13](#).

4 **Table 13 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
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.	October 24, 2022
	Response to claim filed.	January 5, 2023
Impact Drywall Inc.	Civil claim served.	July 12, 2024
	No steps have been taken in litigation that require a response from BC Hydro.	
B.C. Supreme Court: Civil Claims – <i>Expropriation Act</i>		
Property owners	Of 27 notices of claims filed to keep open each plaintiffs' rights to claim further compensation under the <i>Expropriation Act</i> , 11 have been resolved during this period and 16 remain active. BC Hydro has filed responses to all of the outstanding claims.	July 2019 to December 31, 2024

9 Permits and Government Agency Approvals

The regulatory, permits and tenures performance indicator on the Project status dashboard in section [1.7](#) remains “green.” As of December 31, 2024, almost all permits (approximately 97%) for the construction of the Project have been issued.

The remaining approvals for the construction are related to the permanent upstream fishway (Leave to Commence Operation, anticipated in Spring 2025), the future Peace River Construction Bridge decommissioning, minor works on Highway 29 (e.g., turnarounds) and the construction of the future Cultural Centre. All construction permits continued to be managed and renewed as needed for demobilization and reclamation works.

All key permits and approvals for Operations have been issued. These include:

- *Fisheries Act* Authorization, issued in July 2016 and amended in July 2022;
- *Canadian Navigable Water Act* approval, issued in July 2016 and most recently amended in April 2024;
- Conditional Water Licences 132990 (for diversion and use of water) and 132991 (for the storage of water), issued in 2016; and
- Conditional Water Licence for the Permanent Upstream Fishway, issued in 2018

Multiple conditions are attached to construction and operations permits and approvals. As of December 31, 2024, all required conditions and submissions have been met in accordance with the schedule and requirements of the conditions.

9.1 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

1 regulatory agencies, the Independent Environmental Monitor, BC Hydro, and
2 contractors.

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

8 In spring 2025, BC Hydro will seek an amendment to the Environmental Assessment
9 Certificate to approve the increased installed capacity of the generating units from
10 1,100 megawatts (**MW**) to between 1,150 MW and 1,230 MW. This amendment is
11 required because the as-built generating units are more efficient and able to produce
12 more power with the same amount of water than anticipated during the
13 environmental assessment. Our assessment shows that the effects of the
14 amendment on the Project's valued components (e.g., fish, wildlife, vegetation) are
15 not expected to be different from what was assessed in the Project's Environmental
16 Impact Statement (**EIS**). The change is anticipated to provide a benefit to the
17 province, generating electricity for more homes than anticipated in the environmental
18 assessment.

19 BC Hydro remains in compliance with all requirements of the Environmental
20 Assessment Certificate amendments.

21 All amendments and amendment requests are posted on the Environmental
22 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, all mitigation, monitoring and management plans and related reports can be found on the Site C Project website at this link: [Environmental & Socio-Economic Plans & Reports | Site C \(sitecproject.com\)](#).

10.2 Project Environmental Compliance

Environmental compliance on the Project remains high.

During the reporting period the Environmental Assessment Office (**EAO**) conducted a single on-site inspection on the Project on October 9, 2024. This inspection focused on waste management, acid rock drainage management, fish passage, and reclamation. A final inspection report for this inspection was received on October 25, 2024, and it concluded the Project complied with all requirements. On November 6, 2024, the Environmental Assessment Office issued a final inspection report based on a site inspection in June 2024, and information requests BC Hydro responded to in July 2024. That inspection report focussed on Methylmercury monitoring, acid rock drainage, the implementation of a recreation fund, invasive weed management, erosion and sediment control, and residential water well monitoring. The report concluded that the Project was in compliance with all but one of the issues (erosion and sediment control) and the non-compliance was remedied within days of its discovery in June.

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

1 rock sites located within the reservoir are rendered inert now that the reservoir is
2 filled. Any potentially acid-generating rock sites remaining outside the reservoir post
3 construction will be addressed through location specific prescriptions provided by
4 qualified environmental professionals.

5 The April 2022 Environmental Assessment Office order related to potentially
6 acid-generating rock exposures necessitated revisions to the Construction
7 Environmental Management Plan. The revision process began in October 2022, and
8 included a consultation period, which was initiated in April 2023 and concluded in
9 October 2023 when BC Hydro published the revised plan on the Project website,
10 and notified regulators that the revised plan would be followed from that date
11 forward.

12 In parallel with these revisions, this order accelerated the need to consider potential
13 mitigation options for potentially acid-generating rock exposures on the dam site that
14 will not be covered by the reservoir. For this, the Project is seeking engineered
15 options and cost estimates for a subset of the potentially acid-generating rock
16 exposures across the Project that were not inundated by the reservoir or that have
17 been identified in past Environmental Assessment Office inspection reports. The
18 Environmental Assessment Office continues to assure BC Hydro that it will not
19 pursue enforcement against the April 2022 order.

20 **10.4 Temporary and Permanent Fish Passage Facilities**

21 During the reporting period, BC Hydro continued to commission the permanent fish
22 passage facility. The commissioning activities were temporarily suspended on
23 October 2, 2024, to allow for modifications and repairs to be completed during the
24 winter closure period related to several deficiencies. These deficiencies include
25 leakages at several locations (the fish gate lock, the flow meter, and the air vacuum
26 release valve), mechanical issues (the wheels needed on the brail hoist, issues with

1 the finger weir), and to complete the final document submittals. These modifications
2 and repairs are planned to be completed during the winter closure period.

3 **10.5 Wetland Compensation Plan**

4 BC Hydro and the contractor continue to work on advancing wetland re-builds and
5 new construction options in the Peace Region. The main focus during the reporting
6 period was investigating potential wetland compensation sites and refining the
7 assessment of wetlands impacted by the Project.

8 **10.6 Greenhouse Gas Monitoring**

9 In October 2022, BC Hydro began collecting data to support a pre-reservoir fill
10 greenhouse gas (**GHG**) emission study. Three locations upstream of the dam site
11 were selected for terrestrial flux-chamber measurements, and soil organic carbon
12 and vegetation sampling. Monitoring at these three locations continued through the
13 reporting period. In August 2024, two GHG monitoring stations were installed as part
14 of the Greenhouse Gases Monitoring and Follow-Up Program. A draft version of the
15 Plan was submitted to regulators in January 2025.

16 **10.7 Agricultural Mitigation and Compensation Plan**

17 The BC Hydro Peace Agricultural Compensation Fund winter intake period closed
18 on August 30, 2024, with the application review process taking place on
19 November 7, 2024. During this reporting period, BC Hydro distributed approximately
20 \$71,314 in grant funding to five projects to support agricultural production and
21 related economic activity in the Peace Region. As of December 31, 2024, the fund
22 had distributed more than \$3.6 million to 115 projects.

23 The five-year review of the BC Hydro Peace Agriculture Compensation Fund was
24 ongoing during the reporting period.

1 **11 Employment and Training Initiatives and Building**
2 **Capacity Initiatives**

3 **11.1 Labour**

4 Since the beginning of the Project, unions that have participated in the construction
5 of Site C are listed in [Table 14](#).

6 **Table 14 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

7 In addition, 10 unions affiliated with the B.C. Building Trades are signatory to the
8 special project needs agreement for the installation of the turbines and generators.

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

11.2 Employment

Contractors submit monthly workforce data electronically to BC Hydro. [Table 15](#) presents the monthly number of construction contractors, non-construction contractors, engineers, and Project team workers for this reporting 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 15 Site C Jobs Snapshot Reporting Period –
 October 2024 to December 2024**

Month	Number of B.C. Primary Residents ²⁰	Total Number of Workers ²¹
October 2024	1,840	2,379
November 2024	1,735	2,149
December 2024	1,455	1,866

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

In December 2024, there were 1,866 total workers on the Site C Project. Residents of British Columbia made up 78% of the workforce (1,455), while 22% of the on-Site Contractor workforce (275 workers) lived in the Peace River Regional District. The on-Site Contractor workforce number also includes 16% women (197 workers) and 5% Indigenous (66 workers). There were 89 apprentices working on the Project, which is 20% 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,

²⁰ 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.

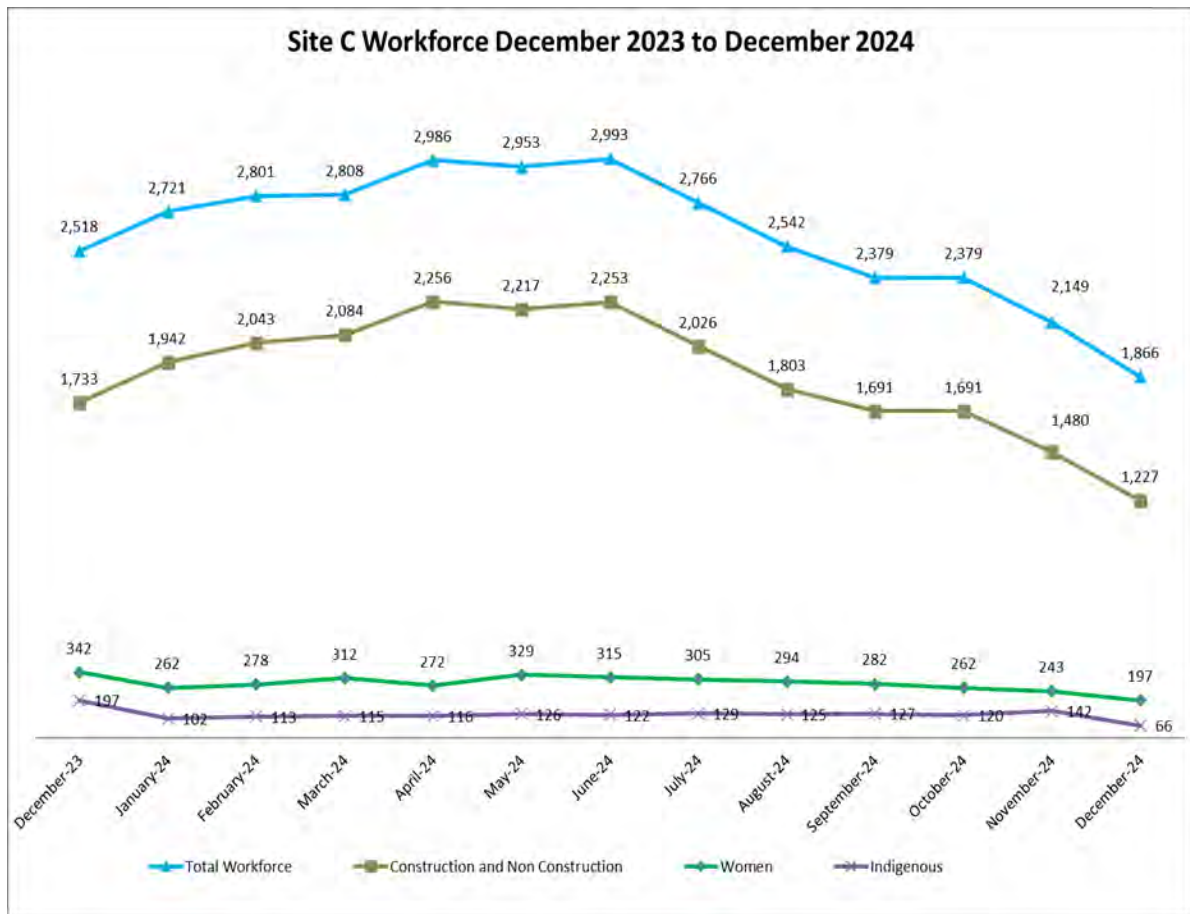
²¹ Total workers include:

- 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.

1 boilermakers and plumbers. Refer to [Appendix D](#) for an overview of the current
2 Site C workforce that includes the following information from October to December
3 2024: the Site C jobs snapshot ([Table D-1](#)), the Site C apprentices snapshot
4 ([Table D-2](#)), the Site C job classification groupings ([Table D-3](#)), and the Indigenous
5 inclusion snapshot ([Table D-4](#)).

6 [Figure 3](#) shows the monthly Site C workforce over the period from
7 December 1, 2023, to December 31, 2024.

8 **Figure 3 Site C Workforce December 2023 to**
9 **December 2024²²**



²² The Indigenous workers and women workers numbers are a subset of the construction and non-construction contractors workforce number.

1 **11.3 Training and Capacity-Building Initiatives**

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

5 Northern Lights College Foundation continues to distribute the BC Hydro Trades and
6 Skilled Training Bursary Awards, established in 2013. As of December 31, 2024, a
7 total of 295 students had received bursaries, including 137 Indigenous students who
8 have benefitted from the bursary in programs such as electrical, welding, millwright,
9 cooking, social work, and many others.

10 *Joint BC Hydro and Contractor Site Training*

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

16 **11.4 Labour and Training Plan**

17 In accordance with an Environmental Assessment Certificate condition, a Labour
18 and Training Plan was developed and submitted to the Environmental Assessment
19 Office on June 5, 2015. This plan, as well as Environmental Assessment Certificate
20 Condition 45, include annual reporting requirements to support educational
21 institutions in planning their training programs to support potential workers in
22 obtaining Project jobs in the future. This report has been issued to the appropriate
23 training institutions in the northeast region annually since 2016. The latest report
24 was issued in August 2024.

12 Community Engagement and Communication

12.1 Local Government and Community Engagement Activities

BC Hydro continues to advance commitments within five community agreements: the District of Chetwynd (2013), the District of Taylor (2014), the City of Fort St. John (2016), the District of Hudson’s Hope (2017), and the Peace River Regional District (2024). The community agreement between BC Hydro and the Peace River Regional District was finalized on May 8, 2024.

The Regional Community Liaison Committee (**RCLC**), which is comprised of local elected officials and local First Nations communities, met for a final time on November 27, 2024.

Over the construction period, the RCLC has been a valuable forum for BC Hydro to share Project updates and receive information from community representatives – helping to identify and address important issues in a timely manner.

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 participated as committee members. Representatives from the Project’s major contractors also attended the meetings as invited guests.

12.1.1 District of Hudson’s Hope Water System

In fall 2022, the District of Hudson Hope initiated a three-phase plan to switch its raw water source from a 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 of Hudson Hope has installed a temporary surface water intake along with upgrades to the treatment facility and is providing the community with potable water. In September 2024, BC Hydro submitted a revised proposal to the District of Hudson Hope, which included a

1 commitment to complete the permanent water treatment system and fund the rental
2 of a water clarifier until the permanent clarifier is operational. Based on BC Hydro's
3 revised offer, the District of Hudson Hope and BC Hydro signed a Memorandum of
4 Understanding in December 2024.

5 BC Hydro and the District of Hudson Hope continue to negotiate the terms of a final
6 agreement.

7 **12.1.2 Generate Opportunities Fund**

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

12 The GO Fund is administered by Northern Development Initiative Trust on behalf of
13 BC Hydro. During this reporting period, BC Hydro distributed approximately
14 \$62,000 to nine non-profit organizations in the Peace Region and as of
15 December 31, 2024, 115 projects had received approximately \$984,000 since the
16 fund was launched.

17 More information about the GO Fund can be found at the following link: [Generate](#)
18 [Opportunities \(GO\) Fund | Site C \(sitecproject.com\)](#).

19 **12.1.3 Community Relations and Construction Communications**

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

1 *Community Engagement*

2 Reservoir filling continued during the reporting period, with the water level rising to
3 the normal operating range in early November 2024 of 460 metres to 461.8 metres
4 elevation above sea level. It was announced that filling was complete, after
5 11 weeks, on November 7. Local governments in B.C. and Alberta, along with
6 provincial and territorial governments, the Site C Regional Community Liaison
7 Committee (**RCLC**), the Peace Valley Landowners Association (**PVLA**), and the
8 Peace Williston Advisory Committee (**PWAC**) were kept informed of filling progress
9 via emails on October 3, 28 and November 7. Some downstream local governments
10 had some questions about the potential effects on municipal water intake systems.
11 Flow information was provided that included cautions that the information was
12 subject to change based on BC Hydro customer electricity demand and the ongoing
13 severe regional drought. Additional information requests by local governments on
14 reservoir filling and downstream flows were responded to on an individual basis.
15 While the discharge from Site C was at times near the licenced minimum during
16 reservoir filling, no local governments have indicated that the flows caused a
17 disruption in the water supply to their residents.

18 Regular updates on the progressive stages of reservoir filling were captured by our
19 photo and video contractor and posted on the Project website for public view.

20 Communications to local, provincial and territorial governments, the Site C RCLC
21 and the PWAC about the progress related to the installation of generating units at
22 Site C included the announcement on October 28 that unit 1 was operational,
23 marking a major Project milestone. On December 14, unit 2 went into service and
24 the announcement was released via email. The RCLC, which is comprised of local
25 elected officials and local First Nations communities, met for a final time on
26 November 27, 2024.

1 *Business Liaison and Outreach*

2 No procurement notifications were sent out during the reporting period.

3 *Construction Bulletins*

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

7 *Public Enquiries*

8 In total, BC Hydro received 63 public enquiries between October 1 and
9 December 31, 2024. [Table 16](#) shows the breakdown of some of the most common
10 enquiry types.

11 In total, BC Hydro has received more than 14,800 enquiries since August 2015.

12 **Table 16 Public Enquiries Breakdown by Topic**

Enquiry Type ²³	October 1 to December 31, 2024
Employment Opportunities	7
Business Opportunities	2
General Information	19
Construction Impacts ²⁴	0
Other ²⁵	13

²³ 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.

²⁴ The nature of the construction impact enquiries are primarily related to air quality and dust, traffic and road conditions, and safety.

²⁵ "Other" accounts for enquiries related to a variety of other topics, such as wildlife and beavers, river closure, and tour requests.

1 12.2 Human Health

2 12.2.1 Health Care Services Plan and Emergency Service Plan

3 The on-site health clinic provides workers with access to primary and preventative
4 health care and work-related injury evaluation and treatment services and is
5 currently open seven days a week, 24 hours a day. Since opening the health clinic,
6 there have been more than 53,165 patient interactions. During the reporting period,
7 there were 534 patient interactions, of which 261 were occupational and
8 273 non-occupational. Several preventive health themes were provided to workers
9 during the reporting period, including information on Influenza, awareness around
10 headaches, and the effects of alcohol.

11 *Property Acquisitions*

12 Property acquisitions required for the Project are now complete.

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

17 13 Plans During Next Six Months

18 [Table 17](#) shows the key milestones for the Project over the next six months, from
19 January 2025 to June 2025, including the work to complete the remaining four
20 generating units on the Site C Project.

21 Plan dates will be adjusted as contract changes are approved to amend milestone
22 dates. BC Hydro remains on track to achieve the approved final unit in-service date
23 of November 2025.

1
2
3

Table 17 Key Milestones for Activities Planned During the Next Six Months (January 2025 to June 2025)

Milestone	Performance Measurement Baseline (June 2021 ²⁶)	Plan Date (Control Date ²⁷)	Forecast ²⁸	Status (Measured by Month)
Turbines and Generators				
Unit 3 – Ready to Turn	October 2023	October 2024	November 2024	Complete (November 7, 2024)
Unit 4 – Ready to Turn	December 2023	January 2025	February 2025	Late
Unit 5 – Ready to Turn	February 2024	April 2025	April 2025	On Track
Unit 6 – Ready to Turn	April 2024	June 2025	June 2025	On Track
Unit 1 – In-Service Date	December 2024	December 2024	October 2024	Complete (October 27, 2024)
Unit 2 – In-Service Date	February 2025	February 2025	December 2024	Complete (December 14, 2024)
Unit 3 – In-Service Date	May 2025	May 2025	February 2025	On Track
Unit 4 – In-Service Date	July 2025	July 2025	March 2025	On Track
Unit 5 – In-Service Date	September 2025	September 2025	May 2025	On Track
Transmission				
5L16 In-Service Date	July 2023	July 2023	January 2025	Complete (January 17, 2025)
5L17 In-Service Date	July 2023	July 2023	May 2025	Late

4 **14 Impacts on Other BC Hydro Operations**

5 During the reporting period, the engineering team continued to work closely with
6 BC Hydro Operations to coordinate the Site C spillway operation with commissioning
7 of the Site C generating units, while balancing upstream flows from Peace Canyon
8 Generating Station.

²⁶ The Performance Measurement Baseline 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.
²⁷ As of January 1, 2025, control dates reflect plan, adjusted for approved contract changes to milestone dates.
²⁸ Forecast dates reflect schedule progress up to January 1, 2025.

Site C Clean Energy Project

Quarterly Progress Report No. 36

Appendix A

Site Photographs

Figure A-1 The sidewinder boat is used to move logs and woody debris from the reservoir to the shoreline



Figure A-2 The last set of three transformers is connected to the transmission system



Figure A-3 Transmission connection is complete with all three sets of transformers connected



Figure A-4 The Site C reservoir at the dam and approach channel



Figure A-5 Panorama of the Site C reservoir at the confluence of the Moberly River



Figure A-6 Completed drainage management structure



Figure A-7 Unit 1 through 6 in the powerhouse

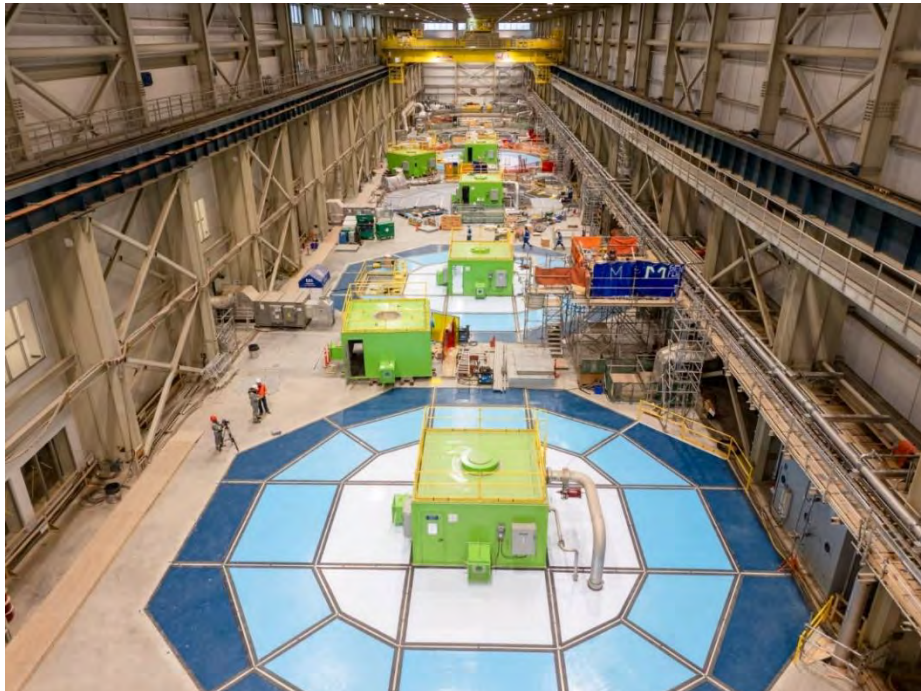


Figure A-8 Brazing stator windings on turbine unit 6



Figure A-9 Unit 6 through 1 in the powerhouse



Figure A-10 The Site C dam and generating station in October 2024



Figure A-11 Two 500-kilovolt transmission lines transport electricity generated at Site C into the BC Hydro transmission grid



Figure A-12 Reservoir filling is underway with water flowing through the spillways to maintain downstream flows



Figure A-13 The Site C reservoir at the dam, with the Moberly River at centre



Figure A-14 A cofferdam nears completion at the diversion outlet portals



Figure A-15 Unit 1 is generating power from Site C and water is passed through the spillways to maintain downstream flows



Site C Clean Energy Project

Quarterly Progress Report No. 36

Appendix B

**Work Completed Since Project Commencement
in 2015**

1 Construction began on July 27, 2015, and is ongoing. Since the commencement of
2 construction, the following work has been completed up to the end of the reporting
3 period:

- 4 • Site preparation, including onsite access roads;
- 5 • Clearing of the left and right banks at the dam site and clearing of the lower
6 reservoir area;
- 7 • Construction of the worker accommodation lodge and Peace River construction
8 bridge;
- 9 • Powerhouse excavation, and the placement of 650,000 cubic metres of
10 roller-compacted concrete in the powerhouse buttress;
- 11 • Spillways excavation, and the placement of 600,000 cubic metres of
12 roller-compacted concrete in the spillways buttress;
- 13 • Construction of dam site access public roads;
- 14 • Construction of the Site C viewpoint;
- 15 • Construction of 50 affordable housing units in Fort St. John;
- 16 • Fish habitat enhancements downstream of the dam site;
- 17 • Excavation of the diversion tunnel inlet (upstream) and outlet (downstream)
18 portals, allowing for the commencement of diversion tunnel excavations;
- 19 • Excavation of the right bank drainage tunnel, which will be used to monitor and
20 drain the water from within the foundation under the powerhouse, spillways and
21 dam buttresses and will be connected to services within the powerhouse;

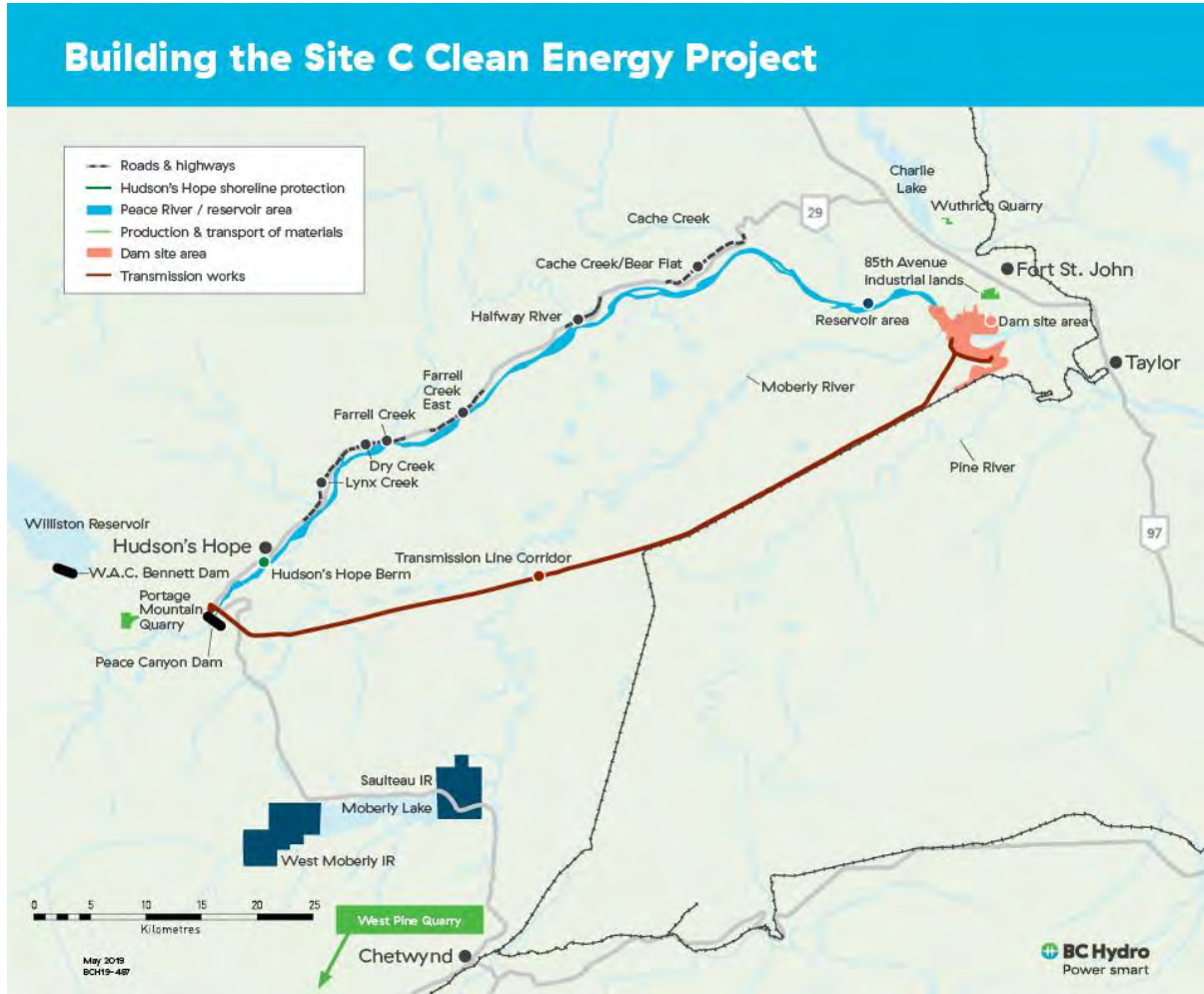
-
- 1 • Completion of two river diversion tunnels, which are used to reroute a short
2 section of the Peace River to allow for the construction of the main earthfill
3 dam;
 - 4 • Completion of the upstream and downstream cofferdams;
 - 5 • Construction and commissioning of the temporary fish passage facility;
 - 6 • Diversion of the Peace River around the Site C construction site;
 - 7 • Completion of the Peace Canyon 500 kV gas-insulated switchgear expansion to
8 enable connection of Site C to the BC Hydro electrical system;
 - 9 • Completion of the Site C substation and the first of two new 500 kV
10 transmission lines that connect Site C to the Peace Canyon generating station;
 - 11 • Completion of the initial concrete work inside the 454-metre-long left bank
12 drainage adit;
 - 13 • Earthfill dam excavation, and the placement of 450,000 cubic metres of
14 roller-compacted concrete in the dam and core buttress, marking the
15 completion of the Project's overall roller-compacted concrete placement
16 program. In total, nearly 1.7 million cubic metres of roller-compacted concrete
17 was placed since 2017;
 - 18 • Completion of the steel super-structure for the powerhouse;
 - 19 • Completion of the second of two new 500 kV transmission lines that connect
20 Site C to the Peace Canyon generating station;
 - 21 • Completion of the bridges at Dry Creek, Lynx Creek, Farrell Creek, Halfway
22 River, and Cache Creek as part of the Highway 29 realignment;
 - 23 • Completion of the shoreline protection berm at Hudson's Hope;
 - 24 • Completion of the Maurice Creek spawning shoals;

-
- 1 • Completion of the headworks gantry crane;
 - 2 • Completion of the concrete work for the intakes;
 - 3 • Completion of the 96 steel piles in the spillway and downstream of the
 - 4 powerhouse, as part of the right bank foundation enhancements;
 - 5 • Completion of the concrete pile caps in the powerhouse tailrace excavation;
 - 6 • Completion of the Highway 29 realignment;
 - 7 • Decommissioning of the old sections of Highway 29 that were realigned;
 - 8 • Completion of the earthfill dam to the elevation required to enable reservoir
 - 9 filling;
 - 10 • Completion of the tunnel conversion process, which involved installing four
 - 11 large rings inside one of the two tunnels that are diverting the Peace River
 - 12 around the dam site, to restrict the flow of water through the tunnel;
 - 13 • The removal of the right bank cofferdam and the placement of riprap in the
 - 14 tailrace channel;
 - 15 • The completion of the approach channel, including the enhancements that were
 - 16 part of the right bank foundation enhancements. These enhancements included
 - 17 bedrock surface excavations and cleaning, the installation of waterproofing
 - 18 lining materials, grouting, and reinforced concrete and granular fill placements;
 - 19 • The final placements of riprap in the approach channel;
 - 20 • Completion of all concrete placements in the powerhouse;
 - 21 • The installation of all six turbine runners;
 - 22 • Assembly and installation of the three transmission towers on top of the intake
 - 23 structures for the transmission lines that connect the Site C substation to the
 - 24 powerhouse;

-
- 1 • Completion of the coatings for the penstocks;
 - 2 • Substantial completion of the construction of the earthfill dam including the final
 - 3 work on the toe of the dam, road construction, and the installation of the duct
 - 4 banks for lighting and instrumentation;
 - 5 • Construction of the permanent fishway;
 - 6 • Installation of all six upper flexible couplers on the penstocks;
 - 7 • The first 500 kV transmission line between the Site C substation and the Site C
 - 8 powerhouse was successfully energized;
 - 9 • The approval and commencement of reservoir filling. In advance of the start of
 - 10 reservoir filling, all required regulatory, construction and commissioning
 - 11 activities were completed;
 - 12 • Closure of both diversion tunnels 1 and 2;
 - 13 • Generating unit 1 brought into service;
 - 14 • The safe completion of reservoir filling;
 - 15 • Generating unit 2 brought into service; and
 - 16 • The second 500 kV transmission line between the Site C substation and the
 - 17 Site C powerhouse was successfully energized (subsequent to the reporting
 - 18 period on January 18, 2025).

19 [Figure B-1](#) shows the location of the key Site C components that are being
20 constructed.

1 **Figure B-1 Site C Project Components**



Site C Clean Energy Project

Quarterly Progress Report No. 36

Appendix C

Safety

1 **Safety Incidents**

2 From October 1 to December 31, 2024, three serious safety incidents and one
3 serious lost time injury were recorded. In addition, there were three all-injury
4 incidents requiring medical treatment.

5 *Serious Safety Incidents:*

- 6 1. A serious lost time injury occurred during the pressure testing of an air
7 admission line when the test plug released, striking the worker in the lower leg.
8 The worker was hospitalized and required surgery;
- 9 2. A serious incident occurred when a worker's foot was run over by a reversing
10 truck. No serious injuries;
- 11 3. A serious near miss occurred when a worker using a battery-operated bandsaw
12 cut into a live 600 V cable causing a small arc and tripping the breaker; and
- 13 4. A serious near miss occurred when workers knocked a 2-inch piece of railing,
14 causing it to fall 20 feet onto the walkway below.

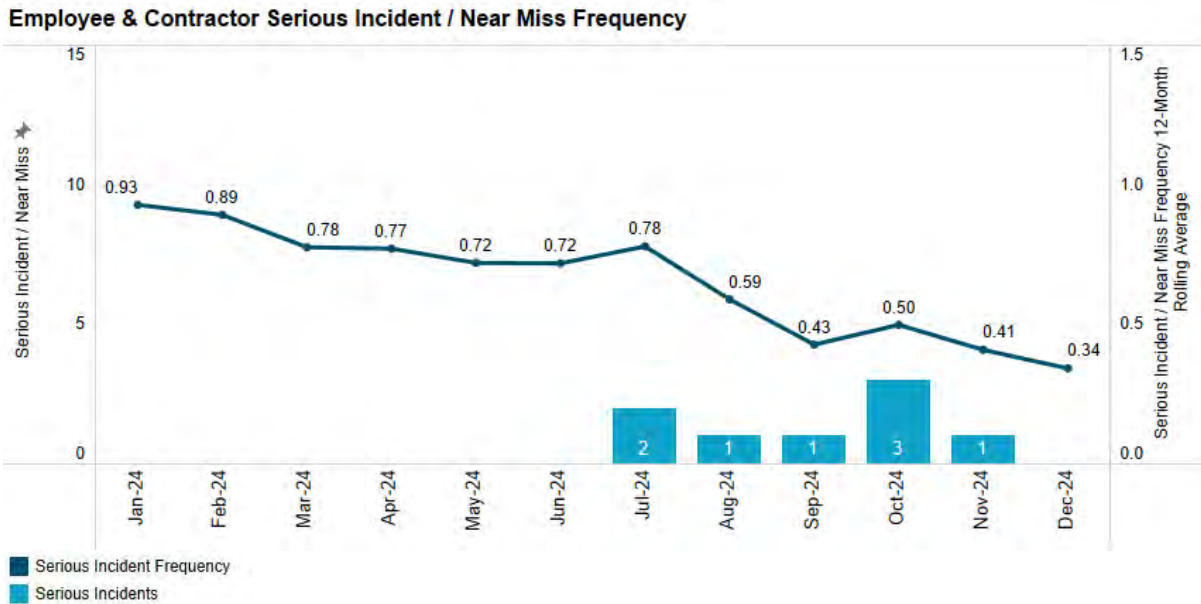
15 *All Injury Incidents (includes all work-related medical attention requiring treatment* 16 *incidents, lost time injuries, and fatalities):*

- 17 1. A worker experienced eye irritation when welding and grinding and required
18 medical treatment to remove a small metal fragment;
- 19 2. A lost time injury occurred during the pressure testing of an air admission line
20 when the test plug released, striking the worker in the lower leg. The worker
21 was hospitalized and required surgery; and
- 22 3. A worker cut their finger while attempting to retrieve a metal part from tight
23 location.

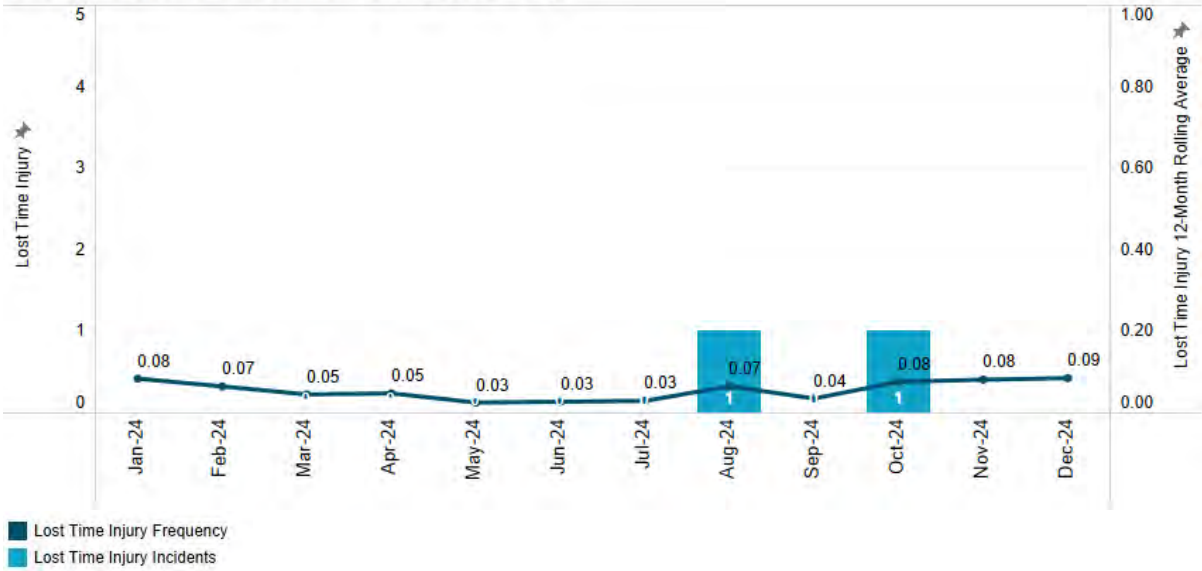
1 *Safety Performance Frequency Metrics*

2 The following graphs provide information on employee and contractor serious
3 incidents/near miss frequency, lost time injury frequency and all-injury frequency
4 from January 2024 to December 2024.

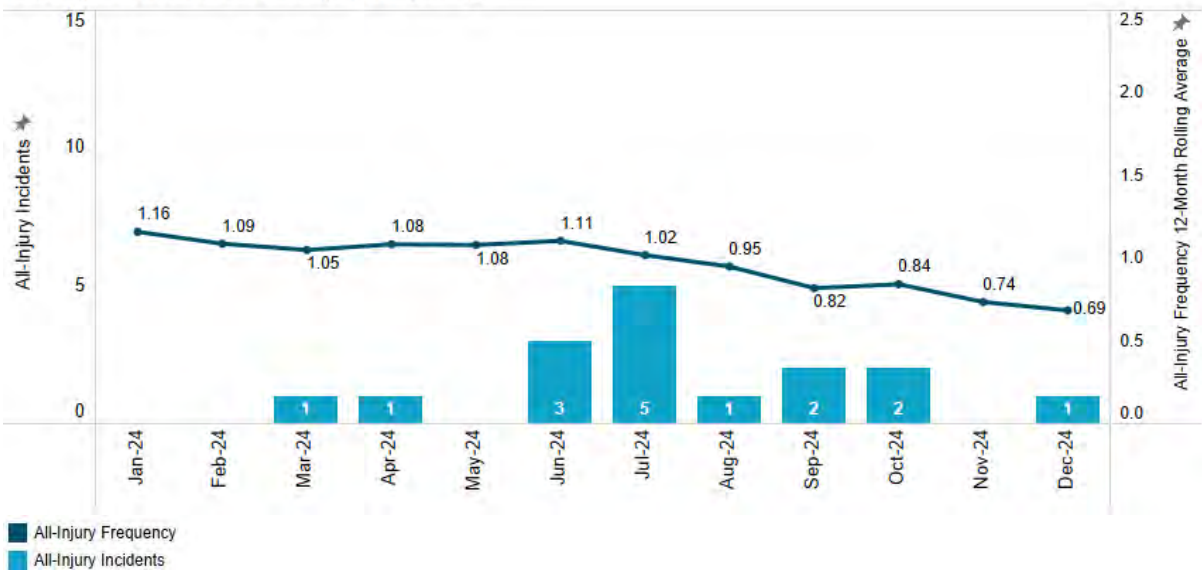
5 **Figure C-1 Employee and Contractor Serious Incident/Near Miss**
6 **Frequency, Lost Time Injury Frequency and All-injury**
7 **Frequency**



Employee & Contractor Lost Time Injury Frequency



Employee & Contractor All-Injury Frequency



Regulatory Inspections and Orders

Table C-1 lists the safety regulatory inspections and orders received from WorkSafeBC and the Ministry of Energy and Climate Solutions from October 1 to December 31, 2024.

Table C-1 Safety Regulatory Inspections and Orders

#	Date of Inspections	Regulatory Agency	PPM Subproject	Inspection Report Number Title	Inspection Report Type	Inspection Report Status	Number of Orders Issued	Subject of Order	Regulation Order / Reference
1	October 8, 2024	WorkSafeBC	Turbine Generator	202417876070A	Incident Investigation - injury of a worker	Closed	4	Safe machinery and equipment; Restraining devices; Scaffolding inspections; General duties of employers	Order(s): OHS4.3(1)(b)(i); OHS12.15(b); OHS13.3; WCA21(2)(e) Reference(s): WCA63(1); WCA71(2)(c); WCA72(2)(b); WCA88(1); WCA88(2)
2	October 8, 2024	WorkSafeBC	Turbine Generator	202417876071A	Incident Investigation; Order to stop use unsafe equipment	Closed	2	Stop use order; Special Inspections	Order(s): OHS3.7; WCA89(1) Reference(s): OHS12.10; WCA89(4); WCA88(1); WCA88(2)
3	October 15, 2024	WorkSafeBC	Balance of Plant	202417876073A/B..	De-energization and Lockout	Closed	6	Rights & Responsibilities; De-energization and Lockout procedures; General duties of employers	Order(s): OHS3.9; OHS10.3(1)(b); OHS10.3(1)(c); OHS10.4(1); OHS10.6 WCA21(2)(e) Reference(s): OHS3.23(1); OHS3.7; OHS10.2; WCA69(1)(c); WCA72(2)(f); WCA88(1); WCA88(2); WCA90(1)
4	November 28, 2024	WorkSafeBC	All	202417791128A	Washroom Facilities	Closed	0	None	Reference: OHS20.3.2(1)
5	November 28, 2024	WorkSafeBC	Infrastructure	202417791125A	Road Construction	Closed	2	Standard and Equipment for Traffic Control Persons	Order(s): OHS18.9; OHS 18.3(1)

Total **14**

Site C Clean Energy Project

Quarterly Progress Report No. 36

Appendix D

Workforce Overview

1 **Table D-1 Current Site C Jobs Snapshot**
 2 **(October 2024 to December 2024)²⁹**

	Number of B.C. Workers and Total Workers	Construction and Non-Construction Contractors ³⁰ (Including Some Subcontractors). Excludes Work Performed Outside of B.C. (e.g., Manufacturing)	Engineers and Project Team ³¹	Total
October 2024	B.C. Workers	1,224	616	1,840
	Total Workers	1,691	688	2,379
November 2024	B.C. Workers	1,139	596	1,735
	Total Workers	1,480	669	2,149
December 2024	B.C. Workers	878	577	1,455
	Total Workers	1,227	639	1,866

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

4 Employment numbers are provided by Site C contractors and are subject to revision.

5 Data not received by the Project deadline may not be included.

6 BC Hydro has contracted companies for major contracts, such as the main civil
 7 works, who have substantial global expertise. During the month of December 2024,
 8 there were no workers in specialized positions working for a Site C construction or
 9 non-construction contractor, who were subject to the Labour Market Impact
 10 Assessment process under the Federal Temporary Foreign Worker Program.

11 Additionally, there were eight management and professionals working for Site C

²⁹ Employment numbers are direct only and do not capture indirect or induced employment.

³⁰ 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.

³¹ 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.

1 construction and non-construction contractors through the Federal International
 2 Mobility Program.

3 **Table D-2 Site C Apprentices Snapshot (October 2024 to**
 4 **December 2024)**

Month	Number of Apprentices
October 2024	112
November 2024	96
December 2024	89

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

6 **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				

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

8 **Table D-4 Indigenous Inclusion Snapshot**
 9 **(October 2024 to December 2024)**

Month	Number of Indigenous Workers
October 2024	120
November 2024	142
December 2024	66

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

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

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

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

11 *Women*

12 In December 2024, there were 197 women working for Site C construction and
13 non-construction contractors. The number of women was provided by
14 on-Site Construction and non-construction contractors and engineers that have a
15 contractual requirement to report on the number of women in their workforce.

Site C Clean Energy Project

Quarterly Progress Report No. 36

Appendix E

**Technical Advisory Board Report and Independent
International Dam Experts Report**

Site C Technical Review Panel
John W. France, P.E., D.GE, D.WRE and Kaare Hoeg, ScD, NAE
REPORT NO. 9
January 10, 2025

This report presents an update to the Technical Review Panel's (Panel's) findings subsequent to Panel Reports Nos. 1 through 8, issued on January 22, 2021, February 15, 2021, April 6, 2021, August 12, 2021, February 28, 2022, September 23, 2022, May 22, 2023, and February 13, 2024.

Since February 13, 2024, the Panel has participated in virtual briefings to the Technical Advisory Board (TAB) by the Engineering Design Team (EDT) on March 18, May 21, July 7, September 24, and December 9, 2024, during which the EDT updated the TAB on activities related to the right bank foundation enhancements, the approach channel, and the earthfill dam, which are the components of the project within the scope of the Panel's assignment. The briefings included information on the responses of the project features to original reservoir filling during the summer and fall 2024. The Panel participated live in most of these briefings, but in some cases of schedule conflicts Panel members reviewed recordings of the briefings. In addition, the Panel reviewed the October 15 **Readiness for Completing the Reservoir Filling Plan** memorandum prepared by the Engineering Design Team (EDT) and the Resident Engineering Team (RET) and the October 15 letter captioned **Technical Advisory Board View on the Monitoring Processes** in place for Reservoir Inundation prepared by the TAB.

This update is expected to be the final reporting requested by BC Hydro for this assignment.

FINDINGS

The Panel's opinions expressed in the previous reports remain unchanged. As outlined in previous reports, the work associated with the right bank foundation enhancements, the approach channel, and the earthfill dam has been completed with appropriate attention to constructing a quality project.

Visual monitoring and instrumented data collection during reservoir filling have been completed diligently and reported to the TAB and the Panel in the briefings noted above. Reservoir filling began in late August 2024 and was completed in early November 2024. The data reported to the Panel indicate that the performance of the right bank foundation enhancements, the approach channel, and the earthfill dam during reservoir filling has equaled or exceeded design expectations.

The December 9, 2024 TAB virtual briefing included updates on the plans for diversion tunnel backfilling and support enhancements for the right bank drainage tunnel (RBDT) and left bank drainage adit (LBDA), all yet to be completed. The Panel supports those plans as presented.

STATEMENT OF LIMITATIONS

The Panel functioned as advisors of the methodologies used by the EDT for analysis and design of the right bank foundation enhancements, the approach channel, and the earthfill dam, based on information provided by the EDT. Given the large amount of work being completed by the EDT

Site C Technical Review Panel
John W. France, P.E., D.GE, D.WRE and Kaare Hoeg, ScD, NAE
REPORT NO. 9
January 10, 2025

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

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

Respectfully submitted,



John W. France



Kaare Hoeg

Site C Clean Energy Project

Quarterly Progress Report No. 36

Appendix F

**Summary of Individual Contracts Exceeding
\$10 Million**

PUBLIC

CONFIDENTIAL

APPENDIX

Site C Clean Energy Project

Quarterly Progress Report No. 36

Appendix G

Project Progression

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Site C Clean Energy Project

Quarterly Progress Report No. 36

Appendix H

Detailed Project Expenditure

PUBLIC

CONFIDENTIAL APPENDIX