BC Hydro
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March 29, 2018

Mr. Patrick Wruck
Commission Secretary and Manager
Regulatory Support
British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Mr. Wruck:

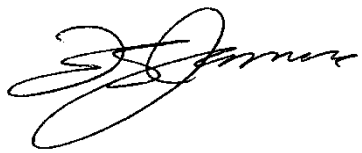
RE: British Columbia Utilities Commission (BCUC or Commission)
British Columbia Hydro and Power Authority (BC Hydro)
Site C Clean Energy Project
PUBLIC Quarterly Progress Report No. 10 – October to December 2017
(Report)

BC Hydro writes to provide its public Report. Commercially sensitive and contractor-specific information has been redacted.

A confidential version of the Report is being filed with the Commission only under separate cover.

For further information, please contact Geoff Higgins at 604-623-4121 or by email at bchydroregulatorygroup@bchydro.com.

Yours sincerely,



Fred James
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Enclosure

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Site C Clean Energy Project

Quarterly Progress Report No. 10

F2018 Third Quarter

October 2017 to December 2017

PUBLIC

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1 Project Status

This Quarterly Progress Report No. 10 (**Report No. 10**) provides information concerning the Site C Clean Energy Project (**Project**) covering the period from October 1, 2017 to December 31, 2017.

1.1 Overview and General Project Status

The Project will construct a third dam and hydroelectric generating station on the Peace River in northeast B.C. to provide 1,100 megawatts of capacity, and produce about 5,100 gigawatt hours per year. In December 2014, the Project received approval from the Provincial Government to proceed to construction.

On November 1, 2017, the British Columbia Utilities Commission issued their final report on the Site C Clean Energy Project. This led to a decision from the Provincial Government on December 11, 2017 announcing their approval to proceed with the Site C Clean Energy Project. As part of this announcement, BC Hydro provided a revised cost estimate of $10.7 billion, including project reserve subject to Treasury Board control. During the Site C Inquiry, most work on the Project continued but no major contracts (over $50 million) were executed.

In 2017, some geotechnical and construction challenges were encountered on the project. Based on the completion of a constructability review and an executive meeting with BC Hydro's Main Civil Works contractor in September 2017, BC Hydro determined that we would not be able to meet the timeline for river diversion in 2019.

While this has set some activities back a year, including river diversion, which will now occur in fall 2020, BC Hydro had one year of float built into the project schedule.

Not meeting the original river diversion timeline has created new pressures on the project's budget. As a result of the change in timing for river diversion and other factors, including an increase in direct and indirect costs, BC Hydro presented a revised cost estimate of $10.7 billion to the Board of Directors in December 2017.

On December 21, 2017, BC Hydro selected a Preferred Proponent to move to the next phase of the Generating Station and Spillways civil works contract. The Generating Station and Spillways is the second largest contract that will be awarded for Site C and it includes the delivery of civil works associated with the powerhouse, penstocks, spillways and power intakes for the dam.

Table 1 provides a dashboard based on the Project status as at December 31, 2017.

Table 1 Project Status Dashboard

● Green: No Concerns; ● Amber: Some Concerns but in Control; ● Red: Serious Concerns

Status as of:		December 2017
Overall Project Health	●	BC Hydro is on track to deliver the project on time by November 2024. The project has encountered geotechnical and construction challenges. Following the government decision in December 2017, the Project has reset the budget and is in the process of resequencing all activities to account for the change in river diversion date.
Scope	●	Scope changes have been minimal and the changes are expected to be managed within contingencies. As a result of tension cracks in 2017, there has been a redesign in the Left Bank slope. This change in scope has been accounted for in the new budget and schedule.
Schedule	●	At December 31, 2017 the schedule was in the process of being updated to reflect the change in river diversion from 2019 to 2020. The project is still on track for the overall in-service date of 2024.
Cost	●	The updated Site C budget ($10.7 billion including reserve subject to Treasury Board control) was approved in January 2018.
Regulatory, Permits & Tenures	●	Permits are on track and meeting schedule requirements with 211 permits/authorizations obtained to date and 154 permits/authorizations estimated remaining.
Environment	●	During the last quarter there were no significant environmental incidents.
Risks	●	Identified risks are being managed and treatments are in place or planned. For details refer to section 4 Material Project Risks below.
Procurement	●	The Generating Station and Spillways civil contract and Substation contract preferred proponents were approved by the Board in December 2017. Requests for Proposal were received for Transmission Line Construction and Hydromechanical contracts in December 2017.
Indigenous Relations	●	Six of ten agreements are fully executed and in implementation. BC Hydro is continuing to engage with First Nations to respond to concerns related to cultural and heritage resource mitigations, including concerns in the Cache Creek-Bear Flats area.
Litigation	●	In December 2017, two First Nations announced the intention to sue for treaty infringement. In January 2018, these two First Nations each filed such claims. These claims assert, among other things, that the Site C Project is an infringement of their rights under Treaty 8.

Status as of:		December 2017
Safety	🟡	There were one lost time injury, seven medical attention treatment injuries and three major near miss incidents this quarter.
Stakeholder Engagement	🟢	BC Hydro continues to work with the communities, regional district and stakeholder groups on the implementation of various community agreements.

1.2 Major Accomplishments, Work Completed, Key Decisions and Key Issues

1.2.1 Aboriginal Consultation

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

Accommodation offers were originally extended to ten Indigenous groups. Six agreements have been fully executed and are in various stages of implementation. One agreement is in legal drafting. Efforts are ongoing to conclude Impact Benefits Agreements with the remaining three Indigenous groups. To date, Impact Benefits Agreements with Doig River First Nation, Halfway River First Nation and McLeod Lake Indian Band, and Project Agreement with Dene Tha' First Nation have been reached.

1.2.2 Litigation

The details of the various proceedings and hearings with decisions pending are summarized in Table 2 below. Subsequent to the reporting period, on January 15, 2018 the West Moberly First Nations and the Prophet River First Nation each filed a Notice of Claim in B.C. Supreme Court asserting an infringement of Treaty 8 and seeking, among other remedies, an injunction against the issuance of government permits and approvals for Site C. West Moberly First Nations has filed

an injunction application seeking to stop the construction of Site C pending the hearing of their civil claim.

Table 2 Summary of Proceedings with Hearings or Decisions Pending

Description		Date
B.C. Supreme Court: Treaty Infringement Claims		
West Moberly First Nations Prophet River First Nation	Notice of Claims filed	January 15, 2018
West Moberly First Nations	Injunction application filed Hearing date	January 31, 2018 Expected to be heard in the period between July and September 2018
B.C. Court of Appeal:		
Prophet River First Nation West Moberly First Nations	Appeal filed Hearing date	November 30, 2016 Appeal is inactive. Requires leave of court to proceed
Environmental Appeal Board		
C. London	Hearing date	Written hearing of the matter through until the middle of July 2018
Other Proceedings		
Building Trades v. BC Hydro	Civil claim filed, Response to claim filed	

1.2.3 Permits and Government Agency Approvals

1.2.3.1 Background

In addition to the Environmental Assessment Certificate, the Water License and the Federal Decision Statement, Provincial permits and Federal authorizations are required to construct the Project. Timing of the application for these permits and authorizations is staged and aligned with the construction schedule, availability of detailed design information, and by project component. Approximately 365 permits will be required throughout the life of the project. Prior to the reporting period, 206 permits had been received and are being actively managed. During the reporting period, 5 new permits were received in accordance with the schedule. BC Hydro has developed a coordinated First Nations consultation process with the Ministry of Forest, Lands, Natural Resource Operations and Rural Development to assist with the government permit workload. This coordinated consultation process will be implemented in January 2018.

1.2.3.2 Federal Authorizations

Federal authorizations are required under the *Fisheries Act* (Fisheries and Oceans Canada) and the *Navigation Protection Act* (Transport Canada)*.* All major Federal authorizations for construction and operation of the Site C dam and reservoir were received in July 2016. At this time, no further *Fisheries Act* authorizations are anticipated. Additional *Navigation Protection Act* approvals for discrete works in the reservoir (e.g., shoreline works, debris booms and Highway 29 bridges), are anticipated to be issued at the regional level.

In November 2017, the Canadian Wildlife Service added bank swallows to the Species at Risk Act requiring a Canadian Wildlife Service permit to disturb bank swallow burrows. Colonies of burrows have been identified in portions of the dam site and potentially along some portions of the future reservoir. As such, Site C will be applying for a Canadian Wildlife Service permit to disturb any bank swallow burrows within the project footprint in early 2018.

1.2.3.3 Provincial Permits

The plan for obtaining Site C Provincial permits involves a phased approach to the submission of applications to the Ministry of Forests, Lands and Natural Resource Operations and Rural Development based on project components and construction schedule.

Provincial permits are required primarily under the *Land Act, Water Sustainability Act, Forest Act, Heritage Conservation Act,* and *Mines Act*. The majority of the permits are administered by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development and the Ministry of Energy and Mines.

Approximately 319 Provincial permits and approvals will be required throughout the life of the project. As of this reporting period, 175 permits have been obtained with another 24 permit submissions pending approval.

1.2.3.4 Environmental Assessment Certificate

BC Hydro is seeking an amendment to the Site C project's Environmental Assessment Certificate, so we can make improvements to the design of the Generating Station and Spillways.

The changes include: each generator will now be connected to a transformer located upstream of the units, on the transformer deck; the spillways originally had seven gates, but will now be constructed with three radial gates and six low level outlets; and the discharge capacity of the spillways has been increased. These improvements will optimize capacity, minimize environmental risks, improve safety and facilitate the ease of long-term maintenance during operations. The footprint and the functional requirements of the Generating Station and Spillways will remain the same.

As with any large construction project, refinements to the design are expected. We do not anticipate any impacts to the cost of the Generating Station and Spillways.

As part of the design change process, BC Hydro looked at whether the changes would result in any changes to the finding of the project's Environmental Impact Statement with respect to the following value components: vegetation and ecological communities, navigation, heritage resources, fish and fish habitat, harvest of fish and wildlife resources, and current use of lands and resources for traditional purposes. The assessment confirmed that the changes will not increase the effects of the project on those components.

1.2.3.5 Permitting Improvement

In order to efficiently and effectively manage the large volume of permits required for the project, BC Hydro continues to engage with regulators, Indigenous groups and contractors to share information, seek feedback, and identify process improvements. Process improvements implemented include the following:

- BC Hydro continues to facilitate meetings with the Comptroller of Water Rights and contractors to ensure permit applications are coordinated, timely and sufficient;
- Regular permitting forums are being held with Indigenous groups to share information on upcoming permit applications and to seek feedback before applications are submitted to regulators. In F2017, a total of four forums were held. Three forums have been held to date of this reporting period in F2018; and
- BC Hydro has developed a coordinated First Nations consultation process with the Ministry of Forest, Lands, Natural Resource Operations and Rural Development to assist with the government permit workload. This coordinated consultation process will be implemented in January 2018.

1.2.4 Engineering and Construction

1.2.4.1 Engineering

The technical specifications for the Hydromechanical Equipment and Spillway, Power Intakes and Powerhouse have been issued in draft to the shortlisted proponents and planning was completed for the proposal evaluations in January 2018. The Main Civil Works implementation design is nearly complete and work continues to support construction. Design updates to the Left Bank overburden slope are in progress incorporating the contractor's major construction roads within the final slope to an appropriate standard of reliability. The few remaining Main Civil Works construction drawings are being released in accordance with project schedule requirements. The first batch of construction drawings for the Generating Station and Spillways contract were completed in December 2017 and the remainder are being developed for issue to the contractor in accordance with the contract schedule. The specifications and modelling for the completions contract are progressing to meet project schedule for a Request for Proposal, approximately 32 per cent complete for the completions and 38 per cent complete for the major electric equipment specifications. Implementation design is at 95 per cent level for 500 kV lines and the Right Bank substation. Issued for construction drawings are being prepared for the Right Bank substation. Peace Canyon gas insulated switchgear design is in progress and is at the 35 per cent level. Planning for Highway 29 final design has been updated to meet project schedule and requirements.

A Technical Advisory Board site visit and workshop was carried out in October 2017 to discuss the Left Bank and status of the Right Bank excavations and progress of Roller-Compacted Concrete.

Subsequent to this reporting period, a meeting of the Technical Advisory Board was convened in Vancouver from January 29, 2018 to February 2, 2018. The primary objective of this meeting was to update the Technical Advisory Board on the status

of the Project with focus on the excavations on both the Right and Left Banks. The Board provided a number of recommendations for BC Hydro's consideration.

1.2.4.2 Construction

Refer to Appendix F for the full construction schedule.

Early Works

As of December 31, 2017 clearing of Lower Reservoir was substantially complete and remaining clearing will commence in February 2018. The remaining merchantable timber will be transported to local mills and non-merchantable timber will be disposed of starting in March 2018.

As of December 31, 2017 clearing at Moberly River was approximately 45 per cent complete. Remaining clearing on Moberly River will commence in November 2018.

Disposal of wood waste at the dam site commenced in November 2017 and work is underway.

During the British Columbia Utilities Commission Site C Inquiry, clearing work in new areas was put on hold. In December 2017, a First Nations contractor was mobilized at the Lower Reservoir to dispose of merchantable timber that remained from the previous year's clearing work. Plans are in place to commence clearing for new areas in September 2018.

Main Civil Works

The scope of the contract includes the construction of the following major components:

- Diversion works (including two approximately 11-metre diameter concrete-lined tunnels approximately 750 m in length);
- Excavation and bank stabilization (approximately 26 million cubic metres of overburden and rock excavation);

- Relocation of surplus excavated material (including management of discharges);
- Dams and cofferdams (including a zoned earth embankment 1,050 metres long and 60 metres above the present riverbed and stage 1 and 2 cofferdams);
- Roller-Compacted Concrete (including a buttress approximately 800 metres with 2 million cubic metres of concrete)
- Haul roads; and
- Inlet and outlet portals.

Figure 1 Map of Main Civil Works Work Areas

Construction progress at site currently is spilt between work on the Left Bank and Right Bank.

Left Bank

As reported in Quarterly Progress Report No. 9, some construction challenges were encountered on the Left Bank, which resulted in a determination that 2019 river diversion would not be met. Work activities on the Left Bank are to stabilize the slope with a mass excavation and excavate a set of diversion tunnels in preparation for the earth embankment dam construction.

To mitigate the construction issues on the Left Bank, efforts have been undertaken to enable work to continue over the winter months. The activities this winter are in support of future work which includes the start of diversion tunnel excavation in the summer of 2018 to support the diversion of the Peace River in 2020, completion of the mass excavation of the Left Bank for slope profiling, which is expected to be complete by fall 2018, and creating till haul roads for main dam construction.

The winter work activities currently underway or completed include:

- construction of a temporary haul road and excavations to unload and stabilize the second tension crack and construction of a bypass road to allow excavated materials to be moved to area L5. Both of these activities have been completed and the second tension crack has been unloaded and stabilized;
- commencement of the construction of a till haul road across the Left Bank;
- excavation of the diversion inlet portal, which includes benched excavation above the inlet portal to allow work to commence on construction of the inlet portals; and
- mass excavation for access to the outlet portal; excavation needs to ramp up through the winter season to provide access to the outlet portal and dam.

The three cofferdams on the Left Bank – inlet, outlet and main cofferdams have been completed.

Right Bank

The Right Bank scope of work includes the excavation of the powerhouse and spillway and placing roller-compacted concrete for the foundations as support for the main structures to be built by the Generating Station and Spillways contractor. The current activities on the Right Bank include excavation of the Right Bank drainage tunnel, excavation of the spillway and placement of Roller-Compacted Concrete in the powerhouse, and spillway.

Despite recovering the schedule delays experienced in 2016 and completing powerhouse excavation, Peace River Hydro Partners was unable to achieve milestone thresholds in 2017 on the placement of the Roller-Compacted Concrete. Peace River Hydro Partners was only able to complete 30 per cent of the expected placement of Roller-Compacted Concrete in 2017 due to various issues experienced throughout the work season. BC Hydro and Peace River Hydro Partners are considering options to mitigate the risk of the handover date for the Generating Station and Spillways.

Peace River Hydro Partners changed the method of excavating the Right Bank drainage tunnel from using a road header (grinding method) to using conventional drill and blast. The change in methodology along with the receipt of approvals from WorkSafeBC for management of silica dust resulted in them completing 25 per cent of the tunnel by December 22, 2017. The tunnel is forecast to be complete by the end of summer 2018.

In-River Work

Following diversion in 2020, a cofferdam will be placed in the Peace River to provide safe access for the main dam construction. The current in-river work includes dredging in support of stage 1 cofferdams.

Earthfilled Dam

This work is not scheduled to commence until March 2019.

Ministry of Transportation and Infrastructure Public Road Upgrades

BC Hydro entered into a contract with a First Nations contractor for the shoulder widening of 271 Road, which is under Ministry of Transportation and Infrastructure jurisdiction. A portion of the work was completed in 2016. The remaining work was completed in October 2017.

As part of Government's decision to proceed with the project, BC Hydro and the Ministry of Transportation are exploring options to redesign the Highway 29 realignment at Cache Creek-Bear Flat to reduce the effects on potential burial sites and areas of cultural significance in the area. Consultation with Indigenous groups and property owners will commence in January 2018.

The Ministry of Transportation and Infrastructure has confirmed that a temporary detour option for Cache Creek-Bear Flat could be implemented to allow river diversion to continue as scheduled.

Transmission and Substation

Following the government decision on the project in December 2017, a contract for the vegetation clearing and access road construction on the western half of the transmission right-of-way was awarded to a First Nations contractor. The substation construction Request For Proposals evaluation was completed and a preferred proponent identified. The transmission line construction Request For Proposals closed on November 30, 2017.

Turbines and Generators

Voith Hydro Inc. commenced assembly and welding of embedded turbine components in its temporary manufacturing facility on the Right Bank at Site C. Voith will commence turbine installation in the powerhouse by summer 2020.

Generating Station and Spillways

Proposals were received for the Generating Station and Spillways Civil contract and an early works agreement was executed with Aecon-Flatiron-Dragados-EBC Partnership on December 22, 2017.

Technical proposals for the Hydromechanical Equipment contract were received in December 2017 and financial proposals were received in January 2018.

Quality Management

Implementation and monitoring of Quality Control and Quality Assurance Plans are required of all contractors. Table 3 below identifies quality management non-conformity instances during the quarter ending December 31, 2017.

Table 3 Quality Management Non-Conformity Report Metrics

Contract	Reported this Period	Closed this Period	Reported to Date	Closed to Date
Main Civil Works	274	65	719	353
Turbines and Generators	5	4	12	9
Transmission	10	10	10	10

The top three disciplines that have the most non-conformities reported to date in respect of Main Civil Works are Construction (125), Roller-Compacted Concrete (109) and Quality (108). Outstanding non-conformities are being resolved and reviewed weekly through face-to-face meetings with management from BC Hydro and the Contractor.

BC Hydro is reviewing one of the three non-conformities remaining open related to Turbines and Generators and has accepted the remedial actions proposed by the Contractor for the other two.

All ten non-conformities reported to date for the transmission contracts are minor in nature and have been reviewed by BC Hydro. Contractors have implemented corrective actions accepted by BC Hydro.

1.2.5 Safety

During this quarter, there was one reported lost time injury, seven medical attention-treatment injuries and three major near miss incidents. The contractor initiated a safety stand-down with workers for two of the more serious near miss incidents.

There were no orders written by WorkSafeBC at the site during the quarter.

Table 4 below identifies the project safety metrics during the quarter ending September 30, 2017.

Table 4 Safety Metrics

	Reported this Period (October 1, 2017 to December 31, 2017)[1]	Reported since Inception (July 27, 2015)[2]
Fatality & Serious Injury[2] (permanently disabling)	0	0
Lost Time Injury	1	8
Lost Time Injury Frequency (number of injuries resulting in lost time per 200,000 hours worked)[3]	0.26	0.21
Severity Rate (number of calendar days lost due to injury per 200,000 hours worked)[3] [4]	54.15	8.50
Contractor near miss incidents	42	575
Employee near miss incidents	1	23
Public near miss incidents	0	5
Equipment/property damage reports[5]	33	301
WorkSafeBC orders	0	67

1 Numbers are subject to change due to timing of when data is retrieved and when injury is categorized.
2 Excludes health events unrelated to work standards.
3 BC Hydro is now capturing safety metrics data each week from our two prime contractors which includes hours worked. Submissions have improved during the reporting period, resulting in improvements in the timeliness and accuracy of the safety metrics.
4 In this reporting period there was a 41 per cent decrease of hours worked, due to time off during the winter break being included in the calculation, which resulted in 141 per cent increase of calendar lost days in December 2017. This combined resulted in a significant increase of the severity rate for this reporting period.
5 Types of equipment and property damage include vehicle damage, motor vehicle accidents, minor electrical fire damage, etc. Equipment damage data is collected through contractor monthly reports not the BC Hydro Incident Management System.

1.2.6 Environment

1.2.6.1 Mitigation, Monitoring and Management Plans

The Environmental Assessment Certificate and Decision Statement conditions require the development of draft and final environmental management, mitigation and monitoring plans, as well as the submission of annual reports on some of these plans.

Focus remains on finding a solution to the pH and metal limits imposed by the Water Comptroller as the ambient conditions throughout the site make compliance challenging. Over the next quarter, environment is considering piloting a water treatment plant to address the limit requirements and continues to seek relief on the current limits.

As of the end of this quarter, all required submissions have been made in accordance with the schedule and requirements of the conditions.

During the reporting period, one schedule report and four annual reports were submitted in accordance with the conditions.

1.2.6.2 Technical Committees Required under Schedule A of the Conditional Water Licence

Schedule A of the Conditional Water Licence requires that BC Hydro establish with provincial and federal regulators two technical committees to provide oversight and guidance to the refinement and implementation of BC Hydro's Mitigation, Monitoring and Management Plans. The two committees are: the Fisheries and Aquatic Habitat Mitigation and Monitoring Technical Committee; and the Vegetation and Wildlife Mitigation and Monitoring Technical Committee. Schedule A of the Conditional Water Licence outlines a delivery schedule linked to Site C project construction Component for when the technical committees must review and revise various mitigation and monitoring Plans.

1.2.6.3 Environmental Compliance Inspections and Enforcement

Inspectors from the BC Environmental Assessment Office and Forests, Lands, Natural Resource Operations and Rural Development, Fisheries and Oceans Canada, Transport Canada and from the Canadian Environmental Assessment Agency are expected to regularly inspect the Project to assess its compliance with Provincial Environmental Assessment Certificate conditions, Provincial and Federal Permits and Authorizations and the Federal Decision Statement Conditions.

During this quarter, environmental compliance continued to focus on completing the channelization works at the areas of the dam site referred to as L3 and Garbage Creek. The upper portion of L3 was completed and included substantial re-contouring, channel armouring and water deceleration features. Over the next quarter, works will be completed that include two stilling basins and a catchment pond. Garbage Creek water management is substantially complete.

Given the limited activity at the work site, the compliance officers from the BC Environmental Assessment Office inspected the site once during this period and found the dam site to be much improved with only minor non-compliances, such as drip trays and trash container wildlife proofing.

During the quarter the Independent Environmental Monitor continued weekly inspections with a focus on the Left Bank water management and right bank sediment ponds. Overall, the weekly inspections indicated general environmental compliance across the dam site with continued efforts to achieve the reduced discharge limits for total suspended solids, acidity and metals. Exceedances were noted on November 17, 2017 and November 23, 2017 for cadmium, zinc and iron. BC Hydro and Peace River Hydro Partners continue to work to increase the effectiveness or the retention ponds as well as explore future treatment options and an increase in the acceptable limits based on naturally occurring concentrations of acidity and metals.

On October 11, 2017 the Water Comptroller inspected the site and found no notable non-compliances.

During the week of November 20, 2017 the Canadian Environmental Assessment Agency inspected the site with no notable non-compliances.

No other provincial or federal inspectors visited the site during this quarter.

1.2.6.1 Heritage

In accordance with a number of Environmental Assessment conditions and the Federal Decision Statement, the Site C Heritage Resources Management Plan addresses the measures that will be used to mitigate the adverse effects of the Project on heritage resources.

Field work for the 2017 Heritage Program was completed in October 2017, and then permit reporting began and is to be completed and submitted to the regulator and relevant First Nations by March 31, 2018. Heritage compliance reviews of contract documents, contractor environmental plans and construction readiness plans were performed to ensure compliance. Heritage chance finds were investigated as required. Planning was started for the 2018 Heritage Program field work to meet regulatory requirements for pre-construction archaeological impact assessments in areas not accessible until now, systematic data recovery at selected archaeological sites, and palaeontological inspections.

1.2.6.2 Agriculture Mitigation and Compensation Plan – Framework

BC Hydro submitted the updated Agricultural Mitigation and Compensation Plan on September 25, 2017. The final plan reflects the requirements of the Environmental Assessment Certificate Condition 30; consultation feedback from regional agricultural stakeholders including directly affected land owners and tenure holders, Peace Region agricultural associations and local stakeholders; Ministry of Agriculture and Ministry of Energy, Mines and Petroleum Resources staff, legal, and

financial advice; and background information including the Environmental Impact Statement and the Joint Review Panel Hearing report.

Establishment of the $20 million BC Hydro Peace Agricultural Compensation Fund is anticipated to begin in early 2018. BC Hydro will establish the board, made up of representatives from five regional agricultural organizations, the Peace River Regional District, three agricultural producer members-at-large and one Peace River Valley agricultural producer. Concurrently, BC Hydro will also post a public Request For Proposals for the fund administrator who will provide financial management, board secretariat and fund application process services. The $20 million will be transferred into the fund once BC Hydro approves the Financial Management Plan prepared by the fund administrator and receives feedback from the board.

1.2.7 Labour, Employment and Training and Building Capacity Initiatives

Labour

To date, unions that have participated in the construction of Site C include: Construction Maintenance and Allied Workers (**CMAW**), the Christian Labour Association of Canada (**CLAC)** Local 68, Canada West Construction Union (**CWU**), Pile Drivers 2402, the Construction and Specialized workers Union (**CSWU)**, Local 1611, the International Union of Operating Engineers (**IUOE**) Local 115, and the Ironworkers Local 97, the International Brotherhood of Electrical Workers (**IBEW**), Move UP and the Teamsters Local 213.

In addition, ten unions affiliated with the BC Building Trades will be working on the installation of the Turbines and Generators. The International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers (**Boilermakers Union**) members have been working on this contract as of September 2017.

The Aecon-Flatiron-Dragados-EBC Partnership (the preferred proponent for the Site C Generating Station and Spillways) has signed a Project Labour Agreement for

the Generating Station and Spillways civil works, with the IUOE Local 115, the CSWU Local 1611 and the CMAW.

Employment

Contractors submit monthly workforce data electronically to BC Hydro. Table 5 shows a snapshot of the total number of construction contractors, non-construction contractors, engineers, and project team workers for this quarter by month.

Table 5 Site C Jobs Snapshot

Month	Number of B.C. Workers[6]	Number of Total Workers[6]	Percentage of B.C. Workers (%)
October 2017	1,607	1,974	81
November 2017	1,353	1,681	80
December 2017	1,273	1,525	83

Refer to Appendix E for additional workforce information. The number of workers continues to vary as the construction work progresses.

Training and Capacity Building Initiatives

In September 2017, the Contractors Labour Committee agreed to establish an Indigenous labour subcommittee. The purpose of the subcommittee will be to support Indigenous training, labour and employment on the Site C Project, through communication, consultation, coordination and cooperation among contractors on the Project.

BC Hydro has included apprentice targets in the Generating Station and Spillways Civil contract, the Transmission lines and the substation contracts. The Aecon-Flatiron-Dragados-EBC Partnership has also committed to providing opportunities for apprentices that include a goal of up to 25 per cent apprenticeships on the project.

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

In August 2013, Northern Lights College started distributing the BC Hydro Trades & Skilled Training Bursary Awards. As of December 2017, 201 students had received bursaries, including 78 Indigenous students who have benefitted from the bursary in programs such as electrical, welding, millwright, cooking, social work, and many others.

BC Hydro continues to work with local employment agencies to ensure that as job opportunities become available, they are posted on the Work website as well as on the Fort St. John Employment Connections website. In December 2017, Site C contractors reported 322 workers on site from the Peace River Regional District. This is a total of 31 per cent of the construction and non-construction contractor's workforce.

1.2.8 Community Engagement & Communication

1.2.8.1 Local Government Liaison

BC Hydro entered into community agreements which set out implementation of applicable Environmental Assessment conditions and to meet community interests with the City of Fort St. John, District of Taylor, District of Chetwynd, District of Hudson's Hope. BC Hydro is still negotiating with the Peace River Regional District.

BC Hydro continues to work cooperatively with the City of Fort St. John, District of Hudson's Hope and District of Taylor and the District of Chetwynd to oversee implementation of their respective agreements.

Subsequent to the reporting period, the Regional Community Liaison Committee, which is comprised of local elected officials and local Indigenous groups, met on January 31, 2018. A total of 11 communities have participated as committee members, including eight local governments and three local Indigenous groups (McLeod Lake, Doig River and Blueberry River) as well as the two MLAs for Peace River North and Peace River South. Representatives from the Ministry of Transportation and Infrastructure and the Project's major contractors, including

Peace River Hydro Partners and ATCO Two Rivers Lodging Group also attended the meeting as invited guests.

1.2.8.2 Business Liaison and Outreach

BC Hydro continued to implement its business construction liaison and outreach by attending local Chamber of Commerce meetings in Fort St. John and Chetwynd. During this reporting period, the project team sent out two notifications to the Site C business directory – one to notify that the Request For Proposals for truck wash stations was posted on BC Bid and one regarding the selection of the preferred proponent for the Generating Station and Spillways civil works contract.

1.2.8.3 Community Relations and Construction Communications

BC Hydro continued to implement its construction communications program during this reporting period. The program includes updating and maintaining the project website www.sitecproject.com with current information and photos of construction and providing information to local and regional stakeholders as required.

Construction Bulletins

Bi-weekly construction bulletins were issued throughout this reporting period. These bulletins are posted on the project website and sent by email to the web-subscriber list.

Public Enquiries

In total, BC Hydro received 207 public enquiries between October 1, 2017 and December 31, 2017, compared to 245 in the previous quarter. The majority of these enquiries continued to be about business and job opportunities, with limited construction impact concerns from local residents. Table 6 shows the breakdown of some of the most common enquiry types:

Table 6 Public Enquiries Breakdown

Enquiry Type[7]	October 2017	November 2017	December 2017
Job Opportunities	32	28	66
Business Opportunities	7	15	24
Construction Impact[8]	0	1	0

1.2.8.4 Communications Activities

Based on a search using the media database Infomart, there were 1,180 stories in B.C. news media between October 2017 and December 2017 on the Site C Project, compared to 823 stories in the previous quarter.

1.2.8.5 Housing Plan and Housing Monitoring and Follow-Up Program

BC Hydro and BC Housing signed a Contribution Agreement on July 19, 2016 related to the development, construction and operation of a building in Fort St. John comprised of 50 residential rental units. This agreement is the outcome of detailed discussions between the two partners to find the most appropriate approach to meeting Condition 48 and the housing terms of the Community Measures Agreement with the City of Fort St. John. The agreement structured the financial contribution from BC Hydro to enable financially viable operation of the affordable housing units in the near-term and financially viable operation of all 50 units of affordable housing in the longer term.

The housing project is under construction by Western Canadian Properties Group with three floors framed. Construction is on track for substantial completion by December 2018.

1.2.8.6 Labour and Training Plan

In accordance with Environmental Assessment Condition 53, a Labour and Training Plan was developed and submitted to the Environmental Assessment Office on June 5, 2015.

[7] This table is a sample of enquiry types and does not include all enquiry types received.

[8] The nature of the construction impact inquiries is primarily air quality, noise and traffic conditions.

This plan, as well as Environmental Assessment Condition 45, includes reporting requirements to support educational institutions in planning their training programs to support potential workers in obtaining Project jobs in the future. This report was issued to the appropriate training institutions in the Northeast Region of B.C., in July 2016 and July 2017. The next report will be issued in July 2018.

This plan and Environmental Assessment Condition 45, also require the establishment of a daycare. This measure is being implemented through a contribution agreement with School District 60 in the North Peace. The daycare is under construction as part of a new school in Fort St. John and in January 2018, School District 60 announced the YMCA as their selected daycare operator. The daycare is anticipated to open in July 2018.

1.2.8.7 Health Care Services Plan and Emergency Service Plan

The Project health clinic is contracted by BC Hydro with Halfway River International SOS Medical Ltd., a partnership between Halfway River First Nation and International SOS. The clinic continues to operate in its permanent location within the Two Rivers Lodge, and based on camp occupancy was staffed 24/7 during this period with a nurse practitioner and advanced care paramedics.

BC Hydro and the clinic operator continue to liaise with the local health care community. BC Hydro held the annual Joint Health Care Services meeting with Northern Health, WorkSafeBC, BC Ambulance, contractor safety staff and International SOS on October 30, 2017 to review the previous year and address any concerns.

The Clinic provides workers with access to primary and preventative health care and work-related injury evaluation and treatment services and is currently open seven days a week, 12 or 24 hours a day. Since opening the Project health clinic there have been a total of 4,715 patient interactions. During the reporting period, there were 400 patient interactions, of which 113 were occupational and

287 non-occupational. Several preventive health themes were promoted to workers, including: dental health, influenza and HIV/AIDs awareness.

1.2.8.8 Property Acquisitions

Following the government decision, the property acquisition program continues in order to meet the required schedule. Initial meetings will be held with property owners in January 2018 to discuss different alignment options for the Highway 29 Cache Creek segment.

1.3 Key Procurement and Contract Developments

The Project procurement approach was approved by the Board of Directors in June 2012 for the construction of the Project. The procurement approach defined the scope of the major contracts and their delivery models, as summarized in Table 7 below.

Table 7 Major Project Contracts and Delivery Models

Component	Contract	Procurement Model	Anticipated Timing
Worker Accommodation	Worker Accommodation and site services contract	Design-Build-Finance-Operate-Maintain	Completed
Earthworks	Site Preparation contracts	Predominantly Design-Bid-Build	Completed
	Main Civil Works contract	Design-Bid-Build	Completed
Reservoir/ Transmission Clearing	Multiple reservoir clearing contracts to be awarded over seven to eight years	Design-Bid-Build	Five contracts completed (lower and east reservoirs, transmission line)

Component	Contract	Procurement Model	Anticipated Timing
Generating Station and Spillways	Turbines and Generators contract	Design-Build	Completed
	Generating Station and Spillways Civil Works contract	Design-Bid-Build	Request for Proposals issued September 2016. Preferred proponent approved by the Board and Early Works agreement signed December 2017. Contract award March 2018
	Hydromechanical Equipment contract	Supply Contract	Request for Proposals is closed and is under evaluation. Contract award April 2018
	Powertrain Balance of Plant Equipment Supply	Supply Contracts	F2018 to F2020
	Balance of Plant Contract (Powertrain Balance of Plant Equipment Installation)	Design-Build/Install	F2019 to F2021 Request for Supplier Qualifications to be issued June 2018
Electrical and Transmission Infrastructure	Transmission Lines Construction contract	Design-Bid-Build	Request for Proposals issued September 2017. Contract award March 2018
	Site C substation contract	Design-Bid-Build	Preferred proponent approved December 2017. Contract Award: F2018.
	Peace Canyon Substation upgrade contract	Design-Build	Completed
Highway 29 Re-alignment	Design-Bid-Build in partnership with B.C. Ministry of Transportation and Infrastructure with anticipated contracts being awarded through 2018 and 2019.		

1.3.1 List of Major Contracts Awarded (Excess of $50 million)

Since inception of the Project, five major construction contracts (e.g., greater than $50 million in value) have been awarded: Worker Accommodation, Site Preparation-North Bank, Main Civil Works, Turbines and Generators and Generating Station and Spillways Civil Early Works Agreement. The contracts were procured through a public competitive process and awarded based on a rigorous evaluation process within the budget established for each contract. A list of contracts in excess of $50 million awarded to December 31, 2017 is shown in Table 8 below.

Table 8 Major Project Construction Contracts Awarded

Work Package	Contract Value[9] ($ million)	Current Status
Site Preparation: North Bank	60	Contract executed July 2015
Worker Accommodation	469	Contract executed September 2015
Main Civil Works	1,791	Contract executed December 2015
Turbine and Generators	464	Contract executed March 2016
Generating Station and Spillways Civil Early Works	100	Early Works Agreement executed December 2017

1.3.2 Large Contracts to Date (Excess of $10 million)

BC Hydro has provided a table in Appendix B which shows the breakdown to date of the contracts awarded in excess of $10 million and cumulative variances.

1.3.3 Contract Management

1.3.3.1 Material Changes to the Major Contracts

The Main Civil Works contract is a unit price contract and as such variations in quantities and design are expected over the term of the contract. Since contract award in December 2015, the Main Civil Works contract value has increased by $44 million to reflect approved changes orders to date. The change orders are managed within project contingency.

[9] Contract value reflects the current value including executed change orders to the end of the reporting period.

1.3.3.2 Contingency and Project Reserve Draws

As a result of the change in timing for river diversion and other factors including an increase in direct and indirect costs, BC Hydro presented a revised cost estimate of $10.7 billion to the Board of Directors in December 2017. This revised cost estimate includes contingency of $858 million and reserve subject to the control of Treasury Board of $708 million.

Refer to Appendix D for more detailed information regarding contingency and project reserve draws.

1.4 Plans During Next Six Months

Table 9 below presents the key milestones for activities planned during the next six months that reflect a plan to complete river diversion in 2020.

Table 9 Key Milestones (January to June 2018)

Milestone	Updated Plan (December 2017)	Forecast/Actual Date	Variance (months)	Current Status
Generating Station and Spillways Civil Contract Award	March 2018	March 2018	(0)	On Track
Transmission Line Construction Contract Award	March 2018	March 2018	(0)	On Track
Generating Station and Spillways Civil contractor mobilizes to site	March 2018	March 2018	(0)	On Track
Substation Construction Contract mobilization	April 2018	April 2018	(0)	On Track

1.5 Impacts on Other BC Hydro Operations

For the reporting period, there were no material impacts on the generation operation at the GM Shum and Peace Canyon Dams or on water management at the Williston and Dinosaur reservoirs.

1.6 Site Photographs

Refer to Appendix A for site construction photographs.

2 Project Schedule

2.1 Project In Service Dates

As filed with the British Columbia Utilities Commission Inquiry respecting Site C on October 4, 2017, BC Hydro identified that the river diversion milestone will move from 2019 to 2020. This did not impact the overall in service dates, as shown below.

Table 10 Project In-Service Dates

Description/Status	Final Investment Decision Planned In-Service Date[10]	Status and Comments
5L5 500kV Transmission Line	October 2020	On Track
Site C Substation	November 2020	On Track
5L6 500kV Transmission Line	July 2023	On Track
Unit 1 (First Power)	December 2023	On Track
Unit 2	February 2024	On Track
Unit 3	May 2024	On Track
Unit 4	July 2024	On Track
Unit 5	September 2024	On Track
Unit 6	November 2024	On Track

2.2 Schedule Contingency

River diversion remains a key milestone for the project as it enables the construction of the earth filled dam across the river. BC Hydro is closely monitoring the progress of the Main Civil Works contractor to ensure that work is completed as required.

[10] Based on plan at Final Investment Decision, December 2014.

3 Project Costs and Financing

3.1 Project Budget Summary

As a result of the change in timing for river diversion and other factors including an increase in direct and indirect costs, BC Hydro presented a revised cost estimate of $10.7 billion to the Board of Directors in December 2017.

Table 11 below presents the overall project budget, based on the Final Investment Decision (December 2014) compared to the updated budget approved in January 2018, both represented in nominal dollars.

Table 11 Project Budget Summary

Description	Final Investment Decision (2014) Capital Amount (Nominal $ million) *	Updated Budget Approved January 2018 (Nominal $ million)
Dam, Power Facilities, and Associated Structures	4,120	5,320
Offsite Works, Management and Services	1,575	1,868
Total Direct Construction Cost	**5,695**	**7,188**
Indirect Costs	1,235	1,484
Total Construction and Development Cost	**6,930**	**8,672**
Interest During Construction	1,405	1,320
Project Cost, before Treasury Board Reserve	**8,335**	**9,992**
Treasury Board Reserve	440	708
Total Project Cost	**8,775**	**10,700**

* Budget values are rounded to the nearest $5 million and include allocations of contingency.

3.2 Project Expenditure Summary

Table 12 provides a summary of the Final Investment Decision approved *total* Project cost, the current forecast *total* Project cost and the variance between the two; and the plan *to date* amounts, the actual costs *to date* and the variance between the two.

In the next quarterly progress report, this table will be updated to show the comparison against the updated budget.

Table 12 Total Project Expenditure Summary ($ million Nominal) Compared to Final Investment Decision

Description	Final Investment Decision	Forecast	Variance	Final Investment Decision Plan to Date	Actuals to December 31, 2017	Variance
Total Project Costs	8,335	9,992	(1,657)	1,675	2,127	(452)
Treasury Board Reserve	440	708	(268)	0	0	0
Authorized Project Cost	**8,775**	**10,700**	**(1,925)**	**1,675**	**2,127**	**(452)**

Table 13 provides a summary of the F2017-F2019 Service Plan *total* Project cost, the current forecast *total* Project cost and the variance between the two; and the plan *to date* amounts, the actual costs *to date* and the variance between the two.

Table 13 Total Project Expenditure Summary ($ million Nominal) Compared to F2017-F2019 Service Plan

Description	F2017-F2019 Service Plan	Forecast	Variance	F2017-F2019 Service Plan to Date	Actual to December 31, 2017	Variance
Total Project Costs	8,335	9,992	(1,657)	2,165	2,127	38
Treasury Board Reserve	440	708	(268)	0	0	0
Authorized Project Cost	**8,775**	**10,700**	**(1,925)**	**2,165**	**2,127**	**38**

There is no variance between the total project costs approved in the Final Investment Decision and the total project costs approved in the F2017-F2019 Service Plan. The project forecast has been revised to reflect the updated budget approved subsequent to the reporting period. Variances between the plans to date amounts occur due to differences in the timing of project implementation activities.

Variances are primarily due to earlier than planned expenditures on Main Civil Works offset by shifts of expenditures for some property acquisitions, mitigation and

compensation and highways into future periods. Further explanations are in Appendix D.

3.3 Internal Project Financing versus External Borrowings to Date

To date, all project funding has been from internal borrowings and there has been no Site C Project specific debt issued. As part of BC Hydro's debt management strategy, BC Hydro's exposure to variable debt is managed within a board approved range of 5 per cent to 25 per cent and a target of 15 per cent. In addition, to lock in historically low interest rates, since F2017 BC Hydro has hedged $5.65 billion of its future forecast long-term debt issuances out to F2024 through the use of derivative contracts.

As at December 31, 2017, $1.8 billion in hedges have settled with a realized gain of $75 million and $3.9 billion of hedges remain outstanding with an unrealized value of $121 million. Subsequent to December 31, 2017, BC Hydro has hedged an additional $1.0 billion of its forecast future long-term debt issuances.

4 Material Project Risks

This section describes the material Project risks that have high residual exposure to BC Hydro. Commercially sensitive numbers and content, and/or content that could be seen to prejudice BC Hydro's negotiating position, are redacted in the public version. Note that the residual consequence and residual probability levels are qualitative assessments. Refer to Table 14 for a list of risks.

Table 14 Material Project Risks

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[11]
Delay to Permitting	Permits and licences are still required for several portions of construction activity. Delays to these permits and licences could result in delays to the associated construction work. BC Hydro is proactively working with contractors, federal and provincial authorities, and First Nations to mitigate this risk.	➔
Environmental Requirements	The Project must comply with the requirements of the Environmental Assessment Certificate (Provincial) and the Federal Decision Statement as well as conditions in licenses, permits and authorizations. All Contractors on the Project have experienced difficulties in adapting their construction methodologies to achieve the Project's environmental commitments. To address this, BC Hydro has added additional environmental specialists and is working with the Contractors to implement solutions that meet regulators' expectations.	➔

[11] Arrow direction represents the change since the last Quarterly Progress Update report.

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[11]
Challenges to Project Approvals	There are two outstanding challenges of Project permits/approvals: (i) An appeal of one of the Conditional Water Licences is before the Environmental Appeal Board (**EAB**); that appeal is proceeding in writing. On January 19, 2018, the EAB set dates for the written hearing of this matter to proceed through various steps that conclude by July 2018 and a ruling can be expected 3-4 months later; and (ii) An appeal of the dismissal of the judicial review of 36 provincial permits. The appellants (two First Nations) are not actively pursuing the appeal and will require a court order to proceed. BC Hydro has agreements in place with six First Nations, who have indicated they do not oppose or object to the Project. These agreements provide First Nations with Project benefits and mitigate the risk of legal challenges. In the absence of agreements with all of the identified potentially affected First Nations, there remains risk of challenges to authorizations issued for the Project. We are continuing to negotiate agreements with several First Nations. The status of some specific negotiations is confidential at this time.	➔
Litigation	There remains a risk that litigation could be initiated with respect to construction matters. In January 2018, two First Nations each filed a Notice of Civil Claim in B.C. Supreme Court in which they assert, among other things, that the Site C project is an infringement of their rights under Treaty 8. BC Hydro, the Province of B.C. and Canada are the named defendants. Related to this claim, the West Moberly First Nations filed an injunction to stop construction of Site C pending the hearing of their civil claim. The injunction application is expected to be heard in the period between July and September 2018. The current time estimate for the hearing is 10 days. In addition, Blueberry River First Nations are expected to proceed to trial in late March 2018 with their treaty infringement claim against the Province of British Columbia; it is unclear at this time what the implications of this trial may be to the Site C Project.	➔
Market response to procurement	BC Hydro has received positive and competitive market responses in major contract procurements to date. Market response risks will continue to be monitored. Some risk remains for major procurements yet to be completed, including Generating Station and Spillways, Transmission and Highway 29 Realignment.	➔

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[11]
Labour Relations & Stability	Due to multiple employers at site with different union affiliations there is a risk of site labour disruption that could result in issues. All major contracts contain no strike, no lockout, and no raiding provisions; BC Hydro has implemented a site wide Labour Relations Contractor Committee to support labour stability on the site.	➔
Geotechnical risks	Changes to geotechnical ground conditions remain a risk to schedule and cost. There have been extensive geotechnical studies over many years. Construction plans have been developed to mitigate these impacts, for example, the Left Bank slope is being excavated to remove known historical instability. BC Hydro has recently redesigned the Left Bank slope profile to incorporate the temporary till haul road for the construction of the main dam to mitigate construction execution risks associated with instability events.	➔
Construction cost – labour	Potential cost increases could arise if there is competition with other projects for labour resources, labour instability, or changing workforce demographics. Based on current market conditions in the infrastructure and energy sector, the labour risk is low; however, the recent federal announcement of pipeline projects could impact labour prices and availability of skilled labour. There remains the potential for market labour conditions to shift in the future and if so this risk may increase.	➔
Construction cost – commodities and equipment	Construction commodity and equipment cost risks have declined slightly over the past year and Canadian exports are down. Key commodities such as steel, diesel and gasoline are below BC Hydro's forecast when preparing the original cost estimate. Diesel and gasoline rack pricing are currently slightly below the baseline rate established for fuel escalation in the Main Civil Works contract. There remains an external risk of higher-than-expected commodity costs (including diesel), if there were to be a material change in market conditions or changes to North American Free Trade Agreement that may impact Site C contracts not awarded that include commodities.	➔

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[11]
Construction execution	The Main Civil Works Contractor has experienced delays on several of their critical path activities, resulting in a one year schedule delay. Efforts have been made to mitigate construction execution risk and include a redesign of the Left Bank excavation. The Contractor experienced low concrete aggregate production rates impacting the Right Bank Roller-Compacted Concrete placement productivity. This resulted in the Powerhouse Roller-Compacted Concrete Buttress being only partially completed in 2017 and BC Hydro and the Contractor are reviewing options to recover productivity on the remaining Roller-Compacted Concrete placements. Critical path construction activities that involve the Main Civil Works and the Generation Station and Spillways contractors have been identified as an interface risk. BC Hydro is actively coordinating between the Main Civil Works contractor and the Generating Station and Spillways contractor to identify potential interface issues. The risk starts when the Generating Station and Spillways contractor arrives on site and starts to receive hand offs from the Main Civil Works contractor. If oil and gas sector activity returns to pre-2014 levels, there may be a risk in accessing skilled and qualified workers for the project workforce, due to a low unemployment rate in the region and multiple contractors competing for a similar workforce.	↑
Foreign exchange	Some of Site C project costs are in foreign currency, and will be affected by fluctuations in the exchange rate between the Canadian dollar and these foreign currencies. Approximately 20 per cent of the overall Site C direct construction costs are based on foreign currency. The Canadian dollar has weakened significantly compared to the U.S. dollar since the 2014 capital cost estimate was developed. However, the award of major contracts (particularly the Turbine and Generators contract) has reduced BC Hydro's exposure to currency fluctuations by transferring the risk to the contractor after award. The impact on future procurements may depend on future movement in foreign exchange markets, future movement in commodity and equipment markets, and the ability of the proponents to source from a range of foreign markets. Residual risk on contracts yet to be procured is partially mitigated through contractor flexibility around sourcing of material, resulting in an exposure to a basket of currencies, rather than solely the U.S. dollar.	→

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[11]
Interest rate variability	Interest during construction costs will be affected by fluctuations in market interest rates. Currently, market interest rates are expected to be lower than assumed in BC Hydro's budget at the Final Investment Decision. BC Hydro has reduced its exposure to variable rate debt and increased its exposure to fixed rate debt. In March 2016, the British Columbia Utilities Commission approved a Debt Hedging Regulatory Account for BC Hydro to capture the gains and losses related to the hedging of future debt issuance. BC Hydro has hedged 50 per cent of its forecast future debt issuances from F2017 to F2024 through the use of derivative contracts.	➔
Change in Tax Rates	There is the potential for a change in tax rates that apply to Site C (e.g., PST, carbon tax) as well as the potential for a portion of GST to be unrecoverable. BC Hydro is monitoring potential changes to federal and provincial taxes and their potential effects. Where appropriate, BC Hydro will secure advance rulings on tax applicability to reduce uncertainty in treatment.	➔

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Appendix A

Site Photographs

Figure A-1 **Aggregate Stockpiling. Photo taken October 11, 2017.**

Figure A-2 **Left Bank Excavation - Excavator Cutting Ditch along Bench 0-2 Slope. Photo taken October 12, 2017.**

Figure A-3 **Aerial View of the North Bank, with Cofferdams and Laydown area, Looking Southeast. Photo taken November 3, 2017.**

Figure A-4 **Batch Plant Area on the South Bank. Photo taken November 3, 2017.**

Figure A-5 **Generating Station and Spillway Area southwest Section - Mulching of Woody Debris Continues. Photo taken November 17, 2017.**

Figure A-6 **Plant Producing Shotcrete for the Right Bank Drainage Tunnel. Photo taken November 23, 2017.**

Figure A-7 Roller Compacted Concrete Conveyor Assembly. Photo taken November 25, 2017.

Figure A-8 Draft Tube Elbow Sections Delivered via Rail Car. Photo taken November 27, 2017.

Figure A-9 **Inlet Portal – Continued to Heat and Hoard the Shotcrete Face on Bench O. Photo taken December 29, 2017.**

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Appendix B

Summary of Individual Contracts Exceeding $10 million

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Appendix C

Project Progression

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Appendix D

Detailed Project Expenditure

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Appendix E

Workforce Overview

Table E-1 Current Site C Jobs Snapshot (October 2017 to December 2017)[12]

	October 2017		November 2017		December 2017	
Type of Work	**Number of B.C. Workers**	**Number of Total Workers**	**Number of B.C. Workers**	**Number of Total Workers**	**Number of Total Workers**	**Number of B.C. Workers**
Construction and Non-Construction Contractors[13] (including some subcontractors). Excludes work performed outside of B.C. (e.g., Manufacturing)	1,683	1,500	910	1,202	1,036	817
Engineers and Project Team[14]	444	474	443	479	489	456
TOTAL	1,607	1,974	1,353	1,681	1,525	1,273

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

BC Hydro has contracted companies for major contracts, such as Main Civil Works, who have substantial global expertise. During the month of November 2017, there were seven workers in a specialized position working for Site C construction and non-construction contractors, which were subject to the Labour Market Impact Assessment process under the Federal Temporary Foreign Worker Program. Additionally, there were 33 management and professionals working for Site C construction and non-construction contractors through the Federal International Mobility Program.

[12] Employment numbers are direct only and do not capture indirect or induced employment.

[13] Construction and Non-Construction Contractors includes work performed on Site C dam site, transmission corridor, reservoir clearing area, public roadwork, worker accommodation and services.

[14] Engineers and Project Team are comprised of both on site and off site workers. The Project Team includes consultants, BC Hydro Construction Management and other offsite Site C project staff. An estimate is provided where possible if primary residence is not given.

Table E-2 Preliminary Site C Apprentices Snapshot (October 2017 to December 2017)

Month	Number of Apprentices
October 2017	18
November 2017	11
December 2017	8

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

Table E-3 Current Site C Job Classification Groupings

Biologists & 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		

Table E-4 Aboriginal Inclusion Snapshot (December 2016 to December 2017)

Month	Number of Indigenous Workers
December 2016	187
January 2017	195
February 2017	216
March 2017	221
April 2017	188
May 2017	211
June 2017	213
July 2017	193
August 2017	181
September 2017	172
October 2017	132
November 2017	96
December 2017	78

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

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

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. The number of workers will also vary as a contract's scope of work is completed by the contractor.

Women

During the period of October 2017 to December 2017, there were between 219 and 270 women working for Site C construction and non-construction contractors. The number of women was provided by on-site construction and non-construction contractors and engineers that have a contractual requirement to report on the number of women in their workforce.

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Appendix F

Site C Construction Schedule

Table F-1 Site C Construction Schedule