BC Hydro
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Chris O'Riley
President & Chief Operating Officer
BC Hydro
Email: chris.oriley@bchydro.com

December 20, 2017

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

Re: Site C Clean Energy Project, PUBLIC Quarterly Progress Report No. 9

Dear Mr. Wruck,

Enclosed is the ninth Quarterly Progress Report for the Site C project, for the reporting period from July 01, 2017 to September 30, 2017.

This document is provided in fulfilment of the quarterly project progress reporting requirement, as set out in the Site C Reporting and Accountability Framework. The Board of Directors of BC Hydro approved the report on December 06, 2017.

Subsequent to the reporting period, on December 11, 2017, the Provincial Government announced its approval to proceed with the Site C project. As part of this announcement, BC Hydro provided a revised cost estimate of $10.7 billion, including the project reserve, which has been noted in this report.

The next Quarterly Progress Report will be issued in March 2018.

Sincerely,

Chris O'Riley

Enclosure

cc: Diane McSherry, Vice-President & Project Director, Site C project

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Site C Clean Energy Project

Quarterly Progress Report No. 9

F2018 Second Quarter

July 2017 to September 2017

PUBLIC

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1 Project Status

This Quarterly Progress Report No. 9 (**Report No. 9**) provides information concerning the Site C Clean Energy Project (**Project**) covering the period from July 1, 2017 to September 30, 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.

As indicated in the October 4, 2017 British Columbia Utilities Commission Site C Inquiry filing, BC Hydro has encountered some geotechnical and construction challenges on the project. Based on the recent completion of a constructability review, and an executive meeting with our Main Civil Works contractor, on September 27, 2017 we determined that we will not be able to meet the current timeline for river diversion in 2019. While this will set some activities back a year, we had a one-year float built into our schedule and we are confident BC Hydro can still deliver this project on time, by November 2024. Not meeting the current river diversion timeline has created new pressures on the project's budget. BC Hydro estimates that this development is expected to increase the project cost by 7.3 per cent or $610 million. Subsequent to the reporting period, on December 11, 2017, the Provincial Government announced their approval to proceed with the Site C project. As part of this announcement, BC Hydro provided a revised cost estimate of $10.7 billion, including the project reserve.

Table 1 provides a dashboard based on the Project status as at September 30, 2017.

Table 1 Project Status Dashboard

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

Status as of:		September 2017
Overall Project Health	●	The project has encountered geotechnical and construction challenges and the risk to the river diversion timeline has materialized. While this sets some activities back by a year the project had one year of float built into the schedule and BC Hydro is on track to deliver the project on time by November 2024.
Scope	●	Scope changes have been minimal and the changes are expected to be managed within contingencies.
Schedule	●	The project has revised its schedule as a result of the delay in river diversion from 2019 to 2020. The project is still on track for the overall in service date of 2024.
Cost	●	Subsequent to the reporting period, the Provincial Government announced their approval to proceed with the Site C project. As part of this announcement, BC Hydro provided a revised cost estimate of $10.7 billion, including the project reserve.
Regulatory, Permits & Tenures	●	Permits are on track and meeting schedule requirements with 207 permits/authorizations obtained to date and 148 permits/authorizations estimated remaining. BC Hydro is developing a coordinated First Nations consultation process with the Ministry of Forest, Lands and Natural Resources and Rural Development to assist with the government permit workload. Additionally, BC Hydro is working closely with Forest, Lands and Natural Resources and Rural Development to resolve an on-going property crown lease conflict along the transmission alignment. Resolution is critical to proceeding with the transmission activities on site in spring 2018. Subsequent to the reporting period, this issue has been resolved.
Environment	●	During this quarter, the Environmental Assessment Office inspected the site once and finalized their non-site related inspection of the proposed Cache Creek Bridge and Highway re-alignment. Canadian Environmental Assessment Agency, Environment Canada, Transport Canada and Forest, Lands and Natural Resource Operations also conducted a single inspection each this quarter. The regulators provided observations of improved environmental planning and oversight – specifically pertaining to sediment and erosion control. An area of continued risk relates to the potential for the regulators to add environmental prescriptive requirements or reduce discharge/acceptance limits. BC Hydro staff are working closely with the regulators to ensure revisions to the various environmental plans comply with the legal requirements while balancing commercial impacts.
Risks	●	Identified risks are being managed and treatments are in place or planned. For details refer to section 4 Material Project Risks below.
Procurement	●	Progress continues on the three Generating Station & Spillways procurements: Civil, Hydromechanical Equipment and Cranes. The Transmission Line Conductor and Construction Requests For Proposal were issued in September 2017. The substation Request For Proposals closed in August 2017 and is under evaluation. The Wildlife Mitigation Structures direct award is in final negotiations.

Status as of:		September 2017
Indigenous Relations	🟡	Six of ten agreements are fully executed and in implementation. Work continues to understand and mitigate spiritual, cultural and potential burial sites in the Cache Creek area. BC Hydro will review the required boat ramp location in the area; further engagement with other Nations and users will begin shortly. Environmental Assessment Office has deemed the Cultural Resources Mitigation Plan non-compliant and the plan is being updated. Nun wa dee continues to challenge consultation surrounding that work, also continuing to reinforce their opinion that BC Hydro is out of compliance with Federal and Provincial conditions related to cultural and heritage resource mitigation. BC Hydro continues to respond to their concerns.
Litigation	🟢	Decisions made by the Crown may be subject to additional judicial reviews by First Nations and others who may oppose the project.
Safety	🟡	There were three lost time incidents, eight medical aid with treatment injuries and seven serious 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. Northern Development Initiatives Trusts notified four selected projects under the GO Funding in September 2017 and is currently accepting submissions for the December 2017 selection process. The Regional Communities Legacy Committee's next meeting is scheduled for October 18, 2017. However, the committee is considering postponing the meeting until the early 2018.

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.

Table 2 Summary of Proceedings with Hearings or Decisions Pending

Outcome		Date
Federal Court: Federal Environmental Approval		
Prophet River First Nation West Moberly First Nations	**Petition dismissed** Appeal dismissed **Leave to Appeal to Supreme Court of Canada dismissed.**	August 28, 2015 January 23, 2017 June 29, 2017
B.C. Court: Provincial Environmental Assessment Certificate		
Prophet River First Nation West Moberly First Nations	**Petition dismissed** Appeal dismissed **Leave to Appeal to Supreme Court of Canada dismissed.**	September 18, 2015 February 2, 2017 June 29, 2017
B.C. Court: Provincial Permits		
Prophet River First Nation West Moberly First Nations	Injunction - dismissed Petition dismissed Appeal filed Hearing date	August 28, 2015 October 31, 2016 November 30, 2016 To Be Determined
Environmental Appeal Board		
Prophet River First Nation West Moberly First Nations C. London	First Nations Water License appeal withdrawn London Hearing date	Appeals Filed: March 29, 2016 and First Nations Appeal Withdrawn: July 17, 2017 To Be Determined
Other Proceedings		
Building Trades vs. BC Hydro	Civil claim filed Response to claim filed	March 2, 2015 April 10, 2015

1.2.3 Permits and Government Agency Approvals

1.2.3.1 Background

In addition to the Environmental Assessment Certificate 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 355 permits will be required throughout the life of the project. Prior to the reporting period, 184 permits had been received and are being actively managed. During the reporting period, 23 new permits were received in accordance with the schedule.

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.

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 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 and Natural Resource Operations and the Ministry of Energy and Mines.

Approximately 310 Provincial permits and approvals will be required throughout the life of the project. As of this reporting period, 207 permits have been obtained with another 21 permit submissions pending approval.

1.2.3.4 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. Two forums have been held to date of this reporting period in F2018.
- BC Hydro continues to support the Ministry of Forests, Lands and Natural Resource Operations during the First Nations consultation process by attending consultation meetings when invited to do so, and responding to First Nations questions on permit applications.

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 respondents and planning is underway for proposal evaluations. 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 which incorporate 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 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 for the 500 kV transmission lines and Site C Substation. Work is progressing on the Protection and Controls systems to meet project schedule with remaining requirements being established and reviewed for Site C operating procedures within the system. Definition phase design for Hudson's Hope Shoreline Protection has been completed to meet early water licence requirements. Planning for Highway 29 final design is being updated to meet project schedule and requirements.

The last Technical Advisory Board meeting was held in June 2017. Several conference calls were completed in September 2017 to update the Technical Advisory Board on the Left Bank. 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. The next full Technical Advisory Board meeting is scheduled for scheduled for January/February 2018.

1.2.4.2 Construction

Refer to Appendix F for the full construction schedule.

Early Works

Table 3 Status of Scope Completion

Scope	Complete
Clearing	
North Bank	√
South Bank	√
Lower Reservoir Clearing	√
North Bank Site Preparation	
North Bank Road	√
North Bank Excavation	√
North Bridge Approach	√
South Bank Site Preparation	
Septimus Road	√
Substation Pad & Associated Roads	√
Septimus Siding	√
Offsite Public Roads (around dam site)	
271 Road	√[1]
Old Fort Road	√
North View Point	√

As of September 30, 2017 clearing at Lower Reservoir was substantially complete and remaining clearing is on hold pending the outcome of the BC Utilities Commission review and Government decision. The remaining merchantable timber will be transported to local mills and non-merchantable timber will be disposed of in fall 2017. As of September 30, 2017 clearing at Moberly River, which is being planned over two seasons, was approximately 45 per cent complete. Remaining clearing on Moberly River as well as the Eastern Reservoir is on hold pending the outcome of the BC Utilities Commission review and Government decision.

Work on Old Fort Road was completed July 31, 2017 and 271 Road was completed in October 2017, later than planned due to poor weather and ground conditions. The North View Point road and viewing area gravel surfacing is substantially was complete.

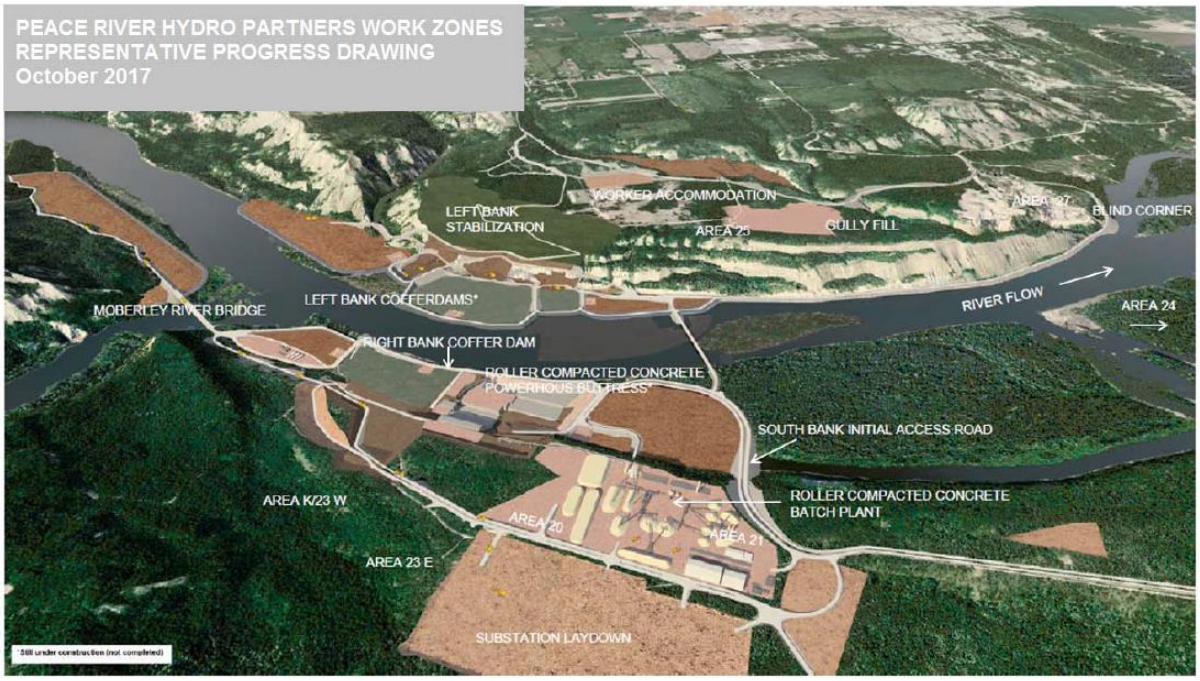
[1] Completed in October 2017, outside of this reporting period.

Main Civil Works

Table 4 Scope of Main Civil Works Contract

Component	Description
Diversion works	Two approximately 11 metre diameter concrete-lined tunnels approximately 750 metres in length
Excavation and bank stabilization	Approximately 26 million cubic metres of overburden and rock excavation
Relocation	Relocation of surplus excavated material (including management of discharges)
Dams and Cofferdams	A zoned earth embankment dam 1,050 metres long and 60 metres above the present riverbed and stages 1 and 2 cofferdams
Roller-Compacted Concrete	Buttress – 800 metres long with 2 million cubic metres of concrete

Figure 1 Map of Main Civil Works Work Areas



Based on the recent completion of a constructability review, and an executive meeting with the Main Civil Works contractor, on September 27, 2017 BC Hydro determined that it will not be able to meet the current timeline for river diversion in 2019.

Left Bank

To mitigate delays experienced on the Left Bank, BC Hydro has developed a plan to enable work to continue over the winter months which include three key activities that need to progress over the winter. The work includes:

- temporary haul road construction which includes completion of panel excavations to unload and stabilize the second tension crack, a bypass road to allow excavated materials to be moved to area L5 and starting the construction of a till haul road across the left bank;
- diversion inlet portal excavation which includes benched excavation above the inlet portal to allow work to commence on construction of the inlet portals; and
- mass excavation for outlet portal access; excavation needs to ramp up through the winter season to provide access to the outlet portal and dam.

The activities this winter are in support of future work which includes diversion tunnel excavation, completion of the mass Left Bank excavation for slope profiling and creating till haul roads for main dam construction.

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

Right Bank

The Right Bank Approach Channel and Powerhouse excavation milestone for 2017 was substantially achieved on May 31, 2017. The contractor began placement of conventional concrete in the Stilling Basin on June 4, 2017, however Roller-Compacted Concrete production in the Stilling Basin and Powerhouse was lower than projected and Peace River Hydro Partners achieved 30 per cent of the Roller-Compacted Concrete placement for 2017. Through summer 2017, the contractor’s schedule updates and progress reports indicated that the

Roller-Compacted Concrete production rates could be accelerated in order to meet the 2017 Roller-Compacted Concrete milestones. On August 29, 2017, the contractor reported that the 2017 Roller-Compacted Concrete milestones would not be met. Upon receiving notification, BC Hydro requested that the contractor provide mitigation plans to bring the work back on schedule. The contractor was unable to mitigate the delay. The delays were primarily due to late procurement of key pieces of equipment and spare parts, equipment failures, contractor's low rates and supply of aggregates production, contractor's difficulties in managing high day time temperatures that limited/prevented Roller-Compacted Concrete placement during the day in the height of the summer and the forecasted low night time temperatures that would prevent Roller-Compacted Concrete placement during the night shift from September 2017 onwards. BC Hydro and Peace River Hydro Partners are working together to re-sequence the Roller-Compacted Concrete excavations and placement in 2018, 2019 and 2020 to mitigate the risk of the handover date for the Generating Station & Spillways. BC Hydro is also using a portion of the 12 months of owner's float to extend the contractual In-Service dates for Units 1 to 6 out to provide more schedule duration to complete the Generating Station & Spillways scope of work.

Ministry of Transportation and Infrastructure Public Road Upgrades

The Ministry of Transportation and Infrastructure's contractor, A.L. Sims and Sons, has substantially completed 269 Road and 240 Road. Both components are now paved.

BC Hydro has entered into a contract with a designated business partner of an Indigenous group 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 is scheduled to be completed by October 2017.

In 2016, BC Hydro acquired land and rights from eight property owners in the Cache Creek-Bear Flat area required to construct this section of the Highway. Of the eight

properties acquired, two of the property owners had homes that would need to be relocated prior to the start of construction.

Under the management of the Ministry of Transportation and Infrastructure, work commenced on Highway 29 at Cache Creek-Bear Flat in February 2017 and was completed on March 29, 2017. This included clearing and grubbing of the new highway re-alignment right-of-way and the areas identified as gravel sources to support the future highway construction.

Due to highway safety concerns, construction of the Highway 29 re-alignment at Cache Creek-Bear Flat was to be completed prior to the river diversion in 2019. To meet this timeline, construction (grading and paving) of an 8.5 kilometre re-alignment of Highway 29 at Cache Creek-Bear Flat was tendered by the Ministry of Transportation and Infrastructure on June 15, 2017. At the time, BC Hydro estimated that if the Highway 29 section was not complete in time, the cost to delay river diversion by one year would be $630 million.

When the provincial government announced the British Columbia Utilities Commission review of the Site C project in August 2017, BC Hydro was asked to delay the relocation of two homes that were to be affected by the highway re-alignment. The grading and paving tender for the re-alignment was cancelled on August 2, 2017. To prevent this delay from impacting the 2019 river diversion milestone, the Ministry of Transportation and Infrastructure was asked to implement a temporary measure, such as a detour, to allow the diversion to proceed without the road re-alignment being completed. 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.

Subsequently, BC Hydro announced a delay in the River Diversion on October 4, 2017. To confirm, this delay was not connected to a delay in commencing the Highway 29 work as described above.

In the interim, BC Hydro is working with Ministry of Transportation and Infrastructure to develop potential re-alignment options that meet required design criteria to ensure the safety and reliability of the travelling public while minimizing impacts to Indigenous groups' and property owners' interests. Construction work on the Cache Creek-Bear Flat re-alignment will start following a government decision to go forward with the project.

Transmission & Substation

The Peace Canyon Gas Insulated Switchgear contract was awarded to ABB Inc. The request for proposals for substation construction closed in August 2017 and evaluation is in progress. Requests for Proposals for transmission line conductor and transmission line construction contractor were issued in September 2017. The transmission lines and substation In-service dates remain on schedule.

Turbines & Generators

Voith Hydro has commenced assembly and welding of embedded turbine components in their temporary manufacturing facility on the Right Bank at Site C. During September 2017, meetings were held with Voith in their São Paulo factory, where the majority of turbine generator components will be made, to initiate manufacture for the turbine runner, stay ring, and wicket gates. Voith are on schedule and on budget and under the current schedule plan to commence installation in the powerhouse by fall 2019.

Generating Station & Spillways

The complete Generating Station & Spillways Civil Works Request for Proposals with final draft contract was issued on September 1, 2017. A revised schedule was issued to the proponents on October 14, 2017 with extended in-service-dates. At the request of the proponents, the Request for Proposals close date was extended to November 16, 2017.

Collaborative meetings were held between BC Hydro and each of the three proponents for the Hydromechanical Equipment contract in September 2017. The final draft contract was issued November 7, 2017.

A Request for Proposals closed on October 13, 2017 for the Powerhouse Bridge Cranes and Gantry Cranes contract and four proposals were received. The evaluation process is underway.

Quality Management

Implementation and monitoring of Quality Control and Quality Assurance Plans are required of all contractors. Table 5 below identifies quality management non-conformity instances during the quarter ending September 30, 2017.

Table 5 Quality Management Non-Conformity Report Metrics

Contract	Contractor	Reported this Period	Closed this Period	Reported to Date	Closed to Date
Main Civil Works	Peace River Hydro Partners	118	69	445	288
Turbines and Generators	Voith Hydro Inc.	3	2	7	5

The top three disciplines that have the most non-conformities reported to date from Peace River Hydro Partners are Construction (92), Roller-Compacted Concrete (63) and Quality (56). Outstanding non-conformities are being resolved and reviewed weekly through face-to-face meetings with management from BC Hydro and Peace River Hydro Partners.

The reported non-conformities for this reporting period from Voith Hydro Inc. are related to dimensional deviation of Units 1 and 3 draft tube cones.
The two non-conformities remaining open have been reviewed by BC Hydro and will be closed after the remedial actions are complete.

1.2.5 Safety

During the quarter there were three lost time injuries, eight medical aid with treatment injuries and seven serious near miss incidents. No major incidents were reported during the quarter.

There were nine orders during this quarter written against Peace River Hydro Partners by WorkSafeBC. All orders to date have now been complied with including the acceptance by WorkSafeBC of the Right Bank drainage tunnel ventilation plan.

Table 6 below identifies the project safety metrics during the quarter ending September 30, 2017.

Table 6 Safety Metrics

	Reported this Period (July 1, 2017 to September 30, 2017)[2]	Reported since Inception (July 27, 2015)[2]
Fatality & Serious Injury[3] (permanently disabling)	0	0
Lost Time Injury	3	9
Lost Time Injury Frequency (number of injuries resulting in lost time per 200,000 hours worked)[3]	0.61	0.32
Severity Rate (number of calendar days lost due to injury per 200,000 hours worked)[4]	14.56	3.37
Contractor near miss incidents	49	351
Employee near miss incidents	0	22
Public near miss incidents	0	5
Equipment/property damage reports[5]	28	182
WorkSafeBC orders	9	67

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

[3] Excludes health events unrelated to work standards.

[4] BC Hydro is now capturing safety metrics data each week from our two Prime Contractors which includes man-hours worked. Submissions have improved during the reporting period, resulting in improvements in the timeliness and accuracy of the safety metrics.

[5] Types of equipment and property damage include vehicle damage, 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.

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 plan and six 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.

The Fish and Aquatic Technical Committee has met a total of 25 times to date. No meetings were held in this reporting period. The Vegetation and Wildlife Technical Committee has met a total of 26 times to date, including one meeting in this reporting period.

1.2.6.3 Environmental Compliance Inspections and Enforcement

Inspectors from the BC Environmental Assessment Office and Forests, Lands and Natural Resource Operations, Fisheries and Oceans Canada, Transport Canada and from the Canadian Environmental Assessment Agency Office 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.

Inspectors from Canadian Environmental Assessment Agency inspected the site on July 4 to 6, 2017. They provided a verbal debrief and noted many improvements in overall environmental compliance performance but they did not issue a written inspection report. Inspectors from the Environmental Assessment Office inspected the site on August 22 to 24, 2017. They also provided a positive verbal debrief and their final inspection report is expected by the end of October 2017. Inspectors from Environment Canada conducted an inspection of the site on July 5, 2017 but they did not provide a verbal debrief nor are they planning to issue an inspection report. Transport Canada conducted an inspection on July 26, 2017 and they identified deficiencies (verbally and via e-mail) that BC Hydro has since rectified. This agency is not planning to issue a formal inspection report.

On August 30, 2017 the Environmental Assessment Office finalized its administrative inspection report prepared in response to complaints from Nun wa dee around the Proposed Cache Creek Bridge and Highway re-alignment. This report identified that if built as designed the proposed Cache Creek Bridge would not be compliant with the Project Description in the Environmental Assessment Certificate. This report also identified a non-compliance related to BC Hydro not identifying mitigation measures through the Cultural and Heritage Resources Committee, rather BC Hydro engaged directly with the impacted First Nations. Associated with the report, the Environmental Assessment Office also issued BC Hydro a letter on August 30, 2017 identifying that the Heritage Resources and

Cultural Resources Management Plans were “not to the satisfaction of the EAO”. These Management Plans are being revised and BC Hydro is assessing alternate re-alignment options for the Cache Creek segment of Highway 29 to mitigate the concerns expressed by the Nun wa dee.

1.2.6.4 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.

Planning and procurement was completed for the 2017 Heritage field work which included work scope to meet regulatory requirements for pre-construction archaeological impact assessments in areas not accessible until now, systematic data recovery at selected archaeological sites, investigation of heritage chance finds as required, and palaeontological inspections. Field work began in May 2017 and is continuing through the fall. Heritage compliance reviews of contract documents, contractor environmental plans and construction readiness plans were performed to ensure compliance.

1.2.6.5 Agriculture Mitigation and Compensation Plan – Framework

BC Hydro worked with the Consultation Steering Committee comprised of staff from BC Hydro, the Ministry of Agriculture, and the Ministry of Energy and Mines, to develop the Framework for the Agricultural Mitigation and Compensation Plan (submitted July 2016) and the draft Agricultural Mitigation and Compensation Plan (submitted January 2017). In developing the Framework and the draft Plan, the Consultation Steering Committee considered 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; legal and financial

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

In accordance with the requirements of the condition, BC Hydro submitted the draft Plan on January 27, 2017 to the Peace River Regional District, the District of Hudson's Hope, and provided notification to affected landowners, tenure holders, and consultation participants of the draft Plan being available on the Site C website. The comment period closed on March 13, 2017, and feedback was considered in development of the final Agricultural Mitigation and Compensation Plan. The Consultation Steering Committee has worked together to create a final Agriculture Mitigation and Compensation Plan which was submitted on July 27, 2017 with the B.C. Environmental Assessment Office, Peace River Regional District, District of Hudson's Hope, the Ministry of Agriculture, the Ministry of Forests, Lands and Natural Resource Operations and affected landowners and tenure holders.

1.2.7 Employment, Labour and Training and Building Capacity Initiatives

Labour

BC Hydro is using a managed open site labour approach. It does so by allowing all qualified contractors, regardless of union affiliation or status, to participate in the construction of the project.

As with other major construction projects in B.C. there remains the possibility that union activity could occur at certain periods during the length of the project.

To mitigate this BC Hydro has:

- Entered into a Memorandum of Understanding with certain British Columbia Building Trades unions to achieve labour stability and a mix of labour representation on site. This Memorandum of Understanding is specific to unions who have negotiated labour agreements for project work;

- Included labour stability terms such as no strike, no lockout, and no raiding provisions in major contracts on the site; and
- Implemented a site wide Labour Relations Contractor Labour Committee, to support labour stability on the site through communication, consultation, coordination and cooperation among contractors on the project.

To date there have been two successful union organizing drives on the project and one unsuccessful union raid attempt, with no site disruption.

Employment

Contractors submit monthly workforce data electronically to BC Hydro. Table 7 shows a snapshot of the total number of Construction contractors, Non-Construction contractors, Engineers, and Project Team workers for this quarter by month.

Table 7 Site C Jobs Snapshot

Month	Number of B.C. Workers[6]	Number of Total Workers[6]	Percentage of B.C. Workers (%)
July 2017	2,059	2,549	81%
August 2017	1,900	2,357	81%
September 2017	1,917	2,375	81%

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.

[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 August 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 WorkBC website as well as on the Fort St. John Employment Connections website. In August 2017, Site C contractors reported 626 workers on site from the Peace River Regional District. This is a total of 32 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. The Atkinson subdivision redevelopment work began on May 29, 2017 in Hudson's Hope.

BC Hydro and the Peace River Regional District have renewed discussions in hopes of reaching an agreement to primarily address direct impacts on their sewage outfall located several kilometres upstream from the dam site. The most recent negotiation communication occurred in September 2017.

The Regional Community Liaison Committee, which is comprised of local elected officials and local Indigenous groups, met most recently on September 6, 2017 and

attendance remains high. After consultation with the committee, the decision was made to wait to schedule the next meeting pending the outcome of the BC Utilities Commission review and Government decision. 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 Project's major contractors have also attended the meetings as invited guests, including Peace River Hydro Partners, ATCO Two Rivers Lodging Group and the Ministry of Transportation and Infrastructure.

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.

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.

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 245 public enquiries between July 2017 and September 2017, compared to 546 in the previous quarter. The majority of these enquiries continued to be about business and job opportunities, although there were also some construction impact concerns from local residents. Table 8 shows the breakdown of some of the most common enquiry types:

Table 8 Public Enquiries Breakdown

Enquiry Type[7]	July 2017	August 2017	September 2017
Job Opportunities	68	47	32
Business Opportunities	21	14	12
Construction Impact[8]	2	0	2

1.2.8.4 Communications Activities

Based on a search using the media database Infomart, there were 823 stories in B.C. news media in the July 2017 to September 2017 period on the Site C Project, compared to 634 stories in the previous quarter.

Announcements/information bulletins during this period included an information bulletin on a small gastrointestinal outbreak at site and information on the opening of the Site C viewpoint.

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 Agreement sets out the terms of the housing project, and has a target completion date for occupancy of December 2018. The housing project will be a Certified Passive House standard to provide the opportunity to showcase the Project's energy efficiency features. The City of Fort St. John has been a strong

[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.

advocate for Passive Houses and will partner with BC Hydro in showcasing the building as a demonstration project for energy efficient building techniques.

Construction of the housing project is underway by BC Housing's contractor, Western Canadian Properties Group.

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.

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.

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 School District 60 is in the process of procuring a daycare operator. The daycare is anticipated to open in summer 2018 and BC Hydro is developing a priority access policy for 19 of the 37 spaces for persons designated by BC Hydro.

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. 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, 24 hours a day. Since opening the Project health clinic there have been a total of 4,315 patient interactions. During the reporting period, there were 742 patient interactions, of which 235 were occupational and 507 non-occupational. Several preventive health themes were promoted to workers, including: fatigue awareness and prevention, hearing loss, and low back pain prevention.

Outside of the reporting period there was an outbreak of gastrointestinal infections at the Site C project site. There were approximately 16 cases in total as of July 31, 2017, which represents a small proportion of our workforce of over 2,100 people working on site. BC Hydro reacted to this outbreak by collaborating with our contractors, the on-site medical clinic and the Northern Health Authority. There was a plan in place for the Site C project to deal with an illness outbreak and control measures were quickly implemented to reduce the transmission of the virus.

1.2.8.8 Property Acquisitions

BC Hydro continued discussions with owners whose land is required for the Eastern Reservoir Clearing Project and the Halfway River Highway 29 Re-alignment Project. No new property acquisitions were made during this quarter.

BC Hydro also continued discussions with owners whose lands are impacted by the Old Fort Fish Habitat Enhancement Project, this included issuing permissions to enter and covenant agreements for review and acceptance.

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 9 below.

Table 9 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 agreements 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. Three shortlisted proponents currently participating in Request for Proposal process.
	Hydromechanical Equipment contract	Supply Contract	Request for Proposals issued February 2017. Three shortlisted proponents currently participating in Request for Proposal process.
	Powertrain Balance of Plant Equipment Supply	Supply Contracts	F2018 to F2020.
	Completion Contract (Powertrain Balance of Plant Equipment Installation)	Install Contract	F2018 to F2020.
Electrical and Transmission Infrastructure	Transmission Lines contract	Design-Bid-Build	Various through F2018.
	Site C substation contract	Design-Bid-Build	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, four major contracts (e.g., greater than $50 million in value) have been awarded: Worker Accommodation, Site Preparation: North Bank, Main Civil Works and Turbines and Generators. 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 is shown in Table 10 below.

Table 10 Major Project 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

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] The above-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 filed with the British Columbia Utilities Commission Inquiry respecting Site C on October 4, 2017, BC Hydro has determined that not meeting the current river diversion timeline has created new pressures on the project's budget. We estimate that this development is expected to increase the project cost by 7.3 per cent or $610 million. 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 cost estimate is in line with the mid-range scenario put forward by Deloitte and the British Columbia Utilities Commission in their assessment of the project.

As part of the total project capital cost estimate of $8.335 billion, based on the Final Investment Decision (December 2014), $794 million (nominal) of contingency was allocated to the Site C Project at Final Investment Decision in December 2014. This excluded $440 million of project reserve which was being held by the Treasury Board. There have been no draws on project reserve to date.

The Interest-During-Construction savings and unallocated budget amounts totalling $401 million were added to the original contingency allocation of $794 million, resulting in the revised total contingency budget of $1,194.6 million.

As of September 30, 2017, $509.4 million has been released to management of which $357.9 million has been allocated to work packages (e.g., to be spent) through a work package change notice in order to fund contract award and/or contract contingency, leaving a balance of contingency released to management but uncommitted in contracts of $151.5 million.

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

1.4 Plans During Next Six Months

Outside of the reporting period, as filed with the British Columbia Utilities Commission Inquiry respecting Site C on October 4, 2017, BC Hydro identified that the River Diversion will not be completed by November 2019. BC Hydro is preparing a new project schedule and milestones to reflect this change.

Table 11 Key Milestones

Milestone	Plan/Performance Measurement Baseline (June 2016)	Forecast/Actual Date	Variance (months)	Current Status
South Bank Stage 1 Cofferdam Complete (Slurry Wall)	December 2016*	April 2017	(4)	Complete
Transmission 5L5 & 5L6 Tower Contract Award	February 2017	May 2017	(3)	Complete
Transmission Peace Canyon Gas Insulated Switchgear Contract Award	February 2017	July 2017	(5)	Complete
Tender Design 5L5 Complete	February 2017	August 2017	(6)	Complete
North Bank (271) Road Complete	June 2016	October 2017	(16)	Late
Powerhouse Excavation Complete	April 2017	July 2017	(3)	Complete
Cache Creek Roads Contract Award	June 2017	May 2018	(11)	Late
Generating Station & Spillways Civil Contract Award	July 2017	February 2018 (Limited Notice to Proceed)	(7)	At Risk
Powerhouse Roller-Compacted Concrete Structure	October 2017	July 2018	(9)	Late[10]
Complete all Work for shared Road at Right Bank Cofferdam	October 2017	October 2017	0	On Track
Complete all Work for Excavation & Grading of Site C Substation	November 2017	January 2018	(2)	Late[10]

[10] As the river diversion milestone was moved out by one year BC Hydro is in the process of optimizing sequence for other contractors which will also adjust the milestones for these activities.

Milestone	Plan/Performance Measurement Baseline (June 2016)	Forecast/Actual Date	Variance (months)	Current Status
Provide Access for Other Contractors to Laydown	January 2018	January 2018	0	On Track
Provide Access to Approach Channel & Powerhouse Buttress for Other contractors	February 2018	September 2018	(7)	At Risk[11]
Excavation of Spillway Buttress Complete	March 2018	October 2018	(7)	At Risk

* Plan date now reflects Contractor original completion date.

1.5 Impacts on Other BC Hydro Operations

For the reporting period, there were no material impacts on the generation operation at the GM Shrum 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.

[11] BC Hydro and Peace River Hydro Partners are working together to re-sequence the Roller-Compacted Concrete excavations and placement in 2018, 2019 and 2020 to mitigate the risk of the handover date for the Generating Station & Spillways.

2 Project Schedule

2.1 Project In Service Dates

Outside of the reporting period, as filed with the British Columbia Utilities Commission Inquiry respecting Site C on October 4, 2017, BC Hydro identified that the River Diversion will not be completed by November 2019. While this will set some activities back a year, BC Hydro had a one-year float built into our schedule and we are confident the project will be delivered on time, by November 2024. BC Hydro is preparing a new project schedule and milestones to reflect this change.

Table 12 Project In-Service Dates

Description/Status	Final Investment Decision Planned In-Service Date[12]	Status[13] and Comments[14]
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

The approved Final Investment Decision schedule involved the first unit coming into service in December 2023.

2.2 Schedule Contingency

Site C manages the schedule by building Owner's schedule float into the overall project schedule. Contract milestones are then established with contractors to

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

[13] Status based on comparison to BC Hydro F2017-F2019 Service Plan.

[14] Outside of the reporting period, as filed with the British Columbia Utilities Commission Inquiry respecting Site C on October 4, 2017 BC Hydro identified that the River Diversion will not be completed by November 2019. BC Hydro is preparing a new project schedule and milestones to reflect this change.

preserve Owner's schedule float in order to mitigate identified risks. BC Hydro built two types of float into the overall project schedule, specifically:

1. "Owner's schedule float," or float held by BC Hydro to manage overall project schedule risks; and
2. "Contractor float," is over and above Owner's schedule float and is built into each contract schedule to address contractor risks during construction.

If identified risks were to materialize and a contract milestone is at risk of being missed, the contractor must submit a contract change request to BC Hydro. BC Hydro then assesses the impact to the overall project schedule and in some cases may request various mitigation measures (such as re-sequencing work or adding additional resources) to ensure contract milestones are met and Owner's schedule float continues to be preserved. For example, contract milestones of March 1, 2019 (complete Diversion Works) and June 1, 2019 (complete Commissioning of Gates for Diversion) were established ahead of the Project milestone (start of River Diversion) for September 1, 2019 so that BC Hydro and the contractor can take measures to mitigate any schedule slippage in March 2019, and still meet river diversion as scheduled.

Outside of the reporting period BC Hydro identified that the River Diversion will not be completed by November 2019. While this will set some activities back a year, BC Hydro had a one-year float built into our schedule and we are confident BC Hydro can still deliver this project on time, by November 2024.

3 Project Costs and Financing

3.1 Project Budget Summary

As filed with the British Columbia Utilities Commission Inquiry respecting Site C on October 4, 2017, BC Hydro has determined that not meeting the current river diversion timeline has created new pressures on the project's budget. We estimate that this development is expected to increase the project cost by 7.3 per cent or $610 million. 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 cost estimate is in line with the mid-range scenario put forward by Deloitte and the British Columbia Utilities Commission in their assessment of the project.

Table 13 below presents the overall Project Budget, based on the Final Investment Decision (December 2014), represented in nominal dollars.

The Project Budget Summary is at September 30, 2017. A revised budget will be reflected in the next quarter pending the outcome of the British Columbia Utilities Commission review and Government decision.

Table 13 Project Budget Summary

Description	Capital Amount (Nominal $ million) *
Dam, Power Facilities, and Associated Structures	4,120
Offsite Works, Management and Services	1,575
Total Direct Construction Cost	**5,695**
Indirect Costs	1,235
Total Construction and Development Cost	**6,930**
Interest During Construction	1,405
Project Cost, before Treasury Board Reserve	**8,335**
Treasury Board Reserve	440
Total Project Cost	**8,775**

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

3.2 Project Expenditure Summary

Table 14 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.

Table 14 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 September 30, 2017	Variance
Total Project Costs	8,335	8,945	(610)	1,505	1,955	(450)
Treasury Board Reserve	440	0	(440)	0	0	0
Authorized Project Cost	**8,775**	**8,945**	**(170)**	**1,505**	**1,955**	**(450)**

Table 15 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 15 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	Actuals to September 30, 2017	Variance
Total Project Costs	8,335	8,945	(610)	2,017	1,955	62
Treasury Board Reserve	440	0	(440)	0	0	0
Authorized Project Cost	**8,775**	**8,945**	**(170)**	**2,017**	**1,955**	**62**

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 forecast has been updated to include the estimated

cost increase of $610 million due to the river diversion postponement to 2020. Variances between the plan 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 Properties purchases, 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 has reduced its exposure to variable debt and is managing variable rate debt 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, BC Hydro has hedged 50 per cent ($4.4 billion) of its forecast future debt issuances from F2017 to F2024 through the use of derivative contracts.

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 16 for a list of risks.

Table 16 Material Project Risks

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[15]
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.	➔

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

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[15]
Challenges to Project Approvals	There are two outstanding challenges of Project permits/approvals: (i) An appeal of one of the Conditional Water Licences before the Environmental Appeal Board; that appeal is proceeding in writing and dates have not been set; 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.	➔
Other Litigation	There remains a risk that litigation could be initiated with respect to construction matters.	➔
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. Risk remains for major procurements in progress, including Generating Station and Spillways, Transmission and Highway 29.	↑
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. BC Hydro is using an inclusive labour approach with a managed open site that allows for participation by all union and non-union labour groups and allows access to the largest pool of skilled and experienced labour. All major contracts contain no strike, no lockout, and no raiding provisions. In addition, BC Hydro has implemented a site wide Labour Relations Contractor Committee to support labour stability on the site.	➔

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[15]
Geotechnical risks	Changes to geotechnical ground conditions remain a risk impacting the 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. There is a risk that during construction, instability in the Left Bank causes temporary stoppages to the work while the slope is being remediated. Further mitigation has been achieved by transferring some degree of ground condition risk to the contractor, such as including conducting field-scale trials and applying additional monitoring to determine the response when shale bedrock is exposed to the elements.	➔
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, although underlying oil prices rose during the 2016 calendar year. There remains an external risk of higher-than-expected commodity costs, and specifically steel, due to 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.	➔
Construction execution	The Main Civil Works contractor has experienced delays on several of their critical path activities, requiring a re-sequencing of planned work. Refer to section 4.3 of the Application for further details.	↑

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[15]
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 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 Generator 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 be larger than BC Hydro has seen to date, depending 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.	➔
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% of its forecast future debt issuances from fiscal 2017 to fiscal 2024 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 **Right Bank Excavation Stilling Basin. Photo taken July 13, 2017.**

Figure A-2 **Right Bank Excavation (Tailrace). Photo taken July 21, 2017.**

Figure A-3 **Right Bank Drainage Tunnel – Silica Mitigation Production Trial Underway. Photo taken July 2017.**

Figure A-4 **Phase 2 Crusher. Photo taken July 27, 2017.**

Figure A-5 **Workers Installing Formwork and Rebar Cages for Slurry Guide Wall. Photo taken August 2, 2017.**

Figure A-6 **Installation of Viewpoint Sign No. 4. Photo taken August 4, 2017.**

Figure A-7 **Installation of Conveyors in the Crusher Plant. Photo taken August 3, 2017.**

Figure A-8 **Stilling Basin Temporary Wheel Wash Station. Photo taken August 3, 2017.**

Figure A-9 **Aerial View of North Bank Diversion Inlet Portal and Dam Core Areas. Photo taken August 20, 2017.**

Figure A-10 **Tunnelling Equipment on North Bank. Photo taken August 24, 2017.**

Figure A-11 **Roller-Compacted Concrete Placement at the Stilling Basin on the South Bank. Photo taken September 26, 2017.**

Figure A-12 **Work to Decommission the Abandoned Wellbore on the South Bank. Photo taken September 26, 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 (July 2017 to September 2017)[16]

	July 2017		August 2017		September 2017	
Type of Work	**Number of B.C. Workers**	**Number of Total Workers**	**Number of B.C. Workers**	**Number of B.C. Workers**	**Number of Total Workers**	**Number of B.C. Workers**
Construction and Non-Construction Contractors[17] (including some subcontractors). Excludes work performed outside of B.C. (e.g., Manufacturing)	1,678	2,145	1,514	1,937	1,914	1,489
Engineers and Project Team[18]	381	404	386	420	461	428
TOTAL	2,059	2,549	1,900	2,357	2,375	1,917

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 September 2017, there were 13 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 42 management and professionals working for Site C Construction and Non-Construction Contractors through the Federal International Mobility Program.

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

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

18 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 (July 2017 to September 2017)

Month	Number of Apprentices
July 2017	62
August 2017	53
September 2017	49

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	Security Guards	Sheet Metal Workers	Truck Drivers
Underground Mining	Welders	Surveyors				

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

Month	Number of Indigenous Workers
September 2016	118
October 2016	145
November 2016	149
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

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 July 2017 to September 2017, there were 374 to 354 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.

BC Hydro
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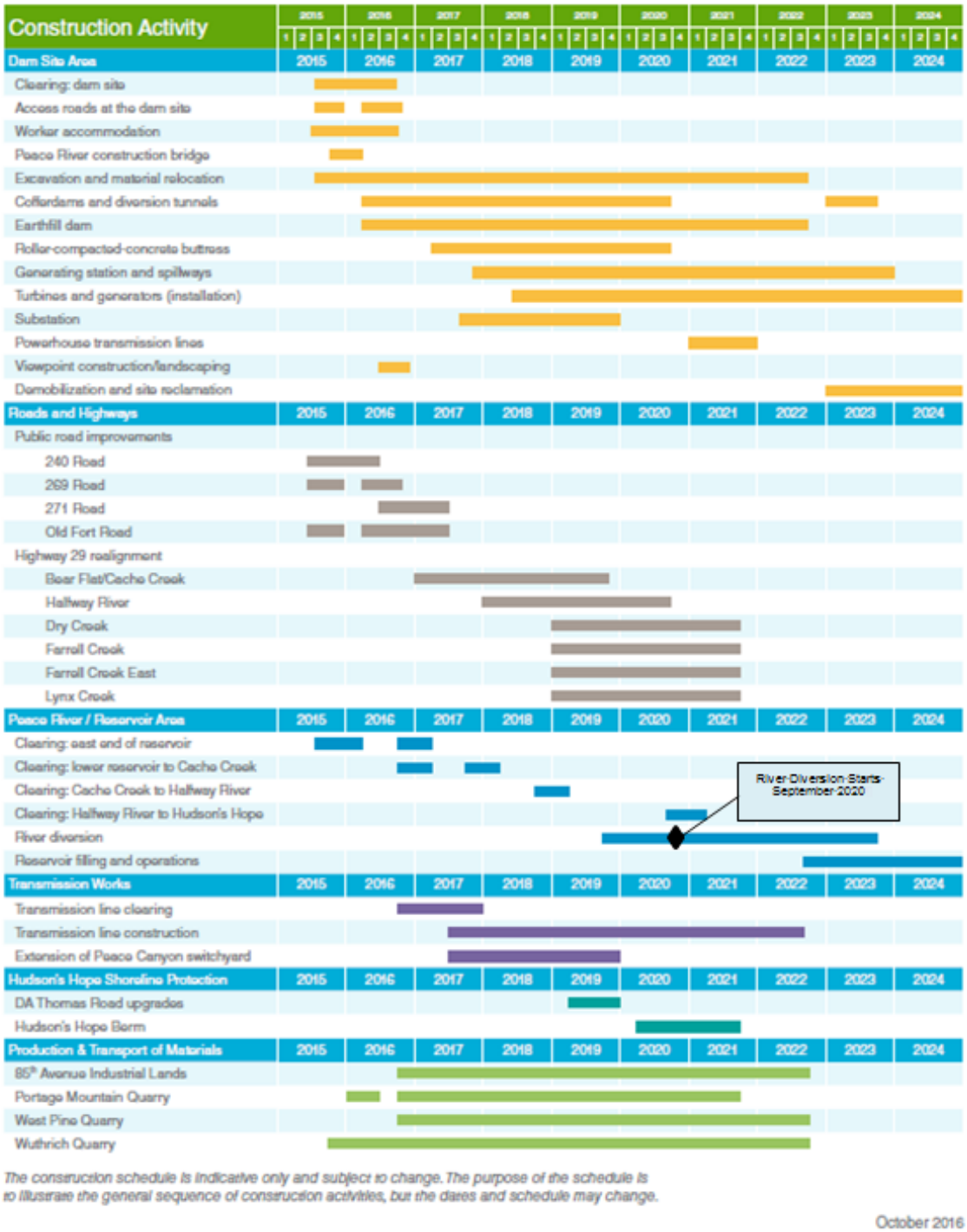
Appendix F

Site C Construction Schedule

Table F-1 Site C Construction Schedule[19]



The construction schedule is indicative only and subject to change. The purpose of the schedule is to illustrate the general sequence of construction activities, but the dates and schedule may change.

October 2016

[19] BC Hydro is currently updating the Project Schedule to reflect the change in River Diversion date.