BC Hydro
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September 29, 2017

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

Dear Mr. Wruck:

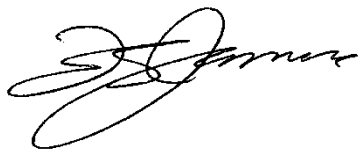
RE: British Columbia Utilities Commission (BCUC or Commission)
British Columbia Hydro and Power Authority (BC Hydro)
Site C Clean Energy Project
PUBLIC Quarterly Progress Report No. 8 – April to June 2017 (Report)

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
Chief Regulatory Officer

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Enclosure (1)

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Site C Clean Energy Project

Quarterly Progress Report No. 8

F2018 First Quarter

April 2017 to June 2017

PUBLIC

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1 Project Status

This Quarterly Progress Report No. 8 (**Report No. 8**) provides information concerning the Site C Clean Energy Project (**Project**) covering the period from April 1, 2017 to June 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. The Project is in Implementation Phase and construction commenced July 27, 2015.

Outside of the reporting period on August 2, 2017, the Government of British Columbia announced that the Project will undergo a British Columbia Utilities Commission review commencing on August 9, 2017, with a preliminary report expected by September 20, 2017 and a final report expected by November 1, 2017.

In addition, BC Hydro will be extending the leases for two property owners until the review is complete and Government has made a decision on the project. Construction and procurement activities will continue during the review; however, no major contract awards will be made until the review has been completed and the Government has made a decision.

Construction activity for the Project remained relatively constant through the spring season, with 2,224 construction and non-construction workers on site and a total workforce of 2,633 working on the project in June 2017, as reported by contractors. North and South Bank site preparation works were completed this quarter.

The project is facing challenges with the Main Civil Works contractor in areas including safety, schedule, First Nations commitments and environmental

performance. These challenges are described in more detail below in section 1.2.4.2 (Construction, Main Civil Works).

In mid-February 2017, a 400 meter tension crack appeared on the left bank of the dam site upstream of the future location of the dam. A two-stage remediation plan was developed; Stage 1 was completed in April 2017 and Stage 2 was completed in June 2017. In May 2017, a smaller tension crack was observed in the temporary excavation for an access track above the future Diversion Tunnel Inlet Portal on the Left Bank. The crack at that time was approximately 100 meters long. The Inlet Portal crack has since extended eastward to approximately 250 meters in length.

In addition to challenges on the Left Bank, progress on the Right Bank associated with preparation for placement of the Roller-Compacted Concrete and the Right Bank Drainage Tunnel has started to fall behind schedule. These events on the Left Bank and Right Bank have increased project risk in relation to the achievement of two upcoming key milestones, respectively:

- Start of River Diversion September 2019;
- Generating Stations & Spillways Contracts -
    - Site handover dates.

Design and tender preparation work continued for the Cache Creek-Bear Flat section of Highway 29. Two tender packages are the responsibility of the Ministry of Transportation and Infrastructure pending the outcome of the Commission review and Government decision: (1) for Grading and Paving; and (2) for a new bridge. Design for the Grading and Paving contract was completed and the Cache Creek Bridge design is substantially complete. The tender for the Grading and Paving contract was released in June 2017 and subsequently cancelled. The Bridge contract is ready for issue and will be held pending the outcome of the Commission review and Government decision.

Procurement is complete for key packages including Worker Accommodation, Site Preparation, Main Civil Works, and Turbines and Generators. Remaining packages include the Generating Station & Spillways Civil, Hydromechanical Equipment and Powertrain Balance of Plant Equipment & Completion, Transmission Lines, Substation, the Peace Canyon Substation upgrade and the Highway 29 Realignment.

Overall, the progression of work is on track to achieve the BC Hydro Board of Directors approved in-service dates; the first unit is expected to come on line in December 2023 and the final in-service date is expected in November 2024. Costs are forecast to come within the BC Hydro Board of Directors approved budget amount, excluding reserve subject to Treasury Board control ($8.335 billion).

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

Table 1 Project Status Dashboard

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

Status as of:		June 2017
Overall Project Health	●	The project is on track for overall scope and schedule. The Project is on track to achieve the Project completion date of November 2024 and has contingency available to manage project risks. The project continues to retain one year of Owner's schedule float.[1]
Scope	●	Scope changes are minimal and the changes are expected to be managed mostly within contingencies.
Schedule	●	The overall schedule and progress remains on track to achieve the planned In-Service Dates, however the key milestones for river diversion in 2019, finalization and award of the Generating Station & Spillways contracts, as well as site handover dates between the Main Civil Works and the Generating Station & Spillways vendors are at risk.
Cost	●	The Project is monitoring and evaluating specific cost pressures as well as potential cost savings. Overall cost forecast remains on track and total project cost is forecast to be within budget. There have been no draws on Treasury Board reserve.
Regulatory, Permits & Tenures	●	Permits are on track and meeting schedule requirements. The large volume of permits continues to be managed by early and ongoing engagement with regulators, Aboriginal groups, and contractors to share information, seek feedback, and identify process improvements.
Environment	●	One order was received on May 25, 2017 from the Canadian Environmental Assessment Agency related to turbidity monitoring in the L3 stream. For details refer to section 1.2.6.3 Environmental Compliance Inspection and Enforcement.
Risks	●	Identified risks are being managed and treatments are in place or planned. For details refer to section 4 Material Project Risks below.
Procurement	●	Most procurement activities continue to move ahead and are on track. However, award of the Generating Station & Spillways related contracts are delayed due to updates to the contract in response to proponent feedback and changes to the construction schedule.
Aboriginal Relations	●	Impact Benefits Agreement offers have been made to First Nations significantly affected by the Project.
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 two lost time incidents, one medical aid with treatment and two serious near miss incidents during the quarter.
Stakeholder Engagement	●	Stakeholder engagement activities continue to move ahead productively.

[1] The Board approved In Service Dates for total Project completion November 2024.

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 Aboriginal 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 Aboriginal 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 Aboriginal 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 publicly announced.

1.2.2 Litigation

On June 29, 2017, the Supreme Court of Canada dismissed two leave to appeal applications filed by the West Moberly and Prophet River First Nations. The leave applications related to the January 23, 2017 and February 2, 2017 appeal decisions issued by the Federal and British Columbia Courts of Appeal respectively in which both courts dismissed appeals regarding the 2014 Federal and Provincial environmental approvals of Site C. The West Moberly and Prophet River First Nations Water Licence appeal was withdrawn on July 17, 2017.

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 Licence 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 335 permits will be required throughout the life of the project. Prior to the reporting period, 150 permits had been received and are being actively managed. During the reporting period, 26 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 298 Provincial permits and approvals will be required throughout the life of the project. Prior to this reporting period, 127 Provincial permits and approvals were received and are being actively managed. During this quarter, 22 new Provincial permits and approvals were received in accordance with the schedule.

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, Aboriginal 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 Aboriginal 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 were held during the first quarter of 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 Spillway, Power Intakes and Powerhouse have been issued in draft to the shortlisted respondents to the Generating Station and Spillways Request for Qualifications. The Main Civil Works implementation design is nearly complete and continues to support construction. The few remaining Main Civil

Works construction drawings are being released in accordance with project schedule requirements. The technical specifications for the Hydromechanical Equipment contract have been issued in draft to the shortlisted respondents to the Request for Qualifications. The engineering design and drafting work for the Completions Contract and Protection and Control specifications are progressing to meet project schedule. Implementation design is at 95 per cent for the 500 kV transmission lines and Site C Substation.

The last Technical Advisory Board meeting was held in June 2017. The next full Technical Advisory Board meeting is scheduled for January 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	In Progress
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		√
Old Fort Road		√
North View Point	√	

As of June 30, 2017 clearing at Lower Reservoir was substantially complete and approximately 5 hectares of remaining trees will be cleared in fall 2017. The remaining merchantable timber will be transported to local mills and non-merchantable timber will be disposed of in fall 2017. As of June 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 Commission review and Government decision.

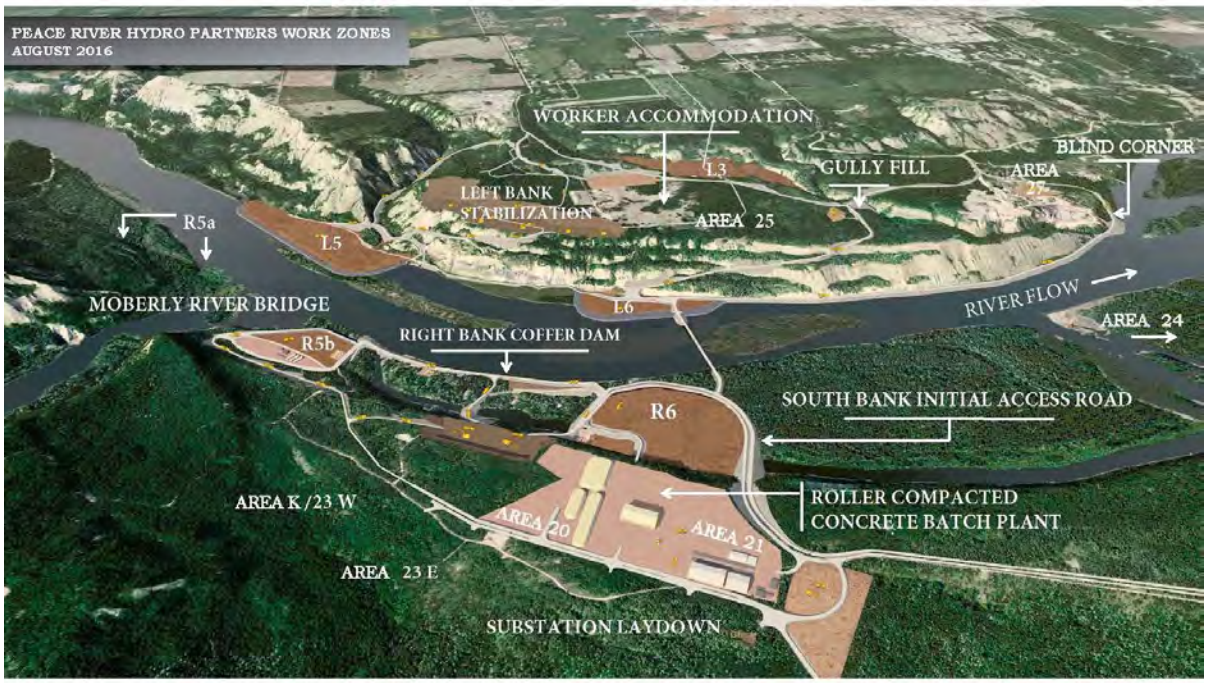
The South Bank Initial Access road scope was transferred to Peace River Hydro Partners. Work on Old Fort Road was completed by July 31, 2017 and 271 Road is expected to be complete in October 2017, later than planned due to poor weather and ground conditions. The North View Point road and viewing area gravel surfacing is substantially complete and paving was completed in July 2017. Stabilization of the underlying embankment slippage of a section of River Road was completed in June 2017.

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 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



Subsequent to June 30, 2017, composition of the Main Civil Works Joint Venture was amended due to withdrawal of Petrowest from the Partnership on August 11, 2017. Petrowest was placed into receivership on August 15, 2017. Removal of Petrowest from the partnership is not expected to affect BC Hydro or construction of Site C in any major way. Peace River Hydro Partners confirmed in writing that remaining partners intend to continue with work and assume obligations as provided for in the contract and ensure they have sufficient resources to perform the work. This does not affect the Peace River Hydro Partners labour agreements, as the party to all their labour agreements (bargaining relationships) is Peace River Hydro Partners Construction.

Left Bank

In February 2017, a tension crack developed on the Left Bank Excavation while constructing a haul road resulting in the temporary stoppage of some construction excavation activities. BC Hydro and Peace River Hydro Partners agreed on a plan to

stabilize the slope. Stage 1 work was completed in April 2017 and Stage 2 work was completed in June 2017. The issues were resolved and construction recommenced on April 24, 2017 with contract costs and schedule remaining within estimates.

In May 2017, a smaller tension crack was observed in the temporary excavation above the future Diversion Tunnel Portal. This smaller tension crack extends locally into the final slope requiring a solution integrated with the final slope. BC Hydro and the contractor developed a plan to safely continue excavation of the left bank and the contractor is presently resolving this tension crack. A constructability review has been conducted to identify opportunities to further re-sequence the work. BC Hydro and the contractor are currently assessing these opportunities and developing implementation measures to mitigate the impact of future delays.

Stability issues and tension cracks on the left bank were expected, which is why the slope is being excavated prior to completion of the Permanent Works.

Right Bank

The Right Bank Drainage tunnelling started in February 2017 but work was stopped by WorkSafeBC due to issues with silica dust; later than scheduled mobilization of equipment for concrete production; and issues related to contract specifications for concrete mixes. These issues are being mitigated in various ways: the contractor is changing excavation methods in the right bank drainage tunnel to mitigate the amount of silica dust; the contractor has recently procured a larger crusher to meet aggregate production requirements; and the contractor has refined their production processes to meet contract specification for concrete. These issues have the potential to impact the site handover date for the Generating Station & Spillways Contractor. BC Hydro is also reviewing handover dates with the Generating Station & Spillways Contractor.

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 there was a delay and Peace River Hydro Partners have proposed means to allow work to be extended into the winter period which mitigates the risk of the handover date for the Generating Station & Spillways. The Inlet Cofferdam Slurry Wall was started in April 2017 and is targeted for completion in September 2017.

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 and require minor work to finish. Old Fort Road re-alignment was completed near the Gate B entrance to the Site C dam site with bottom left paving completed and is open to traffic. The final paving was completed in June 2017. Shoulder widening is also being carried out on Old Fort Road from the re-alignment section north to Highway 97. Work was completed by July 31, 2017.

BC Hydro has entered into a contract with a designated business partner of an Aboriginal group for the shoulder widening of 271 Road, which is under Ministry of Transportation and Infrastructure jurisdiction. Work commenced in late August 2016 but was stopped due to winter weather conditions. The road crew mobilized to site late May 2017 to complete the work. It is now scheduled to be completed by end of October 2017, which does not affect the critical path.

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

The Highway 29 Cache Creek-Bear Flat road design was completed in early June 2017. The Ministry of Transportation and Infrastructure advertised the Cache Creek-Bear Flat grading and paving contract on June 15, 2017. The Cache

Creek-Bear Flat segment, the bridge design was 90 per cent completed June 2017. This work is currently on hold during the Commission review and pending the Government decision.

In June 2017 a request was made to BC Hydro to delay the start of this work to allow further discussions with local property owners and consultation with Aboriginal Groups.

Ministry of Transportation and Infrastructure has since advised that they are willing to discuss the implementation of mitigation measures that would manage the risk of flooding while allowing River Diversion to continue. This development will allow BC Hydro to proceed with River Diversion as scheduled, maintaining the Project schedule, while also postponing the commencement of highway work in Cache Creek; following completion of the Inquiry and further consultation with Aboriginal groups.

Transmission

The contract for the supply of lattice towers was awarded in May 2017. The Site C substation design is completed and the Request for Proposals for Substation Construction was issued in June 2017. The transmission line construction design was completed and the Request for Proposals for transmission line construction is expected to be issued in September 2017. Clearing and access road design is complete. Request for Quotation is currently with the Contractor. The transmission line In-Service date remains on schedule.

Turbines & Generators

Voith Hydro, the successful proponent for the turbines and generators contract, arrived on-site on April 3, 2017 to begin work for their temporary manufacturing facility on the right bank. Voith Hydro is building a temporary facility at the dam site to manufacture the embedded steel structures for the turbines. Excavation and foundation preparation for the temporary building facility started in April 2017 and

construction is expected to be complete in August 2017, when on-site manufacturing will commence. 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 second draft of the Generating Station and Spillways Civil Request for Proposals, including a revised draft contract, was sent to the three shortlisted proponents on June 30, 2017. The final Generating Station & Spillways Civil Request for Proposals, with the final draft contract, was issued on September 1, 2017.

The initial draft contract for the Generating Station & Spillways Hydromechanical Equipment was issued to shortlisted proponents on July 8, 2017. Collaborative meetings with proponents will occur in September 2017.

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 June 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	68	78	327	219
Turbines and Generators	Voith Hydro Inc.	3	3	4	3

The top three disciplines that have the most non-conformities reported to date from Peace River Hydro Partners are Construction (98), Instrumentation (47) and Tunnel (38). 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 material change and dimensional deviation of Units 1 to 6 pier nose liners and draft tube cones. One non-conformity remains open and is under review by BC Hydro.

1.2.5 Safety

There were two lost time incidents, one medical aid with treatment and two serious near miss incidents during the quarter. The first lost time incident occurred when a piece of drill pipe landed on a worker's knee causing injury. The second lost time incident occurred when a worker was walking in an area of uneven ground and his ankle rolled over causing it to fracture. The medical aid with treatment occurred when a worker received a laceration that required stitches.

The first near miss occurred when workers were observed working at heights above 6 meters (20 ft.) without the use of fall protection and the second near miss occurred when a worker entered the swing radius of a track hoe during nightshift.

A public near miss occurred where a member of the public, who was operating a jet boat on the Peace River came across a BC Hydro-owned submerged piece of sampling equipment which was anchored to the bottom of the river 2 meters deep. The rope that was used to anchor the equipment was weighted down with lead weights and was also anchored on shore with a steel stake. The member of the public was unaware of what they found so they removed the sampling equipment from the river and notified the local police of their find.

Peace River Hydro Partners received three orders related to an incident of incorrect disposal of one single booster. The first order was related to a delay of notification from WorkSafeBC. The other two orders were associated with inadequate training and incomplete safe work procedures. Peace River Hydro Partners took immediate steps to comply with the orders prior to resuming work. All orders written against Contractors at Site C have been responded to and closed by WorkSafeBC.

For the prior reporting period (January 1, 2017 to March 31, 2017), all orders written against Contractors at site have been responded to and closed by WorkSafeBC, with the exception of the order related to tunnelling. Peace River Hydro Partners has submitted a Notice of Compliance Report to WorkSafeBC for tunnelling and is currently awaiting a response from WorkSafeBC.

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

Table 6 Safety Metrics

	Reported this Period (April 1 to June 30, 2017)	Reported since Inception (July 27, 2015)
Fatality & Serious Injury[2] (permanently disabling)	0	0
Lost Time Injury	2	6
Lost Time Injury Frequency (number of injuries resulting in lost time per 200,000 hours worked)[3]	0.38	0.24
Severity Rate (number of calendar days lost due to injury per 200,000 hours worked)[3]	5.72	3.66
Contractor near miss incidents	51	303
Employee near miss incidents	2	22
Public near miss incidents	1	5
Equipment/property damage reports[4]	25	153
WorkSafeBC orders	3	57

[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 man-hours worked. Submissions have improved during the reporting period, resulting in improvements in the timeliness and accuracy of the safety metrics.

[4] 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 annual report was 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, including three meetings in this reporting period. The Vegetation and Wildlife Technical Committee has met a total of 25 times to date, including five meetings 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 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 permits and the Federal Decision Statement Conditions, respectively.

Inspectors from Forest, Lands and Natural Resources, the BC Environmental Assessment Office and the Canadian Environmental Assessment Agency conducted a combined site inspection on April 23, 24 and 26, 2017. On April 25, 2017 senior leaders from these agencies, plus the Ministry of Energy and Mines and BC Hydro senior executives met onsite for a tour and a review of the Project's compliance management challenges. Following this meeting the Environmental Assessment Office published an inspection report that covered the April 2017 inspection including prior inspections from November 2016 to December 2016, January 2017 and March 2017. Canadian Environmental Assessment Agency did not publish an inspection report.

On April 5, 2017 the Canadian Environmental Assessment Agency issued BC Hydro with a Notice of intent to issue an Order related to turbidity issues observed across the project area during a prior (March 24 to 28, 2017) inspection. BC Hydro responded to this Notice of Intent. Based on their observations during the April 23 to 24, 2017 Inspection, and upon review of BC Hydro's response to the Notice, the Canadian Environmental Assessment Agency issued an Order on May 25, 2017.

The Environmental Assessment Office and Forest, Lands and Natural Resources conducted a joint site inspection from June 19, 2017 through to June 23, 2017. An inspection report has not been issued yet. During this inspection the Environmental Assessment Office issued a written warning related to a potential erosion concern in

the L3 Gully which was rectified to the Environmental Assessment Office's satisfaction during their inspection. BC Hydro and BC Environmental Assessment Office joint bi-weekly meetings are held between project team leads and BC Environmental Assessment Office. The Environmental Assessment Office has provided positive feedback that project has made considerable improvement onsite with respect to Environmental Management.

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 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 will continue through the fall. Heritage compliance reviews of contract documents, contractor environmental plans and construction readiness plans were performed.

In this reporting period, two permit amendments were granted by the regulator, one report compiling the heritage data for 2017 field work was completed, and two permit amendments were submitted and shared with First Nations.

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 with no site disruption. ATCO Two Rivers Lodge operations workers were certified by the Teamsters 213 and they have successfully negotiated a first collective agreement. In addition, Saulteau Securiguard voluntarily recognized Teamsters as their union and have successfully negotiated and ratified a collective agreement.

During this reporting period, the Labour Relations Board confirmed that the T.E.L Group did not meet threshold for a union vote on site. The Labour Relations Board dismissed the T.E.L group raid application. The statutory time bar of 22 months for other raid applications applies. The T.E.L Group cannot raid the Peace River Hydro Partners workforce during their 2018 open period. The open period for Peace River Hydro Partners Construction closed on April 20, 2017.

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[5]	Number of Total Workers[5]	Percentage of B.C. Workers (%)
April 2017	1,800	2,212	81
May 2017	2,027	2,522	80
June 2017	2,125	2,633	81

Refer to Appendix E for additional workforce information. The number of workers continues to vary as the construction work progresses. As job opportunities become available, they are posted on the WorkBC website as well as on the Fort St. John Employment Connections website.

Training and Capacity Building Initiatives

In August 2013, Northern Lights College started distributing the BC Hydro Trades & Skilled Training Bursary Awards. As of March 2017, 180 students had received bursaries, including 69 Aboriginal students who have benefitted from the bursary in programs such as electrical, welding, millwright, cooking, social work, and many others.

In spring 2017, BC Hydro met with regional employment agencies, local training institutions and organizations and Site C contractors onsite to facilitate discussions regarding regional hiring. During roundtable discussions, groups discussed training and employment needs and how these groups can assist each other in employing and training local individuals to meet project needs.

Site C contractors continue to participate in regional jobs fairs throughout the reporting period. Peace River Hydro Partners and ATCO Two Rivers Lodging Group have participated in both Dawson Creek and Fort St. John regional job fairs. Peace River Hydro Partners has also worked with Employment Connections in Fort St.

[5] 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.

John to host a job fair for local job seekers, specifically focused on workers required for upcoming positions related to the Roller-Compacted Concrete work.

In June 2017, Site C contractors reported 771 workers on site from the Peace River Regional District. This is a total of 35 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. BC Hydro submitted a draft agreement to the Peace River Regional District in April 2017 for review. Independent of negotiations, BC Hydro staff continues to work with Peace River Regional District staff on the outfall mitigation as this is required by Environmental Assessment Certificate Condition 47.

The Regional Community Liaison Committee, which is comprised of local elected officials and local Aboriginal groups, met most recently on March 10, 2017 and attendance remains high. The next meeting is being schedule for August 2017 or September 2017. A total of 11 communities have participated as committee

members, including eight local Governments and three local Aboriginal 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

The following Site C business directory notification occurred:

- On June 15, 2017 BC Hydro provided notification to the Site C business directory that the Ministry of Transportation and Infrastructure posted an Invitation to Tender on BC Bid for grading and paving a segment of Highway 29 in the Cache Creek-Bear Flat area;
- On June 20, 2017 BC Hydro provided notification to the Site C business directory that a Request for Proposals had been posted to BC Bid for Forestry Consulting Services – Engineering and Construction Support for Middle Reservoir Clearing; and
- On June 21, 2017 BC Hydro provided notification to the Site C business directory that a Request for Proposals had been posted to BC Bid for the Site C Project South Bank Substation.

Further, BC Hydro participated in the following meetings and provided the following presentations related to procurement or business opportunities:

- Meeting with the Fort St. John & District Chamber of Commerce Board to provide a quarterly update – April 11, 2017;
- Presentation to the Mackenzie Chamber of Commerce – May 16, 2017;
- Participation in the City of Dawson Creek and Dawson Creek & District business 'Meet & Greet' – May 30, 2017; and

- Presentation to the Chetwynd & District Chamber of Commerce – June 22, 2017.

1.2.8.3 Community Relations and Construction Communications

BC Hydro continued to implement its construction communications program during the quarter. This program includes updating and maintaining the project website www.sitecproject.com with current information.

Construction Bulletins

Bi-weekly Construction Bulletins were issued throughout this 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 546 public enquiries between April 2017 and June 2017, compared to 636 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[6]	April 2017	May 2017	June 2017
Job Opportunities	192	104	85
Business Opportunities	27	24	18
Construction Impact[7]	15	10	3

1.2.8.4 Communications Activities

Based on a search using the media database Infomart, there were 634 stories in B.C. news media in the April 2017 to June 2017 period on the Site C Project, compared to 257 stories in the previous quarter.

[6] This table is a sample of enquiry types and does not include all enquiry types received.
[7] The nature of the construction impact inquiries is primarily air quality, noise and traffic conditions.

Announcements during this period were limited due to the writ period. Key activities during the quarter included announcements related to the mobilization of the Site C turbines and generators contractor to site and 3 boater safety updates about debris in the navigable channel under the temporary Peace River construction bridge.

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 ten 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 October 31, 2018. BC Housing has decided to proceed with 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 advocate for Passive Houses and will partner with BC Hydro in showcasing the building as a demonstration project for energy efficient building techniques.

BC Housing awarded the Design-Build contract on May 31, 2017 to Western Canadian Properties Group who started construction on June 5, 2017. BC Housing also completed the purchase of the land in Fort St. John on May 29, 2017. The building is now targeted for substantial completion by November 20, 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.

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. The next report was issued in July 2017.

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 3,573 patient interactions. During the reporting period, there were 720 patient interactions, of which 150 were occupational and 570 non-occupational. Several preventive health themes were promoted to workers, including: safety and health at work, cancer awareness and prevention and heat injury and illness awareness and protection.

Outside of the reporting period there was an outbreak of gastrointestinal infections at the Site C project site. There are 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. The site and camp remain open and in operation with mitigation measures underway including removing common touch points of food, closing off common areas, implementation of heightened sanitation procedures and increased communications around how to prevent gastrointestinal infection. 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 completed the acquisition of property rights, one for the Hudson's Hope Shoreline Protection Project and one for the Reservoir Clearing Project. BC Hydro also completed land surveys for the Dam Site - Crown Grant and the Substation - Crown Grant. BC Hydro commenced discussions with owners whose lands are impacted by the Old Fort Fish Habitat Enhancement Project, this included permissions to enter and covenant agreements.

BC Hydro continued discussions with owners whose land is required for reservoir clearing in winter 2017/2018 and the Halfway River Highway 29 realignment in 2018 and Hudson's Hope Shore Line Protection 2019.

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).
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. Four 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	Commence: F2018.
	Peace Canyon Substation upgrade contract	Design-Build	Contract Award: F2018 Q2.
Highway 29 Realignment	Design-Bid-Build in partnership with B.C. Ministry of Transportation and Infrastructure with anticipated award of the first contracts in 2017 with subsequent contract being awarded through 2018 to 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[8] ($ million)	Current Status
Site Preparation: North Bank	60	Contract executed July 2015
Worker Accommodation	469	Contract executed September 2015
Main Civil Works	1,787	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

For the Main Civil Works contract there has been an increase in the contract value of $39 million to reflect approved change orders to date.

1.3.3.2 Contingency and Project Reserve Draws

As part of the total project capital cost estimate of $8.335 billion, $794 million (nominal) of contingency was allocated to the Site C Project at Final Investment Decision in December 2014. This excludes $440 million of project reserve which is 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 was added to the original contingency allocation of $794 million, resulting in the revised total contingency budget of $1,194.6 million.

[8] The above-contract value reflects the current value including executed change orders to the end of the reporting period.

As of June 30, 2017, $509.4 million has been released to management of which $355.7 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 $153.7 million.

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

1.4 Plans During Next Six Months

The key milestones for the next six months are listed in Table 11.

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)	Late
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	On Hold	0	On Hold
Generating Station & Spillways Civil Contract Award	July 2017	December 2017 (Limited Notice to Proceed)	(5)	At Risk

Milestone	Plan Performance Measurement Baseline (June 2016)	Forecast/ Actual Date	Variance (months)	Current Status
Powerhouse Roller-Compacted Concrete Structure	October 2017	November 2017	(1)	At Risk – The Contractor had a slow start with production and meeting quality requirements. Recent production rates and quality have improved
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	November 2017	0	On Track
Provide Access for Other Contractors to Laydown	January 2018	February 2018	(1)	At Risk
Provide Access to Approach Channel & Powerhouse Buttress for Other contractors	February 2018	January 2018	1	On Track
Excavation of Spillway Buttress Complete	March 2018	March 2018	0	On Track

* 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.

2 Project Schedule

2.1 Project In Service Dates

BC Hydro currently shows all in service dates on track per Table 12.

Table 12 Project In-Service Dates

Description/Status	Final Investment Decision Planned In-Service Date[9]	F2017-F2019 Service Plan[10]	Status[11] and Comments
5L5 500kV Transmission Line	October 2020	September 2020	On Track
Site C Substation	November 2020	October 2020	On Track
5L6 500kV Transmission Line	July 2023	July 2023	On Track
Unit 1 (First Power)	December 2023	December 2023	On Track
Unit 2	February 2024	February 2024	On Track
Unit 3	May 2024	May 2024	On Track
Unit 4	July 2024	July 2024	On Track
Unit 5	September 2024	September 2024	On Track
Unit 6	November 2024	November 2024	On Track

The approved Final Investment Decision schedule involved the first unit coming into service in December 2023. The Project has advanced implementation phase activities to mitigate schedule risk.

2.2 Schedule Contingency

The Project built owner's schedule contingency into the overall project schedule based on a Monte Carlo risk analysis. The schedule contingency is added to the schedule as a series of activities with milestones established to measure and track. In addition, contract milestones are established with vendors upon contract award. These contract milestones incorporate owner's schedule contingency to mitigate identified risks and are also added to BC Hydro's master schedule as milestones.

[9] Based on plan at Final Investment Decision, December 2014.
[10] Based on BC Hydro F2017-F2019 Service Plan approved in January 2016.
[11] Status based on comparison to BC Hydro F2017-F2019 Service Plan.

If identified risks are realized and a contract milestone is at risk to be missed, the vendor must submit a contract change request to BC Hydro. BC Hydro will assess 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 milestones are met.

BC Hydro built a number of contingency periods into the overall project schedule including: a three-month schedule contingency within the Main Civil Works contract to meet the earlier diversion schedule; seven months for In-Service dates for both the 5L5 and 5L6 transmission lines; ten months for the Site C Substation; and one year for In-Service dates for Units 1 to 6. It is important to note that these contingency periods cannot be aggregated into a total as they are logically linked to individual activities.

3 Project Costs and Financing

3.1 Project Budget Summary

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

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	Final Investment Decision Plan to Date	Actuals to June 30, 2017	Variance
Total Project Costs	8,335	8,335	1,321	1,800	(479)
Treasury Board Reserve	440	440	0	0	0
Authorized Project Cost	**8,775**	**8,775**	**1,321**	**1,800**	**(479)**

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	F2017-F2019 Service Plan to Date	Actuals to June 30, 2017	Variance
Total Project Costs	8,335	8,335	1,872	1,800	72
Treasury Board Reserve	440	440	0	0	0
Authorized Project Cost	**8,775**	**8,775**	**1,872**	**1,800**	**72**

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 remains on track to meet the Government approved In-Service date within the approved budget. 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, Highways and Lower Reservoir clearing 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[12]
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. Please refer to section 1.2.2 for further information on legal issues related to permits and approvals.	➔
Environmental Non-compliance	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. In March 2017 water turbidity issues were observed and Canadian Environmental Assessment Agency issued an Order on May 25, 2017 that BC Hydro is addressing. During their June 2017 inspection, the Environmental Assessment Office issued a written warning related to a potential erosion concern in the L3 Gully which was rectified to the Environmental Assessment Office's satisfaction within two days of receiving the warning. The Environmental Assessment Office has noted in recent inspections there has been a significant improvement on site.	➔

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

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[12]
Litigation	Refer to section 1.2.2 and Table 2 for status of judicial reviews related to environmental approvals and permits. On June 29, 2017 the Supreme Court of Canada dismissed two leave to appeal applications filed by the Prophet River and West Moberly First Nations regarding the January 23 and February 2, 2017 Federal and B.C. Court of Appeal decisions.	↓
First Nations	BC Hydro has continued to negotiate agreements with several First Nations. The status of some specific negotiations is confidential at this time. The purpose of these agreements is to provide First Nations with Project benefits and mitigate the risk of legal challenges.	→
Market response to procurement	To date, 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 spillway, 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 (e.g., organizing, raiding and increased site union activity) that could result in safety and security issues, schedule delays, low productivity and morale, and increased costs. 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.	→
Geotechnical risks	Changes to geotechnical ground conditions remains 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.	→

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[12]
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 (refer to section 1.3, Procurement, Table 9, Contracts to be Awarded).	→
Construction execution	The Main Civil Works contractor has experienced delays on several of their critical path activities, requiring a re-sequencing of planned work.	↑
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.	→

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[12]
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 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 **Left Bank Excavation – Excavators Ditching along Outside Berm. Photo taken April 17, 2017.**

Figure A-2 **Substation – Excavating Saturated Clay Material from within the Transmission Line Right of Way. Photo taken May 14, 2017.**

Figure A-3 **Left Bank Cofferdam – Contractor beginning to set up Slurry Plant #1. Photo taken May 18, 2017.**

Figure A-4 **Area 20 – Roller-Compacted Concrete Conveyor Construction. Photo taken May 18, 2017.**

Figure A-5 **Inlet Cofferdam Overview. Photo taken May 19, 2017.**

Figure A-6 **Powerhouse Buttress – Excavator Working on the Detailed Excavation of Elevation 375 Bench. Photo taken June 12, 2017.**

Figure A-7 Manufacturing of Units 1 to 6 Draft Tube Elbows and Cones in Progress at LAR Machinerie, Quebec. Photo taken June 13, 2017.

Figure A-8 Roller-Compacted Concrete Buttress – Excavator Cleaning Floor on Elevation 385 Pad. Photo taken June 14, 2017.

Figure A-9 **Inlet Cofferdam – Contractor Excavating Test Panel Sections. Photo taken June 15, 2017.**

Figure A-10 **View Point – Paved Walkway. Photo taken June 16, 2017.**

Figure A-11 View Point – Guardrail Installation. Photo taken June 18, 2017.

Figure A-12 Aboriginal Day Celebration Held at the Worker Accommodation with Saulteau, Blueberry River and Doig River First Nations. Photo taken June 20, 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 (April 2017 to June 2017)[13]

	April 2017		May 2017		June 2017	
Type of Work	**Number of B.C. Workers**	**Number of Total Workers**	**Number of B.C. Workers**	**Number of Total Workers**	**Number of B.C. Workers**	**Number of Total Workers**
Construction and Non-Construction Contractors[14] (including some subcontractors). Excludes work performed outside of B.C. (e.g., Manufacturing)	1,457	1,811	1,659	2,115	1,744	2,224
Engineers and Project Team[15]	343	401	368	407	381	409
TOTAL	**1,800 (81%)**	**2,212**	**2,027 (80%)**	**2,522**	**2,125 (81%)**	**2,633**

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 June 2017, there were six 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 34 management and professionals working for Site C Construction and Non-Construction Contractors through the Federal International Mobility Program.

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

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

[15] 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 (April 2017 to June 2017)

Month	Number of Apprentices
April 2017	50
May 2017	47
June 2017	58

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					

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

Month	Number of Aboriginal Workers
June 2016	179
July 2016	176
August 2016	196
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

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 Aboriginal inclusion in their workforce.

Employees voluntarily self-declare their Aboriginal status to their employer and there may be Aboriginal employees that have chosen not to do so; therefore, the number of Aboriginal 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 April 2017 to June 2017, there were 328 to 393 women working for Site C Construction and Non-Construction contractors. The number of women was provided by on-site Construction and Non-Construction contractors that have a contractual requirement to report on the number of women in their workforce.

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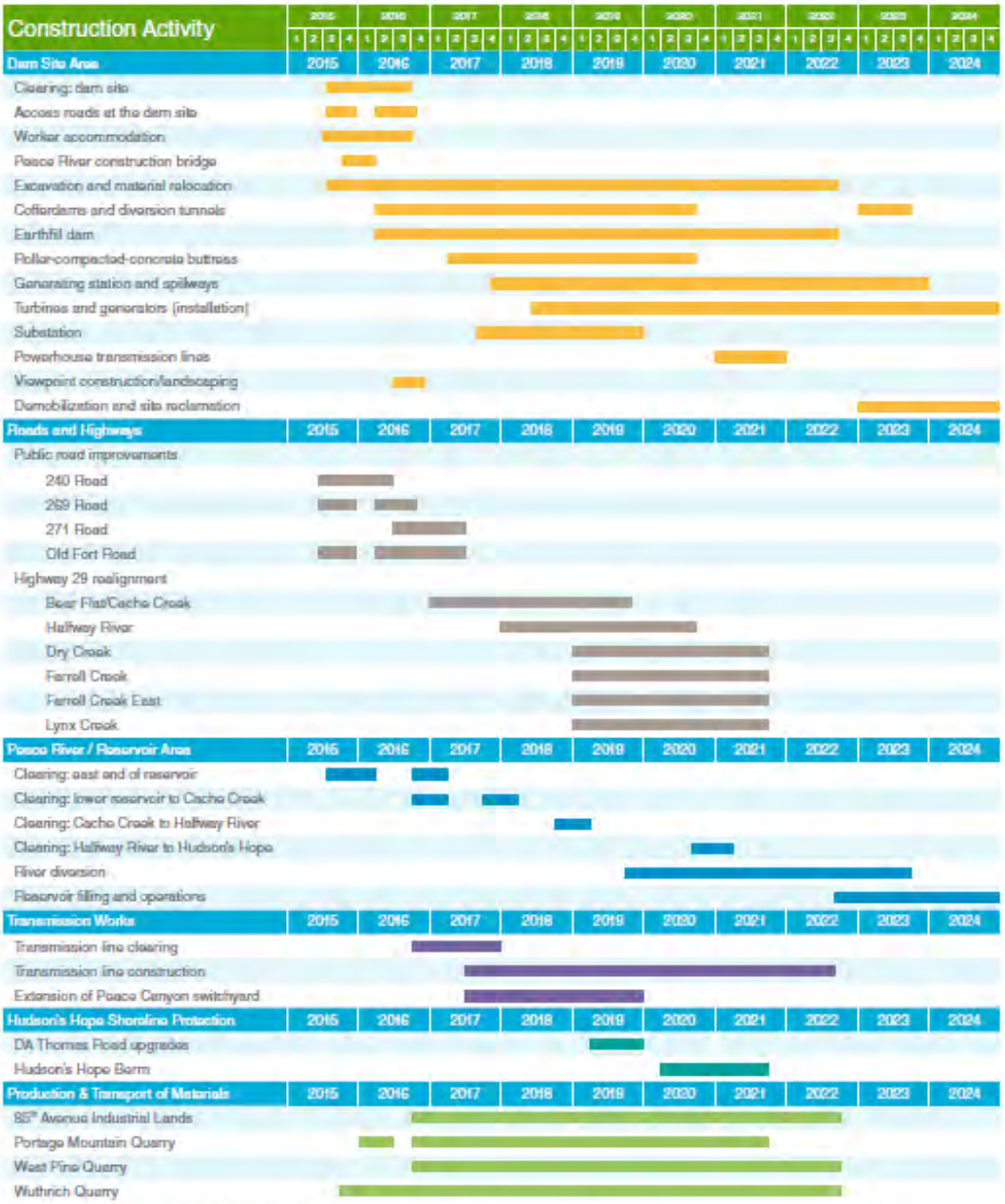
Appendix F

Site C Construction Schedule

Table F-1 Site C Construction Schedule



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