Fred James
Acting Chief Regulatory Officer
Phone: 604-623-4046
Fax: 604-623-4407
bchydroregulatorygroup@bchydro.com

December 21, 2016

Ms. Laurel Ross
Acting Commission Secretary
British Columbia Utilities Commission
Sixth Floor – 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Ms. Ross:

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. 5 – July to September 2016 (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
Acting Chief Regulatory Officer

st/ma

Enclosure (1)

BC Hydro
Power smart

Site C Clean Energy Project

Quarterly Progress Report No. 5

F2017 Second Quarter

July 2016 to September 2016

PUBLIC

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1 Project Status

This Quarterly Progress Report No. 5 (**Report No. 5**) provides information concerning the Site C Clean Energy Project (**Project**) covering the period from July 1, 2016 to September 30, 2016.

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 with construction. The Project is in Implementation Phase and construction commenced July 27, 2015.

Construction activity for the Project remained relatively constant through the summer season, with 1,345 construction and environmental workers on site and a total workforce of 1,750 working on the project in September 2016, as reported by contractors. On the North Bank of the dam site, construction of the North Bank Access and River Roads are nearing completion. River Road, which provides access to the Peace River Construction Bridge's North Approach, has been substantially completed and is being used to provide access to the bridge. Final completion of River Road is scheduled for November 2016. North Bank excavation works are substantially complete. The North Bank Road gully crossing embankment is scheduled for completion in October 2016. Timing for completion has changed due to unforeseen ground conditions that require a redesign of the gully embankment.

Construction of the Worker Accommodation Camp is now complete with the completion of Phase 3, providing a total of 1,600 rooms as well as expanded kitchen and dining facilities, mudrooms, luggage storage, recreation and fitness facilities and a 500 vehicle parking lot. Phase 3 was completed on August 31, 2016 on time and on budget.

Work on both the North Bank excavations and the South Bank permanent work started in early June 2016 and July 2016 respectively. Peace River Hydro Partners and BC Hydro worked collaboratively to re-sequence planned work over the fall and winter to ensure the schedule milestones are maintained. Some activities between project milestones related to the Main Civil Works scope were behind schedule, due to a combination of factors including the late issuance of Federal permits, the delayed Provincial Leave to Commence approval, delays in submissions of approval documents and slower than planned mobilization.

Therefore, certain work that was to be performed this summer will shift into this winter. Peace River Hydro Partners are ramping up their construction activities to meet the re-sequenced work plan. Weekly reviews are being completed with Peace River Hydro Partners to identify areas of construction which require additional focus. Any cost impacts to BC Hydro associated with rescheduling activities can be managed from existing contingency budgets.

The start of construction of the Site C 500 kV transmission line, 5L005, will be moved back due a change in the tower design and layout. This resulted in transmission line clearing and transmission lattice tower steel procurement being completed later than originally planned, which delays the award of the transmission line construction contract. However, BC Hydro expects the in-service date of October 2020 will still be met.

The Generating Station and Spillway Request for Proposals was issued to four proponents in September 2016, with the initial draft contract. All four proponents attended a site inspection in September 2016.

Overall, the progression of work is on track to achieve the BC Hydro *Board of Directors (**Board**)* 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 Board 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 September 30, 2016.

Table 1 Project Status Dashboard

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

Status as of:		September 2016	Overall:	●
Overall Assessment	●	The Project is on track for overall scope and schedule. The Project is on track with the Project completion date of November 2024.[1]		
Schedule ISDs	●	The overall schedule and progress remains on track to achieve the planned In-Service Dates.		
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.		
Permits and Environmental	●	**Provincial Permits:** The project received nine permits this reporting period. Leave to Commence Construction 3 was issued on July 20, 2016. Leave to Commence Construction 3 includes works for right bank stage 1 cofferdam, right bank overburden excavation, right bank bedrock excavation, inlet cofferdam and outlet cofferdam. BC Hydro, the Independent Engineer, Independent Environmental Monitor, and Peace River Hydro Partners attended a WorkSmart workshop from September 12 to 16, 2016 to streamline the submittal, review and decision-making process for sub-component authorizations (Leaves to Construct). Results from the workshop are being implemented immediately. **Federal Authorizations:** Transport Canada and Fisheries and Oceans Canada authorizations for Main Civil Works were received July 27, 2016. A Notice of Application has been filed in federal court challenging the Fisheries Act Authorization.		
Risks	●	Identified risks are being managed and treatments are in place or planned. For details refer to section 4 Material Project Risks below.		
Aboriginal Relations	●	Impact Benefit Agreement offers have been made to all Treaty 8 First Nations significantly affected by the Project.		
Regulatory and 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 zero Level 1 safety incidents and one medical aid injury at the construction site this quarter.		

[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.

Efforts are ongoing to conclude impact benefit agreements with ten Aboriginal groups.

1.2.2 Litigation

Of eight legal challenges of major environmental approvals and permits, two were discontinued, five were dismissed by the courts, one is yet to be heard, and three appeals were filed. One appeal was dismissed by the B.C. Court of Appeal, the second appeal will be heard by the B.C. Court of Appeal in December 2016 and the third appeal was heard by the Federal Court of Appeal and a decision on that appeal is pending. In addition, two appeals of BC Hydro's water licence have been filed with the Environmental Appeal Board. The details of the various proceedings are summarized in Table 2 below.

On September 19, 2016, the BC Hydro Ratepayers Association filed a notice of application with the Federal Court seeking, among other things, an injunction and to set aside the *Fisheries Act* authorization issued on July 27, 2016.

On October 31, 2016, the B.C. Supreme Court dismissed the 2015 judicial review filed by the West Moberly and Prophet River First Nations in which the two First Nations had challenged provincial permits for Site C that were issued in the summer of 2015. This information is outside of the reporting period for this report.

Table 2 Litigation Status Summary

Outcome		Date
Federal Court: Federal Environmental Approval		
Mikisew Cree Athabasca Chipewyan	Two judicial reviews were **discontinued** after agreements were reached with BC Hydro and the federal government	July 16, 2015
Peace Valley Landowner Association	**Dismissed**; no appeal filed	August 28, 2015
Prophet River First Nation West Moberly First Nations	**Dismissed** Appeal filed Hearing date Decision pending	August 28, 2015 September 30, 2015 September 12, 2016
Federal Court: Federal Permits		
BC Hydro Ratepayers Association	Notice of Application filed Hearing date	September 19, 2016 TBD
B.C. Supreme Court: Provincial Environmental Assessment Certificate		
Peace Valley Landowner Association	**Dismissed** Appeal filed Appeal hearing held **Appeal Dismissed**	July 2, 2015 July 30, 2015 April 4 to April 5, 2016 September 15, 2016
Prophet River First Nation West Moberly First Nations	**Dismissed** Appeal filed Hearing date	September 18, 2015 October 19, 2015 December 5 to December 8, 2016
B.C. Supreme Court: Provincial Permits		
Prophet River First Nation West Moberly First Nations	Injunction application **dismissed** Hearing of Petition complete **Petition Dismissed**	August 28, 2015 November 17 to 23, 2015 and February 2, 2016 October 31, 2016
Environmental Appeal Board		
West Moberly and Prophet River First Nations	Water Licence appeals filed Hearing date	March 29, 2016 To Be Determined
Other Proceedings		
BC Hydro v. Boon et al. (Rocky Mountain Fort)	Civil claim filed Injunction decision	January 29, 2016 February 29, 2016
Building Trades v. BC Hydro	Civil claim filed Response to claim filed	March 2, 2015 April 10, 2015
Sierra Club of British Columbia	Judicial review filed Hearing date	July 20, 2016 January 27, 2017

Status as of October 31, 2016.

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.

1.2.3.2 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. Coordination with Peace River Hydro Partners has commenced and is ongoing. Peace River Hydro Partners has submitted a comprehensive list of all permits (a "permitting plan") so that contractor, BC Hydro, regulator and First Nations resources can be planned.

Table 3 below provides a list of permits and authorizations that have been issued for site preparation works at the dam site, for vegetation clearing and quarries/pits to date. During this reporting period, the project received nine provincial permits under the *Land Act, Forest Act, Water Sustainability Act* and *Mines Act* for the Halfway River Debris Boom Facility, Highway 29 geotechnical investigations at Halfway River, Reservoir Slope Geotechnical Monitoring and Area A Mining. Leave to Commence Construction 3 was issued for works on the right bank stage 1 cofferdam, right bank overburden excavation, right bank bedrock excavation, inlet cofferdam and outlet cofferdam.

Table 3 Provincial Permits and Approvals Issued to Date

Project Component	Act/Permit	Tenure Type/Purpose	Approval Dates
Dam Site Area and Moberly River	*Land Act*	Licence of Occupation for Dam Site Area, Area A, RSEM L3, Wilder Road Extension, Public Safety Booms	July 7, 2015
	Forest Act	Occupant Licences to Cut for North Bank, RSEM L3, South Bank, Wilder Road, Public Safety Booms	July 7, 2015
	Mines Act	Mines Act Notices of Work for Area A, 2015 and 2015-2022	July 24, 2015 & January 1, 2016
	Water Act/Water Sustainability Act	Short Term Use of Water for Dam Site / Moberly River Area and Instream Works for River Road, Peace River Construction Bridge, instream contouring, Septimus Siding, Moberly Clearing Bridge, Worker Camp Water Supply Intake, and various Notifications for stream crossings	July 7, 2015 to July 25, 2016
	Wildlife Act	Capture and relocation of fish, Peace River Fish Community Monitoring, Amphibian Salvage, Scientific Fish Collection	July 7, 2015 to June 30, 2016
Highway 29 Realignment	*Agricultural Land Act*	Order in Council for Highway 29 between Hudson's Hope and Charlie Lake	December 16, 2015
	Land Act	Temporary Licence of Occupation for geotechnical investigations at Cache Creek and Halfway River	June 20, 2016 & September 8, 2016
	Forest Act	S. 52 and Occupant Licence to Cut to harvest crown timber at Cache Creek and Halfway River for geotechnical investigations	June 20, 2016 and September 8, 2016
	Water Sustainability Act	Approval for instream works at Cache Creek and Halfway River for geotechnical investigations	June 20, 2016 and September 6, 2016
Quarries/Pits	*Land Act*	Licences of Occupation for Del Rio Pit, Portage Mountain Quarry, West Pine Quarry	July 7, 2015 to March 11, 2016 to
	Forest Act	Occupant Licence to Cut for Portage Mountain Quarry	March 11, 2016
	Water Act/ Water Sustainability Act	Short Term Use of Water for Portage Mountain Quarry, West Pine Quarry	July 7, 2015 and March 11, 2016
	Mines Act	Mines Permit and Notices of Work for West Pine Quarry, Wuthrich Quarry	July 7, 2015 to March 29, 2016
Reservoir	*Land Act*	Licences of Occupation for Halfway River Debris Boom and Reservoir Slope Geotechnical Monitoring	August 25, 2016
	Forest Act	Occupant Licence to Cut for Halfway River Debris Boom	August 25, 2016
Transmission Line	*Water Sustainability Act*	Notification for temporary crossings of streams	April 29, 2016

Project Component	Act/Permit	Tenure Type/Purpose	Approval Dates
Project Wide	*Water Sustainability Act*	Conditional Water Licences 132990 and 132991. Leaves to Commence Construction 1-3	February 26, 2016; April 1, 2016 to July 20, 2016
	Agricultural Land Commission Act	Temporary and permanent removal of agricultural lands from the Agricultural Land Reserve	April 8, 2016
	Heritage Conservation Act	S12 Alteration and S14 Inspection Permits and amendments	July 15, 2016 to March 31, 2016
	Wildlife Act	Removal of Beaver Dams (Construction) and Eagle Nests	July 7, 2016
		Capture, Herd and Sample Animals for Monitoring of Project Effects	March 1, 2016
		Amphibian and Reptile Salvage	June 30, 2016

1.2.3.3 Pending and Future Provincial Permits

Table 4 below lists the general categories of pending and future provincial permit requirements for the different Project components. Pending permits are those for which applications have been submitted and are awaiting regulatory decision. Applications are yet to be submitted for future permits.

Table 4 General List of Pending and Future Permit Requirements

Project Component	Act/Permit	Tenure Type/Purpose	Forecast Date
Pending Permits – Applications Submitted, Decision Pending			
Transmission Line	*Forest Act, Land Act*	Occupancy and clearing of transmission line	October 2016
Reservoir	*Land Act, Forest & Range Practices Act, Water Sustainability Act*	Reservoir clearing for Moberly River and eastern reservoir	November 2016 (Moberly River) & December 2016 (Eastern Reservoir)
Quarries/Pits	*Forest Act, Land Act, Mines Act, Water Sustainability Act*	Occupancy, clearing and mining of West Pine Quarry	December 2016
Highway 29 Realignment	*Land Act* *Water Sustainability Act*	Construction of Highway 29 realignment at Cache Creek	February 2017 & July 2017
Fish Passage	*Water Sustainability Act*	Construction of fish passage facility	December 2017
Future Permits – Applications to be Submitted			
Project Wide	*Water Sustainability Act* Leaves to Commence Construction and Operation (and related sub-leaves, or Leaves to Construct)	Leave to Commence Construction and sub-component approvals currently being confirmed in consultation with contractors, Independent Engineer, Independent Environmental Monitor and Comptroller of Water Rights	November 2016 to 2023
Highway 29 Realignment	*Forest Act* *Water Sustainability Act* *Forest Act, Land Act, Water Sustainability Act* *Forest Act, Land Act, Water Sustainability Act*	Cache Creek Construction Investigations – Dry Creek, Lynx Creek, Farrell Creek (east) Construction – all remaining segments	February 2017 July 2017 Spring 2017 and beyond Fall 2017 and beyond
Main Civil Works	*Water Sustainability Act*	Short Term use of Water	June 2017
Generating Station and Spillways	*Water Sustainability Act*	Short Term Use of Water	June 2017
Transmission Line	*Water Sustainability Act*	Approval for stream crossings	August 2017
Quarries/Pits	*Mines Act, Water Sustainability Act*	Mining at Portage Mountain Quarry for Highway 29 works	December 2017

Project Component	Act/Permit	Tenure Type/Purpose	Forecast Date
Reservoir	*Forest Act, Land Act, Water Sustainability Act, Wildlife Act*	Clearing of central and western reservoirs; construction of Hudson's Hope Shoreline Protection; installation of debris booms; capture and salvage of wildlife during reservoir filling	August 2018 and beyond

Assumptions

- Permit requirements listed are general in nature. Additional permits may be identified and required under the various acts as detail design and construction proceeds for the different Project components.
- The date required is subject to change based on changes to the construction design, methods and/or schedule and the consultation process currently being discussed with the Province, Department of Fisheries and Oceans and Transport Canada.

Decisions on permits for the transmission line, lower and eastern reservoir clearing, West Pine Quarry, and Highway 29 realignment at Cache Creek are pending. Future applications for *Land, Water Sustainability Act, Wildlife, Forest, Mines, and Heritage Conservation Act* permits and approvals will be submitted for Highway 29 investigations and construction, Main Civil Works and Generating Station and Spillways (water licence approvals/sub-approvals and short term use of water), transmission line works, and mining at Portage Mountain Quarry.

1.2.3.4 Process Improvements

BC Hydro continues to work with regulators and contractors to mitigate potential delays to permits that may result in construction schedule delays. Aboriginal Groups have also contributed by providing feedback on permitting processes. Current process improvements include the following:

- BC Hydro is facilitating meetings with the Comptroller of Water Rights and Peace River Hydro Partners to ensure submissions are coordinated and efficient;
- BC Hydro communicates regularly with the Ministry of Forest, Lands and Natural Resources Operations, including the Comptroller of Water Rights, about the status of permits and approvals and the Project schedule; and

- Permitting forums are being held with Aboriginal Groups to share information on permit applications and to seek feedback before they are submitted to regulators. BC Hydro also 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.

1.2.3.5 Federal Authorizations

Navigation Protection Act approvals for Main Civil Works were issued by Transport Canada on July 27, 2016. Authorization for Main Civil Works under the *Fisheries Act* was issued by Fisheries and Oceans Canada on July 27, 2016.

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 Qualification. Main Civil Works implementation design is continuing; the issuing of the construction drawings commenced following contract award. The Roller-Compacted Concrete Buttress Issue for Construction Drawings have been completed based on the Turbine and Generators and Powerhouse dimensions and these have been issued to Peace River Hydro Partners for preparation of Roller-Compacted Concrete placement in 2017. The technical specifications for the Hydro Mechanical Contract Completions Contract and Protection and Control specifications are progressing to meet project schedule. Implementation design is underway for the 500 kV transmission lines, Peace Canyon 500 kV Gas Insulated Substation and Site C Substation. The next Technical Advisory Board is scheduled for November 22 to 24, 2016 at the Site C construction site. The focus of the next Technical Advisory Board meeting will be reviewing the

cold weather construction activities of Roller-Compacted Concrete trial placement and cofferdam construction.

1.2.4.2 Construction

Refer to Appendix F for the full construction schedule.

North (Left) Bank Site Preparation

Key contract scope for North Bank Site Preparation includes constructing approximately 7 km of access roads and excavation of approximately 2 million cubic metres of material. North Bank Road gully embankment construction commenced in February 2016 and 95 per cent of embankment fill is now completed. River Road final grade is completed and the road is in use by others. Installation of cross drainage (culverts) and lock block debris catches have been completed. Underlying embankment movement on River Road near 'Blind Corner' requires stabilization. BC Hydro is working with the contractor to implement the remedial measures.

South (Right) Bank Site Preparation

South Bank site preparation work commenced in September 2015 and includes vegetation clearing, construction of new access roads, a temporary substation pad, and a new rail siding.

- Work on the Septimus rail siding resumed this quarter. The rail siding is forecast to be completed in October 2016. There is currently no anticipated consequence of delay to the Main Civil Works Contractor at this time; and
- Construction of temporary substation pad access roads to final grade is complete. In-service date for the temporary substation was in July 2016.

Worker Accommodation

All modules for the Phase 3 scope were installed and commissioned, providing a total of 1,600 rooms as well as expanded kitchen and dining facilities, mudrooms,

luggage storage, recreation and fitness facilities and a 500 vehicle parking lot. Phase 3 was completed on August 31, 2016 and deficiencies are being completed with anticipated full completion at the end of October 2016. Notable deficiencies include required re-design and construction of raw water intake, completion of waste water pipeline to disposal field, and seal coat applied to access roads and parking lots.

Ministry of Transportation and Infrastructure Public Road Upgrades

The Ministry of Transportation and Infrastructure's contractor, Al Simms 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 is under construction near the Gate B entrance to Site C dam site. Shoulder widening is also being carried out on Old Fort Road from the re-alignment section north to Highway 97. Work is scheduled to be completed by the end of June 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 and is scheduled to be completed by the end of October 2016.

Main Civil Works

- Peace River Hydro Partners started the permanent work on June 10, 2016 on the Left Bank Excavation;
- The Right Bank Drainage Tunnel received all permits in June 2016; work on the tunnel portal is substantially complete and tunnelling is targeted to start in early November 2016;
- The first Relocated Surplus Excavated Material site is expected to be operational in early October 2016;

- Work on the Moberly River Construction Bridge has started and is targeted for completion in December 2016;
- The Right Bank Coffer Dam is at full height and ready for foundation grouting and cut-off wall installation; and
- The Roller-Compacted Concrete Batch Plant construction has started and is targeted to be completed in time for the Roller-Compacted Concrete trial placement in late October 2016.

Figure 1 Map of Main Civil Works Work Areas

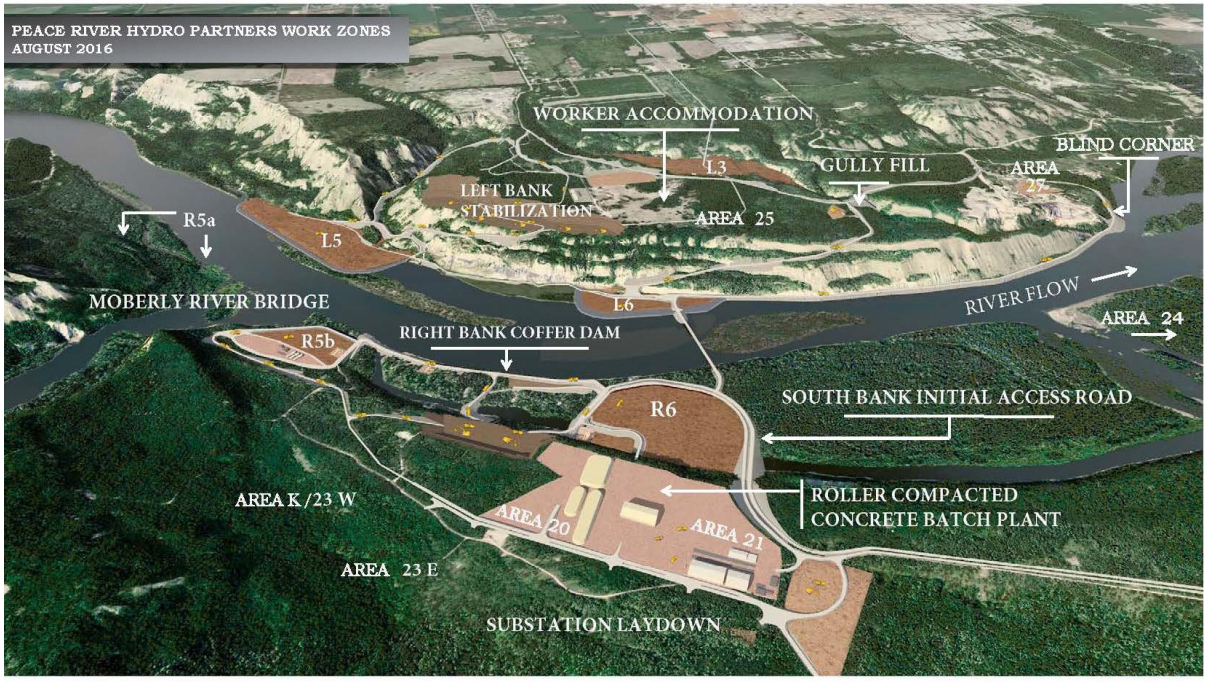

Table 5 Scope of Main Civil Works Contract

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

Quality Management

Implementation and monitoring of Quality Control and Quality Assurance Plans are required of all contractors. Table 6 below identifies quality management non-conformity instances during the quarter ending September 30, 2016.

Table 6 Quality Management Non-Conformity Report Metrics

Contract	Contractor	Reported this Period	Closed this Period	Reported to Date	Closed to Date
North Bank Site Preparation	Morgan Construction & Environmental	2	2	16	16
South Bank Site Preparation	Duz Cho Construction	0	0	1	1
Main Civil Works	Peace River Hydro Partners	36	19	40	23

The majority of quality non-conformities are related to instrumentation. Progress has been made outside of the reporting period to correct the non-conformances identified. Peace River Hydro Partners are transitioning to a web-based electronic tracking system in December 2016 which is expected to improve efficiency, accuracy, resolution and transparency of the non-conformances.

1.2.5 Safety

There were zero Level 1 safety incidents and one medical aid injury at the construction site in this quarter. Table 7 below identifies the project safety metrics during the quarter ending September 30, 2016.

Table 7 Safety Metrics

	Reported this Period	Reported since Inception (July 27, 2015)
Fatality & Serious Injury[2]	0	0
Severity (number of calendar days lost due to injury per 200,000 hours worked)	0	2*
Lost Time Injury Frequency (number of injuries resulting in lost time per 200,000 hours worked)	0	2*
Contractor, employee, public near miss reports	89	194
Lost time incidents	1	3
Equipment/property damage reports**	36	82

* There have been challenges receiving data from contractors in a timely fashion. BC Hydro is collaborating with contractors to improve submission of timely data. It is expected reporting will improve over the next quarter.

** 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 IMS system.

One Level 3 employee injury was reported and 47 contractor injuries were reported of which 46 were Level 3 injuries and one was a Level 2 injury. One resulted in lost time. Of the near miss reports, 96 per cent were Level 3 type (lowest severity), whereas four per cent were Level 2.

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.

[2] Excludes health events unrelated to work standards.

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, twelve annual reports were submitted in accordance with the conditions. Two draft plans and one framework (on Agricultural Mitigation and Compensation) were submitted to regulators, local governments and potentially affected Aboriginal groups for review as set out in the conditions. Comments received on these plans will be incorporated into the final plans, and submitted in accordance with required timelines.

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 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 Technical Committees have been meeting regularly to meet this schedule.

1.2.6.3 Environmental Compliance Inspections

Inspectors from the Environmental Assessment Office and Forest, Land and Natural Resources attended inspections of Site C Construction on the weeks of June 20, 2016 and August 29, 2016. Following the first inspection, two Orders were issued, one for hydrocarbon storage and handling and one for waste management and recycling, and both were limited to one of the Contractors at site. The affected Contractor put in place a number of corrective actions both before and after the Orders were issued and they were found to be compliant in a subsequent inspection.

1.2.6.4 Heritage

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

During the reporting period, archaeological work continued. Of the field work planned for the 2016 season, which is subject to refinement based on findings, weather conditions and property access permissions, about 85 per cent is complete. The field work includes regulatory requirements for pre-construction archaeological impact assessments in areas not accessible until now, systematic data recovery at selected archaeological sites, investigation of chance finds as required, and inspections of archaeological sites post-ground disturbance in construction. In addition, heritage reporting, and heritage compliance reviews of contract documents, contractor environmental plans and construction readiness plans were performed.

1.2.6.5 Agricultural 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. In developing the Framework, the Consultation Steering Committee considered the requirements of the Environmental Assessment Certificate condition (30); consultation feedback from regional agricultural stakeholders including land owners, 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 Framework on July 27, 2016 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 framework being available on the Site C website. On August 12, 2016 an event was held at the Dawson Creek Agricultural Exhibition and Stampede to release the Framework and thank the agricultural sector for its participation to date, and requested feedback on the Framework during a 60-day comment period. The comment period closed at the end of September 2016, and feedback will be considered in development of the draft Agricultural Mitigation and Compensation Plan. The draft Plan is due in January 2017, and a final Plan must be filed by July 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 and Training Initiatives

Employment

Contractors submit monthly workforce data electronically to BC Hydro. Table 8 shows a snapshot of the number of workers for this quarter by month.

Table 8 Site C Jobs Snapshot

Month	Number of B.C. Workers*	Number of Total Workers*
July 2016	1,411	1,721
August 2016	1,580	1,816
September 2016	1,392	1,750

* 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.

Refer to Appendix E for additional workforce information. The number of workers continues to vary as the construction work progresses. For example, it is expected that the number of workers will increase as main civil works ramps up. Peace River Hydro Partners has indicated that approximately 1,500 workers will be working at the peak of construction. As these job opportunities become available, they will be

posted on the WorkBC website as well as on the local Fort St. John's WorkBC Employment Centre's website (Employment Connections).

Training Programs and Initiatives

The Christian Labour Association of Canada has proposed an initiative to explore the establishment of an onsite training facility on the Site C project, for the training of the project workforce. This facility would be accessible to all contractors regardless of union affiliation or status and would be housed in a double wide construction trailer. This facility would be able to deliver theory portions of Construction Craft Worker training, and other relevant apprenticeship programs at the site. Currently the Christian Labour Association of Canada is working with their signatory contractor, Peace River Hydro Partners Construction and training institutions (including Northern Lights College) to explore the feasibility of this training, as well as potential funding arrangements.

The Christian Labour Association of Canada is also working on an initiative with the Saulteau First Nations to provide Aboriginal Construction Craft Worker training via video conference (virtual classroom) in the First Nation's community. Peace River Hydro Partners has committed to hiring up to 12 individuals who graduate from the program for Site C work (provided they pass all standard Peace River Hydro Partners pre-employment tests). The program is projected to start in the fall of 2016, and run for six weeks. BC Hydro is providing input and assisting in coordinating discussions between stakeholders.

BC Hydro, ATCO Two Rivers Lodging, North East Native Advancing Society and the BC Construction Association partnered to offer training to the employment kitchen skills program. The program included five days of pre-employment and kitchen skills training with ATCO's Red Seal Chefs, and was offered to Treaty 8 members interested in pursuing a career in culinary arts. The program was completed in July 2016.

1.2.8 Community Engagement & Communication

1.2.8.1 Local Government Liaison

BC Hydro and the District of Hudson's Hope have renewed discussions toward a community agreement that would include both Site C and existing operations in the vicinity of Hudson's Hope. The District has identified its key interests with respect to a potential agreement. BC Hydro and the Peace River Regional District have also renewed discussions toward a community agreement to address direct impacts on their infrastructure and services.

BC Hydro and the City of Fort St. John have established a Community Agreement Monitoring Committee to oversee implementation of the Community Agreement. BC Hydro continues to work cooperatively with the District of Taylor and the District of Chetwynd to oversee implementation of their respective agreements.

A Regional Community Liaison Committee continues to meet approximately every eight weeks. Recent meetings have included site tours. The Committee agreed to a Terms of Reference which established that the Committee will meet no less than four times annually and that they will receive information about the Project and have a timely opportunity to raise issues directly to BC Hydro during Project construction. The last meeting was held in September 2016 and the next meeting is scheduled for late fall 2016.

1.2.8.2 Business Liaison and Outreach

On September 26, 2016 BC Hydro issued the Request for Proposals for the Generating Station and Spillways Civil Works contract to four shortlisted proponent teams. Notification of the issuance of the Request for Proposals was provided to the Site C business directory along with business stakeholders such as local chambers of commerce, construction associations and economic development commissions.

Additionally, notification of the following Requests for Proposals was provided to the Site C business directory:

- Request for Proposals for Traffic Forecasting, Monitoring, Mitigation and Analysis (July 7, 2016);
- Request for Proposals for a Consultant for the District of Hudson's Hope Shoreline Protection Berm, Reconstruction of DA Thomas Road and Boat Launch and Day-Use Recreation Site (August 16, 2016);
- Request for Proposals for the Design and Supply of Shunt Reactor for the Site C Project (August 16, 2016); and
- Request for Proposals for Supply of Lattice Towers for Site C (September 27, 2016).

On July 14, 2016, a site tour was provided to the Chetwynd Chamber of Commerce.

1.2.8.3 Community Relations and Consultation

BC Hydro continued to implement its construction communications program during the quarter. This program includes 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 805 public enquiries between July and September 2016, down from 960 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 9 shows the breakdown of some of the most common enquiry types:

Table 9 Public Enquiries Breakdown

Enquiry Type	July	August	September
Job Opportunities	209	180	193
Business Opportunities	37	35	59
Construction Impact	7	11	13

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

1.2.8.4 Communications Activities

Based on a search using the media database Infomart, there were 401 media stories in the July to September 2016 period on the Site C Project, compared to 242 stories in the previous quarter.

Key communications activities in the quarter included:

- On July 4, 2016, BC Hydro issued a media statement correcting an inaccurate story on the Site C construction schedule and budget;
- On July 5, 2016, BC Hydro announced that it had reached agreements with McLeod Lake Indian Band on Site C;
- On July 6, 2016, BC Hydro announced that it had reached an employment milestone on the project by surpassing 1,000 B.C. workers on the project. A media event was held at the site to recognize the milestone;
- On July 18, 2016, BC Hydro announced the completion of the second phase of the Site C worker lodge. The addition of 900 rooms in the second phase (for a total of 1,200 rooms) included a media tour of the lodge at the dam site;
- On July 20, 2016, BC Hydro announced that it had come to an agreement with Dene Tha' First Nation on Site C;
- On August 3, 2016, BC Hydro announced that it had reached its one-year construction milestone (on July 27, 2016);

- On August 10, 2016, BC Hydro issued a media statement responding to a report by Amnesty International.
- On August 12, 2016, BC Hydro announced that it had released a framework for the Project's Agricultural Mitigation and Compensation Plan.
- On September 13, 2016, BC Hydro announced that it had established an $800,000 fund to support non-profits in the Peace Region; and
- On September 26, 2016, BC Hydro announced a shortlist for the Generating Station and Spillways Civil Works contract and released a Request for Proposals to the shortlisted teams.

We have accommodated a number of site tour requests during the quarter for external groups. Examples include the Regional Community Liaison Committee, Ministry of Transportation and Infrastructure, Blueberry River First Nations Youth, and the Chetwynd Chamber of Commerce.

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. The housing will be designed and constructed to meet the R-2000 standard, Natural Resources Canada's

best-in-class energy efficiency standard that includes high levels of insulation, clean air features and measures for a healthy home environment. The building will be showcased as a demonstration project for energy efficient building techniques.

Of the 50 units, ten will be available during the Project construction phase for BC Housing or their designated operator to manage for low or moderate income households. The remaining 40 units will be managed for use by the Project workforce, as required, until completion of Site C Project construction, at which time the 40 units will be transitioned to permanent non-market, affordable housing in partnership with BC Housing or their designated operator. Access to the units for low or moderate income households will be managed in accordance with BC Housing policies and in accordance with any agreement BC Housing may have with a designated operator.

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 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.

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 is operating in its permanent location within the Two Rivers Lodge and was staffed during this period with a Nurse Practitioner and Advanced Care Paramedics.

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 963 patient interactions. During the reporting period there were 602 patient interactions, of which 130 were occupational and 472 non-occupational.

1.2.8.8 Properties Acquisitions

In the second quarter of F2017, BC Hydro completed the acquisition of temporary rights over lands impacted by the conveyor from the 85th Avenue industrial site to the dam site area (three land holdings) and continued discussions with land owners whose lands are impacted by the project. This includes owners whose lands are impacted by the transmission line construction and Highway 29 realignment.

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 10 below.

Table 10 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	Various, through F2017
	Main Civil Works contract	Design-Bid-Build	Completed
Reservoir Clearing	Multiple reservoir clearing contracts to be awarded over seven to eight years	Design-Bid-Build	One Agreement awarded for the Lower Reservoir
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.
	Hydro-Mechanical Equipment contract	Supply Contract	Commence: Quarter 3 F2017
	Powertrain Balance of Plant Equipment Supply	Supply Contracts	Commence: 2017 to 2018
	Completion Contract (Powertrain Balance of Plant Equipment Installation)	Install Contract	Commence: 2017
Electrical and Transmission Infrastructure	Transmission Lines contract	Design-Bid-Build	Various, through F2017 to F2018
	Site C substation contract	Design-Bid-Build	Commence: F2017
	Peace Canyon Substation upgrade contract	Design-Build	Contract Award: Quarter 3 F2017
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 (i.e., greater than $50 million in value) have been awarded: Worker Accommodation, Site Preparation: North Bank, Main Civil Works and Turbine-Generator. 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 11 below.

Table 11 Major Project Contracts Awarded

Work Package	Contract Value	Current Status
Site Preparation: North Bank ($ million)	60	Contract executed July 2015 and amended in June 2016
Worker Accommodation ($ million)	464	Contract executed September 2015
Main Civil Works ($ billion)	1.75	Contract executed December 2015
Turbine-Generator ($ million)	464	Contract executed March 2016

In 2016, procurement of two major work packages will commence: Generating Station and Spillways Civil Contract and Hydro-mechanical equipment. Procurement of these work packages is currently on track.

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

There have been no material changes to the Major contracts to date.

1.3.3.2 Contingency and Project Reserve Draws

The project is on track to manage budget within the approved amounts including contingency. The project budget includes contingency of $794 million in nominal dollars. There have been no draws on project reserve to date. 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 12.

Table 12 Key Milestones

Milestone	Plan Date	Forecast/ Actual Date	Variance (months)	Status
Ministry of Transportation & Infrastructure: North Bank Roads (240) Work	October 2015	October 2016	-12	Complete
Site Prep North Bank Complete	June 2016	October 2016	-4	Complete
North Bank Road Gully Section to River Road Complete	February 2016	November 2016	-9	Complete
Phase 3 – Worker Accommodation	August 2016	August 2016	0	Complete
North Bank (271) Road complete	June 2016	July 2017	-13	Late
South Bank Stage 1 Cofferdam Complete	April 2017	December 2016	4	On Track[3]
Tender Design for 5L5 Complete	February 2017	February 2017	0	On Track
Moberly Bridge Complete	November 2016	December 2016	-1	Late
Transmission Peace Canyon Gas Insulated Switchgear Contract Award	February 2017	February 2017	0	On Track
Transmission 5L5 & 5L6 Tower Contract Award	February 2017	February 2017	0	On Track

1.5 Impacts on Other BC Hydro Operations

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

[3] The plan date for this milestone assumed a later date than the date submitted by Peace River Hydro Partners on contract award.

2 Project Schedule

2.1 Project In Service Dates

BC Hydro currently shows all in service dates on track per Table 13.

Table 13 Project In-Service Dates

Description/Status	Final Investment Decision Planned ISD[4]	F2017-F2019 Service Plan[5]	Status[6] 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	September 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.

3 Project Costs and Financing

3.1 Project Budget Summary

Table 14 below presents the overall Project Budget, based on the Final Investment Decision (December 2014), represented in nominal dollars.

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

Table 14 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 15 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 15 Total Project Expenditure Summary ($ million Nominal) Compared to Final Investment Decision

Description	Final Investment Decision	Forecast	Final Investment Decision Plan to Date	Actuals to Date	Variance
Total Project Costs	8,335	8,335	908	1,284	(376)
Treasury Board Reserve	440	440	0	0	0
Authorized Project Cost	**8,775**	**8,775**	**908**	**1,284**	**(376)**

Table 16 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 16 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 Date	Variance
Total Project Costs	8,335	8,335	1,218	1,284	(66)
Treasury Board Reserve	440	440	0	0	0
Authorized Project Cost	**8,775**	**8,775**	**1,218**	**1,284**	**(66)**

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. 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 related to Worker Accommodation and Main Civil Works. 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. In March 2016, the British Columbia Utilities Commission approved a Debt Hedging Regulatory Account that will capture the gains and losses related to the hedging of future debt issuance (which includes financing of expenditures related to Site C) over a ten-year period. In addition to portfolio adjustments that are currently being implemented whereby BC Hydro is reducing its exposure to variable rate debt and increasing its issuance of fixed rate debt, a strategy has been developed that recommends hedging 50 per cent of BC Hydro's future forecasted borrowing requirements 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 17 for a list of risks.

Table 17 Material Project Risks

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[7]
Delay to Permitting	Permits and licences are still required for several portions of construction activity. Delays to these permits and licences will result in delays to the associated construction work. BC Hydro continues to consult with federal and provincial authorities, local government and First Nations to mitigate this risk. BC Hydro is awaiting the outcome of a judicial review of permits as described below. If BC Hydro is unsuccessful, this could result in a delay to the work underway and claims arising. The federal *Fisheries Act* Authorization and *Navigation Protection Act* approvals were issued on July 27, 2016. This has decreased the risk exposure for the reporting period. A Notice of Application has been filed in the federal court, challenging the *Fisheries Act* Authorization.	↓
Litigation	Refer to section 1.2.2 and Table 2 for status of judicial reviews related to environmental approvals and permits. On September 15, 2016 the BC Court of Appeal dismissed the Peace Valley Landowners Associations' (PVLA) appeal to reverse Site C approval of the earlier BC Supreme Court decision (July 2015 Supreme Court granting Site C the Environmental Assessment Certificate).	→
First Nations	BC Hydro has made progress on negotiating agreements with First Nations and has reached substantive agreement with several First Nations. The status of other specific negotiations is confidential at this time. Impact Benefit Agreements with First Nations provide First Nations with Project benefits and mitigate the risk of legal challenges.	↓

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

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[7]
Market response to procurement	There is a risk that strong competition does not occur during procurement, which may result in higher premiums, mark ups and overall prices on labour and materials. This risk has been mitigated via market soundings, robust Request for Qualifications processes, honorariums for un-successful short-listed proponents that submitted a bona fide proposal, and other engagement activities. All three major procurement processes completed to date (Worker Accommodation, Main Civil Works, Turbine and Generators) have had positive responses. BC Hydro completed the Request for Qualifications process for the Generating Station and Spillways Civil Works Contractor and short-listed four qualified proponents to receive the Generating Station and Spillways Request for Proposal. Market response risks will continue to be monitored and could be impacted if the project construction schedule is delayed significantly.	↓
Labour Relations & Stability	BC Hydro is using an inclusive labour approach with a managed open site. This allows for participation by all union and non-union labour groups and allows access to the largest pool of skilled and experienced labour. BC Hydro entered into a memorandum of understanding with certain B.C. Building Trades unions to achieve labour stability and a mix of labour representation on site, including building trades unions. All major contracts contain no strike, no lockout, and no raiding provisions. BC Hydro has implemented a site-wide Labour Relations Contractor Committee. The purpose of this committee is to support labour stability on the site through communication, consultation, coordination and cooperation among contractors on the project.	→

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[7]
Geotechnical risks	The key geotechnical risks include unexpected shears encountered during construction; deeper than expected relaxation joints; bedding planes worse than expected; larger than expected deterioration of shale bedrock once exposed during construction; and Rock Rebound/Swell. Current strategies to mitigate geotechnical risks include: Transfer some degree of ground condition risks to the Contractor; Design contracts that allow the contractor to respond to unexpected ground conditions (potentially through pre-agreed pricing); and, conduct field-scale trials to determine the response when shale bedrock is exposed to the elements. Events associated with geotechnical risks have occurred on the North Bank gully crossing, where unexpected slope failure occurred. BC Hydro has resolved the issue by working with the contractor to provide an engineered solution, and addressed it within available project funds. Geotechnical monitoring is underway for the Roller-Compacted Concrete Buttress excavations.	→
Construction cost – labour	Potential cost increases could arise if there is competition with other projects for labour resources, labour instability, or changing workforce demographics. BC Hydro is partially mitigating this risk through regional job fairs to increase local participation and investments in skills training ($1.5 million invested to date). This risk is also partially mitigated by consideration of labour stability during contractor selection. Based on current market conditions in the infrastructure and energy sector, BC Hydro believes the risk of unexpectedly high labour prices has decreased since the Final Investment Decision. There remains the potential for market conditions to shift in the future and this risk to increase.	→

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[7]
Construction cost – commodities and equipment	Potential cost increases could arise if market prices for key commodities and equipment increase, or if overall market activity results in higher contractor profit margins. BC Hydro continues to review pricing for commodity cost for which it retains risk, and does not see early indications on market price pressures at this point. For example, BC Hydro retains exposure to fuel prices (generally diesel), which have decreased compared to prices in the budget. Fuel prices may increase in the future due to global market forces. BC Hydro will consider the potential to hedge these prices, where appropriate. Based on current market conditions in the infrastructure and energy sector BC Hydro believes that the risk of unexpectedly high market prices has decreased since the Final Investment Decision. There remains the potential for market conditions to shift and this risk to increase in the future. More information will be available upon conclusion of other major contracts such as the Generating Station and Spillways civil works contract.	→
Construction execution	Contractors may be unable to execute successfully the contracted scope resulting in additional costs to BC Hydro. Risk mitigation activities include: robust procurement processes to determine whether contractors have the capability to undertake their scope of work; cross-functional construction readiness review to confirm contractor and BC Hydro readiness before authorizing the start on any specific scope of work; BC Hydro increased on-site supervision to address environmental compliance issues; and BC Hydro contracts include step-in rights to allow for BC Hydro correction in the case of contractor failure.	→

Risk Event/ Description	Risk and Response Summary	Trend in Risk Exposure[7]
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 capital costs are based on foreign currency. The Canadian dollar has weakened significantly compared to the US 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 US 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. In addition to portfolio adjustments that are currently being implemented whereby BC Hydro is reducing its exposure to variable rate debt and increasing its issuance of fixed rate debt, a strategy was developed to hedge approximately 50 per cent of BC Hydro's future forecasted borrowing requirements from F2017 to F2024 through the use of derivative contracts. An application to the Commission for a new Debt Hedging Regulatory Account that will capture the gains and losses related to the hedging of future debt issuance was approved by the British Columbia Utilities Commission in March 2016. BC Hydro began implementation of this hedging program early in F2017 and expects interest rate risk to decline over time	↓
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 **Installing 138 kV Drops into Site C Temporary Substation. Photo taken July 2016**

Figure A-2 **Left Bank Excavation. Photo taken July 1, 2016**

Figure A-3 Crew Installing Air Handling Unit for the Gymnasium. Photo taken July 25, 2016

Figure A-4 North Foundation for Roller-Compacted Concrete Batch Plant. Photo taken July 29, 2016

Figure A 5 **Worker Accommodation Lobby. Photo taken August 3, 2016**

Figure A-5 **Looking Easterly on River Road. Working on Road Maintenance. Photo taken August 3, 2016**

Figure A-6 **Right Bank Adit No. 5 – In progress Drilling for Instrumentation. Photo taken August 4, 2016**

Figure A-8 **Right River Bank – Erosion Protection On-going Works between Right Bank Cofferdam Sta. 0+900 and Sta. 1+000 (4Evergreen). Photo taken August 7, 2016**

Figure A-9 Right Bank Cofferdam. Photo taken August 16, 2016

Figure A-10 Looking East at North Bank River Gully. Photo taken September 25, 2016

Figure A-11 Pier 1 Girders Complete for Moberly River Construction Bridge

Figure A-12 Installing Bridge Deck Panels on the Moberly River Construction Bridge

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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 to September 2016)[8]

	July 2016		August 2016		September 2016	
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 Environmental and Non- Construction Contractors[9] (including some subcontractors). Excludes work performed outside of B.C. (e.g., Manufacturing)	1,066	1,345	1,200	1,401	1,035	1,345
Engineers and Project Team[10]	345	376	380	415	357	406
TOTAL	**1,411 (82%)**	**1,721**	**1,580 (87%)**	**1,816**	**1,392 (80%)**	**1,750**

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.

During the month of September 2016, there were no workers working under the federal Temporary Foreign Worker Program from Construction and Environmental Contractors. BC Hydro has contracted companies for major contracts, such as main civil works, who have substantial global expertise. In September 2016, there were 22 management and professionals working on the project through the federal International Mobility Program.

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

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

10 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 to September 2016)

Month	Number of Apprentices
July 2016	56
August 2016	76
September 2016	63

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

Table E-3 Current Site C Job Classification Groupings

Carpenters	Construction and Environmental Inspectors	Construction Managers/ Supervisors	Crane Operators	Electricians	Engineers	Biologists & Laboratory
Health Care Workers	Heavy Equipment Operators	Housing Staff	Kitchen Staff	Labourers	Mechanics	Welders
Office Staff	Pipefitters	Plumbers	Security Guards	Surveyors	Truck Drivers	

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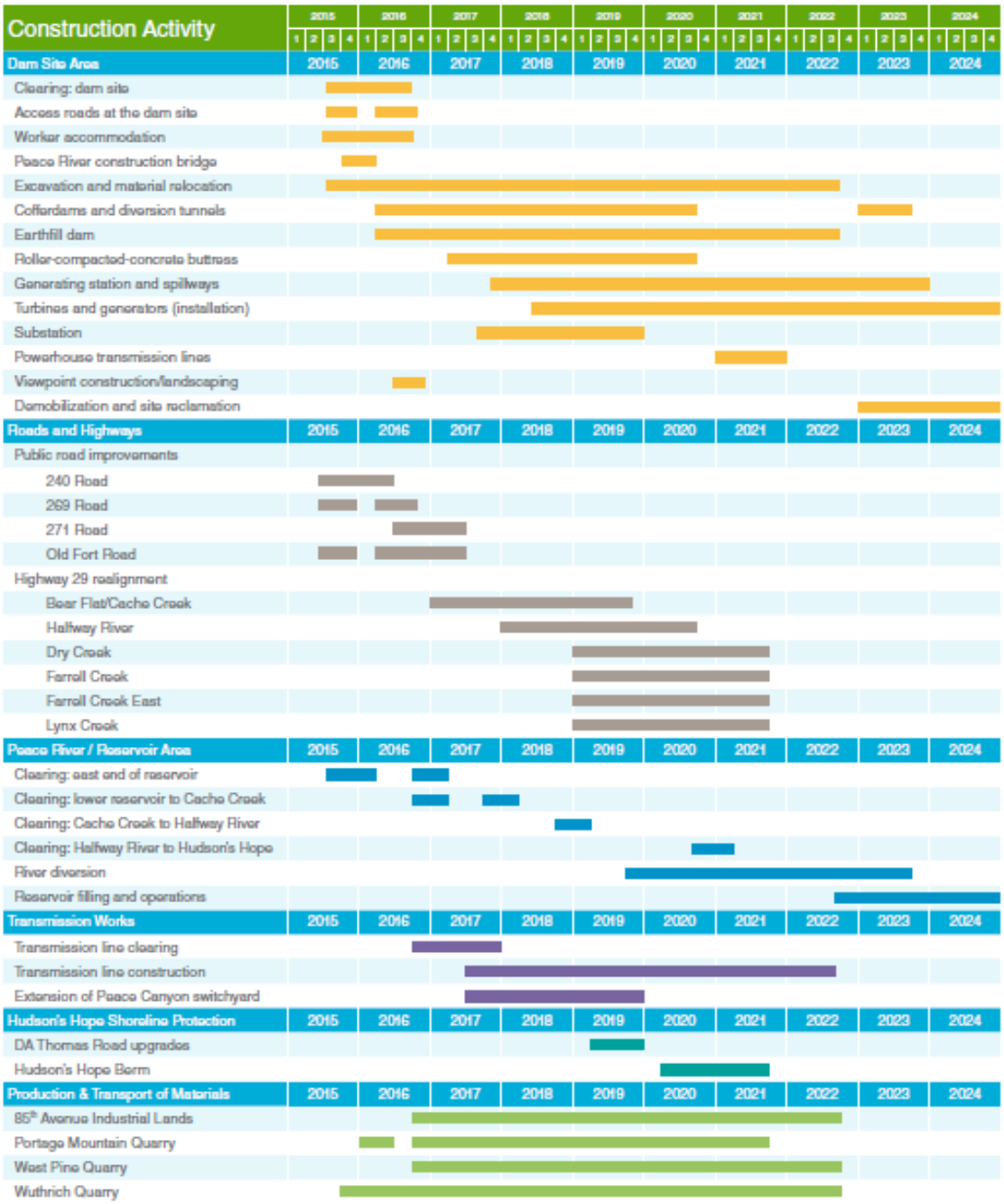
Appendix F

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