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December 21, 2016

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

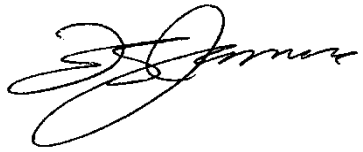
Dear Ms. Ross:

RE: British Columbia Utilities Commission (BCUC or Commission)
British Columbia Hydro and Power Authority (BC Hydro)
Site C Clean Energy Project
Annual Progress Report No. 1 – July 2015 to September 2016 (Report)

BC Hydro writes to provide its Report.

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

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Enclosure (1)

BC Hydro
Power smart

Site C Clean Energy Project

Annual Progress Report No. 1

July 2015 to September 2016

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1 Message From the Chief Executive Officer

We are constructing the Site C Clean Energy Project (Site C) to meet the energy and capacity needs of our residential, commercial and industrial customers and once complete in 2024, it will serve our province for more than 100 years. Construction of the project began in July 2015. The following annual report covers the period July 2015 to September 2016. As part of our commitment to being open and transparent, we voluntarily provide the British Columbia Utilities Commission (**BCUC**) with a copy of our quarterly and annual reports on Site C construction progress, accomplishments, costs and risks. We have also released project reports publicly and provided regular briefings to the B.C. news media.

Site C is progressing on track for overall schedule, scope and budget after the first year of construction. The report documents a significant amount of work that has been accomplished over the past year, including major contracts awarded, the issuance of dozens of key permits and authorizations, agreements with communities and First Nations, and the safe completion of key construction milestones.

While BC Hydro is pleased with the progress of construction after one year, we continue to exercise due diligence around our processes and practices. To this end, we commissioned Ernst & Young LLP (**EY**) and BTY Consultancy Group Inc. (**BTY**) in July 2016 to conduct an independent, external review of Site C to ensure that the appropriate risk and cost management processes are in place to build the project on time and on budget. This report was released publicly in the fall of 2016.

The EY and BTY report found that the Site C project is clearly defined and well-planned, and has the appropriate processes and risk mitigation in place to meet major project milestones and financial targets. The report also made a series of useful recommendations and BC Hydro has developed an action plan to address them.

With the first year of construction complete, there is still much work to be done. Our next year includes significant construction activities on the project, including the advancement of main civil works, the start of work on the turbines and generators contract, the commencement of highway realignment work, and the award of the generating station and spillways civil works contract. We remain focussed on delivering this project on time and on budget and look forward to continuing to report our progress publicly.

Jessica McDonald
President and Chief Executive Officer

2 Executive Summary

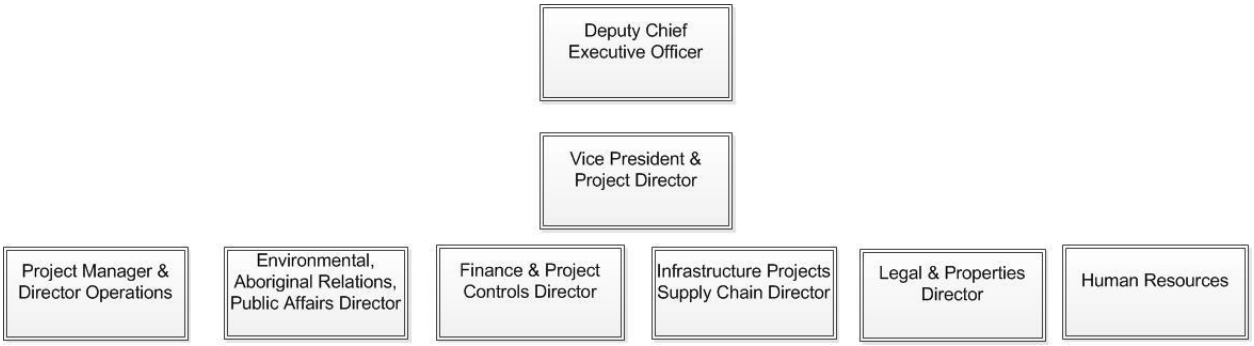
The Project will construct a third dam and hydroelectric generating station on the Peace River in northeast B.C. to provide 1,100 megawatts of capacity, and produce about 5,100 gigawatt hours per year. A capital cost estimate of $7.9 billion was developed in 2010. In 2014, BC Hydro conducted a cost refresh that concluded the original cost estimate remained appropriate. As part of government's due diligence, the capital cost estimate was reviewed and updated to $8.335 billion to reflect costs associated with the change from HST to PST and a revised construction start date of summer 2015 to allow for more time to complete the permitting process. In December 2014, the Project received a Final Investment Decision from the provincial government to proceed with construction, at a cost of $8.335 billion, plus a Treasury Board held Project Reserve of $440 million, for a total approved budget of $8.775 billion. The Project is in Implementation Phase and construction commenced July 27, 2015. The first unit is expected to come on line in December 2023 and final Project completion is expected in November 2024.

The Project went through an extensive environmental assessment process. In October 2014 BC Hydro received an Environmental Assessment Certificate from the Province and an Environmental Decision Statement from the Federal government, with 77 and 98 conditions, respectively. In addition, the project is required to apply for multiple provincial permits, water licenses, leaves to commence construction and federal authorizations. In total, approximately 300 permits and authorizations will be required by the time the project completes construction.

In the fall of 2015 BC Hydro changed the structure and complement of the Site C project team given the project moved from the planning stage to implementation and delivery stage. This included the appointment of the Vice President and Project Director, the establishment of a Project Management Office led by the Director Operations and Project Manager, as well as the establishment of key functional

support teams such as Finance & Project Controls, and Permitting, Environment and Aboriginal Relations.

Figure 1 Project Organizational Structure



As per BC Hydro's standard Project & Portfolio Management Practices, the Site C project team then undertook an update of the Site C Project Plan. This included the update of key project plans and documents including but not limited to:

- Statement of Objectives
- Project Governance
- Work Package Agreements
- Schedule Management Plan
- Cost Management Plan
- Project Change Control Plan
- Procurement Plan
- Design Management Plan
- Construction Management Plan
- Project Quality Plan
- Construction Environmental Management Plan
- Regulatory and Permitting Management Plan

- Labour Strategy Plan
- Risk Management Plan

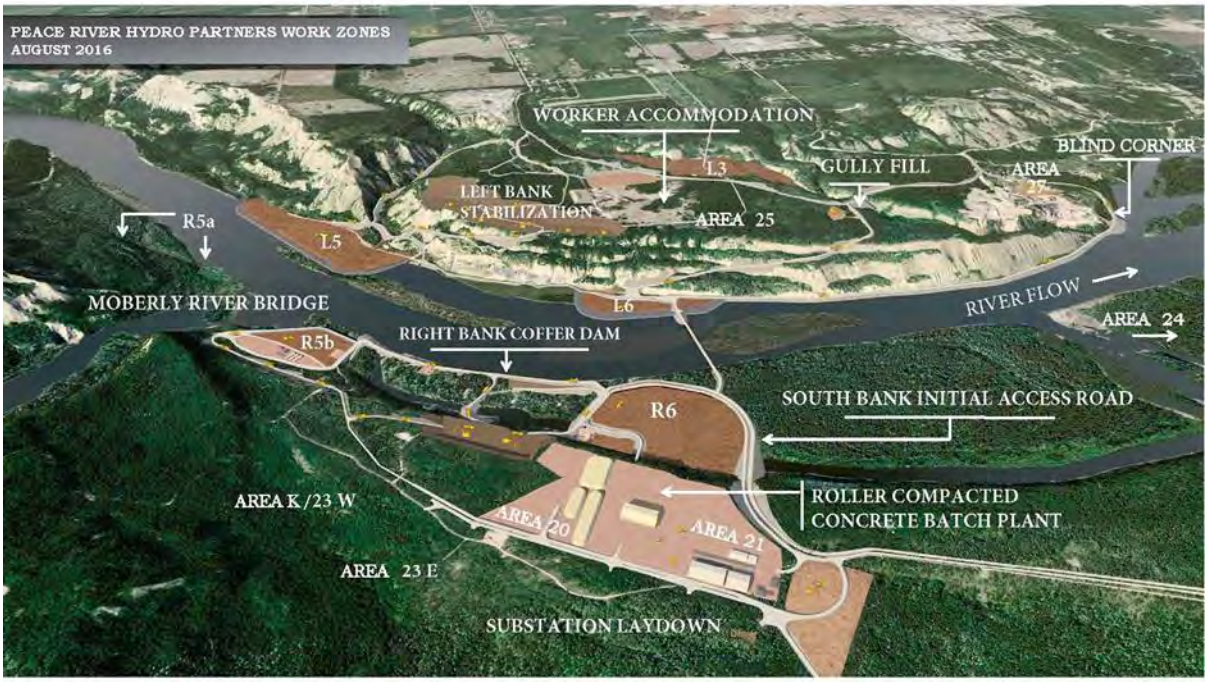
The Site C Project uses BC Hydro's standard Project & Portfolio Management processes, procedures and tools, which include a resource loaded schedule, progress measurements and metrics, project performance indicators, a project risk register and project change control log. In the fall of 2015, BC Hydro implemented supplemental tools and processes to accommodate the complexity of the Project.

Over the next year, design efforts will continue for the Main Civil Works, Turbines and Generators, Generating Station and Spillways and Transmission scopes of work. Construction activities for Main Civil Works will continue to ramp up to ready the Project for commencing work on the Powerhouse Roller Compacted Concrete Buttress. Construction of the temporary manufacturing facility for the Turbines and Generators contractor Voith will begin in March 2017 and procurements for the Transmission Substation Construction and Transmission Line Construction will be underway. Construction of access roads and clearing will continue. The Project will continue to be advanced by securing the appropriate permits, Leaves to Commence Construction, performing environmental monitoring and assessment, continuing work programs for fish and habitat, vegetation management and heritage as well as continued Aboriginal and community engagement activities.

3 Summary of Project to Date – July 2015 to September 2016

3.1 Overview and General Project Status

Construction began on July 27, 2015 and is ongoing. Significant progress was made on constructing access roads, advancing clearing of the North (Left) and South (Right) Banks of the dam site, completing construction of a temporary construction bridge, and completing the construction of the Worker Accommodation camp.



3.2 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 agreements with ten Aboriginal groups.

3.3 Permits and Government Agency Approvals

3.3.1 Background

Before the Site C Project could start construction, an extensive environmental assessment process was undertaken which resulted in the issuance of the Provincial Environmental Assessment Certificate and the Federal Decision Statement in support of the project. In addition, the project is required to apply for multiple provincial permits, water licenses, leaves to commence construction and federal authorizations. Multiple conditions are attached to each permit or authorization, which covers subjects such as air quality, water quality, fish and aquatics, wildlife, heritage, health and safety, construction environmental management and First Nations consultation. Each of the conditions must be implemented, audited and tracked to prove compliance or identify issues for follow-up with corrective actions. BC Hydro has developed a comprehensive Construction Environmental Management Plan which outlines how we will comply with the project permits and authorizations.

Table 1 below provides a list of provincial permits and approvals issued to date. Table 2 below provides a general list of pending and future permit requirements. Table 3 below provides an overview of the number of conditions per the Environmental Assessment Certificate and Federal Decision Statement.

3.3.2 Provincial Permits:

The strategy for 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.

The Water License for diversion and storage was approved by the Water Comptroller's office. The review included a written hearing with two rounds of

comments and responses as well as First Nations consultation. The hearing portion of the process was completed in December 2015 and the Water Comptroller made a decision on February 29, 2016. Two appeals were filed with the Environmental Appeal Board. The first Leave to Commence Construction was issued on April 1, 2016.

Table 1 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

Project Component	Act/Permit	Tenure Type/Purpose	Approval Dates
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 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

3.3.3 Federal Authorizations:

Navigation Protection Act and *Fisheries Act* authorizations for site preparation works were issued on September 29 and 30, 2015, respectively. *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.

Table 2 General List of Pending and Future Permit and Approval Requirements

Project Component	Act/Permit/Approval	Tenure Type/Purpose	Forecast Date
Pending Permits and Approvals – 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 and Approvals – 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 Leave to Construct are 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

Project Component	Act/Permit/Approval	Tenure Type/Purpose	Forecast Date
Quarries/Pits	*Mines Act, Water Sustainability Act*	Mining at Portage Mountain Quarry for Highway 29 works	December 2017
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.

Table 3 Overview of Provincial Environmental Certificate and Federal Decision Statement Conditions

TYPE	# of Environmental Assessment Certificate Conditions	# of Federal Decision Statement Conditions	NOTES
AQUATIC ENVIRONMENT			
Hydrology, Water Quality	3	12	Monitoring and management of hydrology, fluvial geomorphology and sediment transport, and water quality.
Downstream Monitoring		5	Analysis of model predictions using existing data (Peace Athabasca Delta).
Fish & Fish Habitat	4	10	Protecting riparian zones, including fish passage in design, and managing total dissolved gas.
Vegetation & Ecological Communities	7	9	Updating mapping, conducting pre-construction surveys, analyzing wetland function and replacing lost wetlands, protecting rare plants.
Species at Risk		6	Ensuring that potential effects are addressed and monitored.

TYPE	# of Environmental Assessment Certificate Conditions	# of Federal Decision Statement Conditions	NOTES
Wildlife Resources	10	17	Providing bird windows and identifying mitigation measures for migratory and non-migratory birds, bats, snakes, and fishers.
Current Use	4	4	Mitigating Aboriginal plant use and ground truthing measures to inform additional measures.
LAND AND RESOURCE USE			
Harvest of Fish & Wildlife	1		Compensating guide outfitters & trap line holders.
Agriculture	2		Establishing a $20 million fund and monitoring.
Other Resource Industries	3		Addressing surplus aggregate, and interface with oil & gas producers.
Transportation	4		Controlling access, providing carpool plans, monitoring traffic and delivering appropriate signage.
Outdoor Recreation & Tourism	3		Building boat launches and recreation fund, compensating camp ground owners, and informing downstream Alberta fishers.
COMMUNITY			
Community Infrastructure	6		Mitigating effects on waste management, sewage and water systems.
Housing	2		Building 50 rental units in Fort St. John and providing camp accommodation for workers.
Regional Economic Development	6		Providing funds for Hudson's Hope, non- profits, labour/training plans, and community recreation.
HUMAN HEALTH			
Air Quality	3	7	Monitoring of ambient air quality, noise and vibration.
Water Quality	1		Monitoring of potable and recreational water quality.
Methylmercury	1	7	Monitoring of accumulation in fish, including collection, timing and reporting requirements.

TYPE	# of Environmental Assessment Certificate Conditions	# of Federal Decision Statement Conditions	NOTES
HERITAGE RESOURCES			
Visual Resources	1		Managing landscape views through design of facilities exteriors and landscaping.
Heritage	3	6	Developing a Heritage Management Plan, and providing funding for storage.
ENVIRONMENTAL PROTECTION & MANAGEMENT			
Greenhouse Gas Monitoring	1		Monitoring greenhouse gas emissions.
Environmental Management Plans	4		Providing required plans and establishing requirement for an Independent Environmental Monitor.
Safety Management Plans	2		Developing and implementing Worker and Public Safety, Traffic Management, and Fire Protection Plans.
Dam Safety	2		Undertaking a dam breach assessment and supporting emergency management in Alberta.
Mitigation, Monitoring & Development Plans	4		Providing required mitigation Plans, Quarry Development, Communications and Business Participation Plans.
Accidents & Malfunctions		6	Providing required plan and consultation with Environment Canada on effects of potential accidents and malfunctions on environment.
ADMINISTRATIVE			
General Conditions		4	Using science to inform plans and carry on consultation as appropriate.
Implementation Schedule		3	Providing an implementation schedule for conditions 90 days in advance of activity.
Record Keeping		2	Retaining records in a manner that facilitates compliance review.
	77	98	

3.4 Compliance

Compliance with the project conditions is regularly monitored, and evidence is collected by various federal and provincial regulatory agencies, the Independent Environmental Monitor, BC Hydro and contractors.

3.4.1 Aquatic Environment, Land and Resource Use

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: (i) the Fisheries and Aquatic Habitat Mitigation and Monitoring Technical Committee and (ii) the Vegetation and Wildlife Mitigation and Monitoring Technical Committee. Schedule A also outlines a delivery schedule linked to the Site C Project Construction Component at which point the Technical Committees must review and revise various Mitigation and Monitoring Plans. The two Technical Committees have been established and meet regularly to meet this delivery schedule requirement.

3.4.2 Agricultural Mitigation and Compensation Plan Framework

Agricultural stakeholder consultation was planned and in progress to address the requirements of Environmental Assessment Condition 30 and to support the development of the Agriculture Mitigation and Compensation plan. BC Hydro has established a steering committee comprised of staff from BC Hydro, the Ministry of Agriculture, and the Ministry of Energy and Mines to guide consultation.

A discussion guide and feedback form was developed and distributed to include information items and consultation topics that will inform stakeholders and request feedback on the proposed framework for the Agricultural Mitigation and Compensation Plan Framework and proposed options for the structure of the $20 million Agricultural Compensation Fund. 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, thank the agricultural sector for its participation to date, and to request feedback on the Framework during a 60 day comment period. The comment period closed at the end of September, 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.

3.4.3 Heritage Resources

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.

The 2015 Heritage Work Plan, which included archaeological impact assessments and systematic data recover at known heritage sites in the Project Area Zone in accordance with the *BC Heritage Conservation Act* requirements, was completed on time. Over the winter, mitigation work was focused on compliance with construction environmental management plans in active work areas.

The 2016 Heritage Work plan includes regulatory requirements for pre-construction archaeological impact assessments, systematic data recovery at selected archaeological sites, and inspections of archaeological sites post-ground disturbance in construction.

3.4.4 Community - Local Government Liaison

There are a number of Environmental Assessment Certificate conditions that are relevant to local communities in the vicinity of the Project. BC Hydro is implementing some of these conditions through community agreements offered to five local governments. Through these discussions BC Hydro has, in some instances, agreed to additional measures to address concerns about local community impacts from construction and operation of the Project.

BC Hydro has concluded three community agreements in respect of the Project, with the District of Taylor (2013), the District of Chetwynd (2013) and the City of Fort St. John (April 2016). BC Hydro and the City of Fort St. John have established a Community Agreement Monitoring Committee to jointly oversee implementation of the Community Agreement. BC Hydro continues to work with the Districts of Taylor and Chetwynd to jointly oversee implementation of their respective agreements. A separate Legacy Benefit Agreement was reached with the Peace River Regional District in 2014 that will provide legacy benefit payments to the Peace River Regional District and its member municipalities for 70 years once the Project is operational.

A Regional Community Liaison Committee has been established with invitations to join extended to the two local members of the provincial legislative assembly, elected local community officials and local Aboriginal community leaders. BC Hydro hosted the first meeting in March 2016, and the committee has met several times since with the most recent meeting in September 2016 that included a tour of the dam site construction area. The committee will meet no less than four times annually. Participants are interested in receiving information about the Project, and about jobs and contracting, and having a timely opportunity to raise issues directly to BC Hydro during Project construction.

3.4.5 Community - Business Liaison and Outreach

BC Hydro along with the BC Chamber of Commerce jointly hosted job fairs and business-to-business networking sessions in October 2015 in Tumbler Ridge, Chetwynd and Fort St. John, and between January and March 2016 in Chetwynd, Dawson Creek, Fort Nelson, Fort St. John, Prince George, Mackenzie, Quesnel and Tumbler Ridge.

Contractors attending the October 2015 sessions included ATCO Two Rivers Lodging, Morgan Construction, and Saulteau Securiguard, and partners included the BC Chamber and local Chambers of Commerce, Ministry of Jobs, Tourism & Skills Training, WorkBC, Northern Lights College and Industry Training Authority. Contractors attending the 2016 sessions included Peace River Hydro Partners, ATCO Two Rivers Lodging and Duz Cho Construction. More than 214 businesses participated in networking sessions in October 2015, and 700 businesses participated in networking sessions in the January to March 2016 period.

Table 4 shows the breakdown of the number of job fair attendees by location.

Table 4 Site C Job Fair Attendance 2015-2016

Location	Number of Attendees
Tumbler Ridge	228
Chetwynd	249
Fort St. John	535
Fall 2015 Job Fairs Sub-Total	**1,012**
Chetwynd	499
Dawson Creek	1,040
Fort Nelson	184
Fort St. John	1,484
Mackenzie	129
Prince George	1,018
Quesnel	442
Tumbler Ridge	364
Winter 2016 Job Fairs Sub-Total	**5,160**
TOTAL Job Fair Attendance	**6,172**

Throughout 2015 and 2016 BC Hydro provided notification of major contract opportunities and awards to the Site C business directory, as well as to local chambers of commerce, construction associations and economic development commissions. Notification of other contract opportunities was also issued through the Site C business directory.

In 2016 BC Hydro provided tours to the Dawson Creek Chamber of Commerce (May), the Fort St. John & District Chamber of Commerce (June), and the Chetwynd Chamber of Commerce (July).

3.4.6 Community - Housing Plan and Housing Monitoring and Follow-Up Program

A Housing Plan and Housing Monitoring and Follow-Up Program was developed and submitted to the Environmental Assessment Office on June 5, 2015.

BC Hydro has made payments to the following organizations to support the provision of emergency or transitional housing:

- $25,000 to Skye's Place, a second stage housing program for women with children who are leaving abusive relationships;
- $25,000 to the Meaope Transition House for Women that provides a 24-hour safe and secure shelter for women who are victims of violence or abuse, and their children; and
- $200,000 to the Salvation Army Northern Centre of Hope to support shelter and transitional beds.

In January 2015 the first apartment rental monitoring report was submitted. Due to a change in the frequency of data to support this monitoring program from the Canada Mortgage and Housing Corporation (**CMHC**), subsequent reporting will be annual.

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 include energy efficient design and serve as a demonstration project for showcasing energy efficient building techniques in the community.

3.4.7 Community - Labour and Training Plan

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

BC Hydro and School District 60 signed an agreement on March 31, 2016 in which BC Hydro will provide $1.8 million to the School District to support the development of a new childcare centre with a minimum of 37 spaces, as part of a new school, targeted for completion by spring 2018. School District 60 will own the childcare centre and will seek an operator.

3.4.8 Human Health

3.4.8.1 Health Care Services Plan and Emergency Service Plan

A Project Health Clinic opened on March 1, 2016, in conjunction with the opening of Phase 1 of the Worker Accommodation facility. 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 first reporting period (March – June 2016) 361 patient interactions took place, including 102 occupational visits and 259 non-occupational visits. In the second reporting period, July through September 2016, there were 602 patient interactions, of which 130 were occupational and 472 non-occupational.

In addition, the Project team has met with B.C. Ambulance Service local staff to provide information about the Project's plan for first aid and emergency transport of workers.

3.4.9 Community Relations and Consultation

BC Hydro implemented its construction communications program during the reporting period. BC Hydro launched a public information program and held open houses to communicate the start of Site C construction activities in early July 2015. Open Houses were held in Taylor, Fort St. John, Chetwynd, Hudson's Hope and Dawson Creek.

3.4.10 Bi-Weekly Construction Bulletins

Issuance of bi-weekly Construction Bulletins commenced in July 2015, and bulletins were issued throughout the period. Bulletins are posted on the project website and sent by email to the web subscriber list.

3.4.11 Project Website

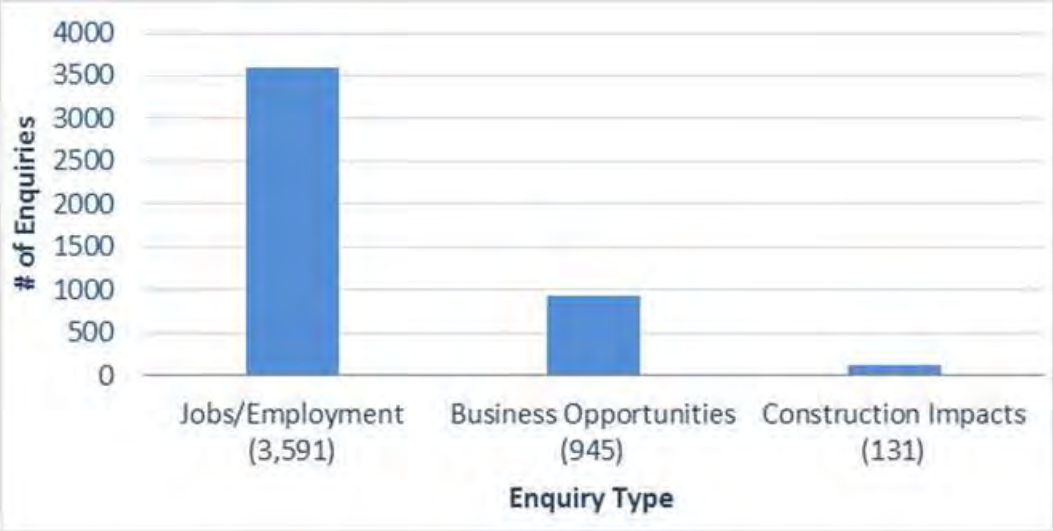
The Project website www.sitecproject.com is maintained with news releases, construction bulletins, information sheets, procurement information, permits, regulatory compliance plans and reports, project reports and other project-related information.

3.4.12 Public Enquiries

In total, BC Hydro received 4,828 public enquiries between July 2015 and September 2016. The majority of these enquiries were about business and job

opportunities, followed by enquiries from local residents about construction impacts. The figures below show the number of enquiries overall by type (Figure 2) and by month and type (Figure 3).

Figure 2 Top Enquiry Topics, July 2015 to September 2016



* *This graph 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.*

Figure 3 Trends in Jobs/Employment, Business Opportunities and Construction Impact Enquiries

3.4.13 Employment and Training Initiatives

Contractors post Site C employment opportunities on the WorkBC website. This provides a central repository for all Site C Job opportunities, including apprenticeship opportunities. Prospective candidates can access information about available Site C job opportunities on the WorkBC website as well as BC Hydro's Job Opportunities section on the Site C Project website.

BC Hydro, through commercial contracts, requires contractors to collect and to provide certain worker information data, including the number of workers being hired, their job categories and the number of apprentices/trainees. BC Hydro has implemented a process with contractors that enable this worker information data to be collected and submitted to BC Hydro electronically on a monthly basis.

Statistics collected identify the number of workers, by job category as well as the number of apprentices/trainees, as reported by major contractors.

Table 5 Site C Jobs Snapshot Reporting Period – August 2015 to March 2016

Month	Number of B.C. Workers*	Number of Total Workers*
August 2015	322	392
September 2015	475	665
October 2015	457	641
November 2015	314	482
December 2015	345	518
January 2016	381	564
February 2016	492	691
March 2016	490	666

* 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.

Starting in April 2016 onwards, Engineers and Project Team was included in the Total Workers number. Project Team includes consultants, BC Hydro Construction Management and other offsite Site C project staff. An estimate is provided where possible if primary residency is not given.

Table 6 Site C Jobs Snapshot Reporting Period – April 2016 to September 2016

Month	Number of B.C. Workers*	Number of Total Workers*
April 2016	970	1,261
May 2016	1,223	1,547
June 2016	1,494	1,805
July 2016	1,411	1,721
August 2016	1,580	1,816
September 2016	1,392	1,750

The number of workers continues to vary as the construction work progresses. It is expected that the total number of workers will increase as construction continues to ramp up, subject to seasonal variations.

3.4.14 Communications Activities

During the first year of Project construction, media interest in the Project has remained strong. Based on a search using the media database Infomart, there were

approximately 3,100 media stories in the July 2015 to September 2016 period about the Site C Project.

3.4.15 Environmental Compliance Inspections

Independent audits on performance and systems are also undertaken. If an audit finds the project to be out of compliance, regulators have the authority to issue Orders, which may result in further and more stringent standards or measures applied to work. To date, the Project has received three Orders. One of these was related to erosion and sediment control. In April 2016, extreme site conditions and inadequate performance of the required mitigation resulted in an Order by the Environmental Assessment Office calling for further actions to manage erosion and sediment transfer site wide. BC Hydro incorporated these additional conditions into the Construction Environmental Management Plan. Further commitments were made by BC Hydro in October 2016 to address gaps in implementation of the Plan, such as additional monitoring by Qualified Professionals and BC Hydro providing prescriptions to contractors. Two other 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.

3.5 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 has been 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 7 below.

Table 7 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 To Be Determined
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, 2016

3.6 Construction

3.6.1 Year One Scope of Work

3.6.1.1 North (Left) Bank Site Preparation

Key scope for North (Left) Bank Site Preparation includes vegetation clearing, constructing approximately 7 kilometers of access roads and the excavation of approximately 2 million cubic meters of combined left bank and in river borrow material. Construction of the North Bank Access Road and River Road commenced in August 2015; it was suspended in December 2015 due to winter conditions and resumed in early 2016. Both roads are substantially complete, in spite of delays experienced due to unforeseen geotechnical ground conditions. Unforeseen geotechnical conditions resulted in the requirement for a re-design of the gully embankment and a section of the North Bank Road resulting in a longer construction period.

3.6.1.2 South (Right) Bank Site Preparation

Key scope for the South (Right) Bank Site Preparation includes vegetation clearing, construction of access roads, a temporary sub-station and distribution lines and a new rail siding. Over the past year, 620 hectares of vegetation clearing has been completed. The rail siding commenced in September 2015 and was delayed due to winter weather conditions. Site preparation for the rail siding was substantially completed in June 2016 and the rail siding track work is on schedule for a mid-October 2016 completion at which time the rail siding will be completed.

3.6.1.3 Temporary Construction Bridge

The 329-metre-long bridge connects the North and South banks of the construction site and is used to transport people, machinery and materials across the Peace River. Construction of the bridge was completed on time and on budget.

3.6.1.4 Ministry of Transportation and Infrastructure Public Road Upgrades

Offsite access roads are substantially completed and are providing access to the site from Fort St John. The Ministry of Transportation and Infrastructure publicly awarded a contract to Al Simms and Sons for the public road improvements on 240 Road, 269 Road and Old Fort Road. The roads are completed except for Old Fort Road which will be completed during spring 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 the access road to the Wuthrich Quarry. Work began in summer 2016, will cease due to winter conditions and is forecast to be completed by June 2017.

3.6.1.5 Worker Accommodation

On-site construction began in August 2015 with clearing and grading activities and underground utilities including water and sewer lines. Manufacturing and installation of dormitory units for the Phase 1,300 person work camp was completed on schedule on February 29, 2016 followed by Phase 2 dormitories (900) by June 30, 2016 and Phase 3 dormitories (400) and core facilities by the end of August 2016. The Worker Accommodation was delivered on time and on budget. It features single-occupancy bedrooms with ensuite bathrooms, television and Wi-Fi services. Now that the lodge is complete, workers have access to a movie theatre, spiritual centre, hair salon, coffee shop, games room, convenience store, a full gym with fitness classes and personal training programs and managed lounge. In addition, the lodge has its own health clinic which provides Site C workers with access to primary and preventative health care, along with work-related injury evaluation and treatment.

3.6.1.6 Main Civil Works

The scope of the Main Civil Works contract includes the construction of an earthfill dam, two diversion tunnels and a roller-compacted concrete foundation for the

generating station and spillways. The contract for the Main Civil Works was awarded to Peace River Hydro Partners, a consortium that includes ACCIONA Infrastructure Canada Inc., Petrowest Corporation and Samsung C&T Canada Ltd., in December 2015.

Peace River Hydro Partners mobilized to site on March 22, 2016. Over the past six months the contractor has established their office facilities at site, commenced excavation on the North (Left) and South (Right) Banks, laydown areas have been stripped and grubbed in preparation of aggregate crushing and the establishment of the roller-compacted concrete batch plant, geotechnical drilling and installation of instrumentation into the approach channel and roller-compacted concrete buttress foundation commenced in June 2016. 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 during summer will shift into 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 within the existing contingency budgets.

Figure 4 Year One Construction Progress

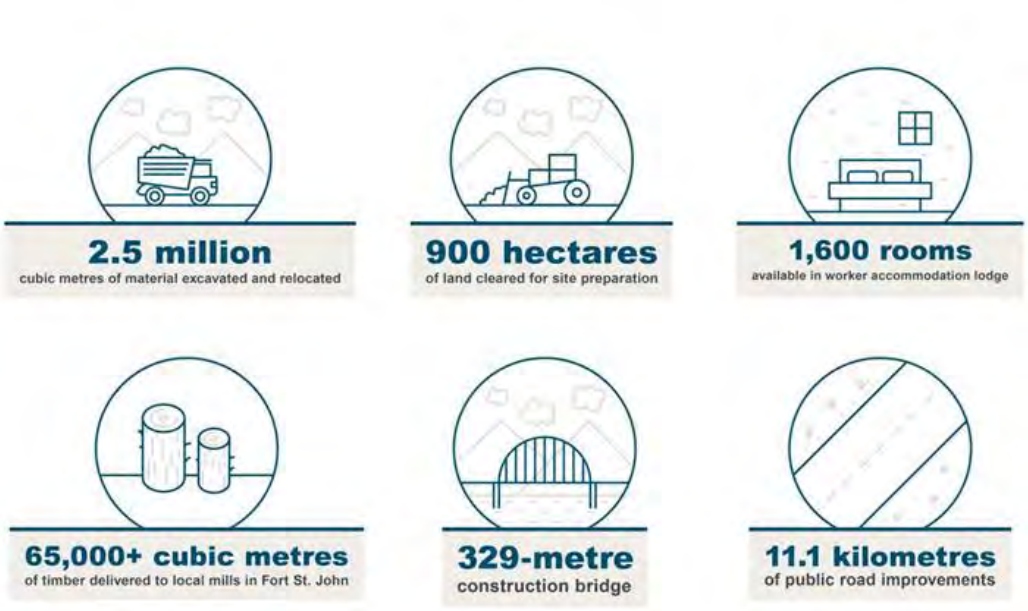


Figure 5 Construction on Schedule and On Budget

3.7 Engineering & Quality Management

Over the past year, the Engineering team assisted with issuing the Main Civil Works technical addendum, including the schedule of quantities and prices as well as preparing an Engineer's Estimate based on the specifications, drawings and draft contract. A report on the hydraulic model testing for the Generating Station and Spillways, approach channel, power intakes and tailrace was finalized. Proposals for the Turbines and Generators contract were received in July 2015 and testing of the turbines in the independent model testing facility was completed in December 2015. Definition design began for the 500 kV transmission lines and gas insulated switchgear. Implementation design commenced for the construction power, construction telecom, temporary substation, power intakes, penstocks and spillways.

3.7.1 Generating Station & Spillways

The implementation design of the Generating Station and Spillways commenced in September 2014 and is expected to continue through 2023. Hydraulic model testing of the spillway, approach channel, power intakes and tailrace was completed over a three year period from May 2012 to July 2015, when the physical models were decommissioned. The final report is near completion, pending a final review by the Site C Integrated Engineering Team.

On May 5, 2016 BC Hydro issued the Request for Qualifications for the Generating Station and Spillways Civil Works contract on BC Bid. On September 23, 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.

3.7.2 Turbines and Generators

Proposals were received for the Turbines and Generators contract in July 2015. Testing of the turbines in the independent model testing facility also commenced in July and is expected to be completed by the end of December 2015.

The Turbines and Generators contract was procured through a public competitive process and on April 6, 2016 BC Hydro and the Province announced that the Turbines and Generators contract had been awarded to Voith Hydro Inc. Notification of the contract award was provided to the Site C business directory along with business stakeholders such as local chambers of commerce, construction associations and economic development commissions.

3.7.3 Quality Management

Site C has established a project quality management plan that describes the overall approach to quality for the Site C Project. The Site C Project Quality Plan outlines BC Hydro's activities to ensure materials, equipment and the constructed works meet contract quality management requirements. The Quality Plan also identifies resources and procedures necessary for achieving the quality objectives. It also includes roles and responsibilities, resource planning and establishment of a quality management program.

Implementation and monitoring of Quality Control and Quality Assurance Plans are required of all contractors. BC Hydro tracks and manages quality non-conformances. These are defined as any occurrence that does not conform to the quality management requirements of a contract. Table 8 below identifies quality management non-conformity instances during the reporting period.

Table 8 Quality Management Non-Conformity Report Metrics Reporting Period – July 2015 to September 2016

Contract	Contractor	Reported this Period	Closed this Period
North Bank Site Preparation	Morgan Construction & Environmental	16	16
South Bank Site Preparation	Duz Cho Construction	1	1
Peace River Construction Bridge	Saulteau Ruskin	11	11
Main Civil Works	Peace River Hydro Partners	40	23

3.8 Safety

During the first year of construction safety performance at site has been satisfactory. Of note, construction of the Worker Accommodation lodge was done with an exemplary safety record, with almost 1.4 million hours of work without a single lost-time injury.

Table 9 Safety Metrics

Description	Reported since Inception (July 27, 2015)
Fatality & Serious Injury1	0
Severity (number of calendar days lost due to injury per 200,000 hours worked)	2*
Lost Time Injury Frequency (number of injuries resulting in lost time per 200,000 hours worked)	2*
Contractor, employee, public near miss reports	194
Lost time incidents	3
Equipment/property damage reports**	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 reporting period.

** Types of equipment and property damage include vehicle damage, minor electrical fire damage, etc. Equipment damage data is collected through contractor monthly reports and not BC Hydro's Incident Management System.

[1] Excludes health events unrelated to work standards.

3.9 Key Procurement and Contract Developments

3.9.1 Key Procurement

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	Transmission Lines contract	Design-Bid-Build	Various, through F2017 to F2018

Component	Contract	Procurement Model	Anticipated Timing
Infrastructure	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.		

3.9.2 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 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 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
Turbines and Generators ($ million)	464	Contract executed March 2016

3.10 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.

3.11 Project In-Service Dates

Table 12 In-Service Dates

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

3.12 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 Final Investment Decision Project Budget

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**

* BC Hydro notionally allocates project contingency to particular scopes of work, based on contracts awarded to date, work completed and updated forecasts for scopes of work yet to be completed.

3.13 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 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 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 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.

3.14 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.

3.15 Material Project Risks

3.15.1 Delay to Permitting

Permitting risk has trended overall downwards over the past year, with the issuance of several major permits and authorizations. The period of risk increase in Report No. 4 was due to delays in the issuance of the *Fisheries Act* and Navigable *Waters Protection Act* Authorizations during that period. These authorizations have now been issued and risk impacts are being mitigated. Risk associated with permits remains as there are numerous additional permits required in future years.

3.15.2 Litigation

While proceedings to date have been resolved in the Project's favour, there is potential for additional legal proceedings to be filed. If any are successful, construction delays may result.

3.15.3 First Nations

First Nations risk has trended downwards with the execution of both term sheets and impact benefit agreements with several affected First Nations. There remains risk associated with First Nations issues as not all term sheets have progressed to signed agreements.

3.15.4 Market Response to Procurement

Procurement risk has trended downwards over the past year as BC Hydro has completed several major procurement processes. In all publicly competed processes, BC Hydro has seen robust market participation, both mitigating this risk for the procurement processes at-hand and indicating that market participation in future procurement is more likely. There remains risk associated with market response to procurement in future processes, either due to underlying changes in the market or due to a mismatch between BC Hydro's procurement or contract design and market expectations.

3.15.5 Labour Relations and Stability

Labour relations and stability risks have not changed materially over the past year. BC Hydro has executed its labour relations plan for Site C and there have been no material issues. However, risks remain due to the many years of construction until project completion.

3.15.6 Geotechnical

Geotechnical risks for the North (Left) Bank Site Preparation are being actively managed. The dam site risks will be better understood and be managed when the major excavation and tunneling begins in 2017.

3.15.7 Construction Cost – Labour

Construction labour cost risks have decreased over the reporting period due to the higher than expected labour availability and evidenced by information received in responses to major procurements. The downturn in the Alberta and B.C. oil industries has freed up labour resources, and the deferral of LNG projects has reduced the potential for labour competition over the construction period. There remains some risk of higher-than-expected labour escalation due to a material change in market conditions and/or a decision by other parties to undertake another major infrastructure project in Alberta or B.C.

3.15.8 Construction Cost – Commodity and Equipment

Construction commodity and equipment cost risks have declined slightly over the past year. Key commodities such as diesel are below BC Hydro's forecast when preparing the original cost estimate. In addition, the downturn in the Alberta and B.C. oil industries has reduced competing demand for major commodities. There remains some risk of higher-than-expected commodity costs due to a material change in market conditions.

3.15.9 Construction Execution

Risk of construction execution has increased over the past year during the period when major contractors mobilized to site. The risk is that selected contractors may be unable to execute successfully on the specified scope of contracts, resulting in additional costs. BC Hydro is mitigating this risk through direct engagement with major contractors to identify the cause of significant issues as they arise and resolve them on a timely basis.

3.15.10 Foreign Exchange

Foreign exchange risk has decreased overall over the past year. A decline in the value of the Canadian dollar resulted in an increase in risk early in the reporting period. However, procurement of the Turbines and Generators contract (the contract with the largest amount of foreign-currency exposure) within budget reduced this risk substantially as foreign exchange risk has been transferred to the contractor. There remains some risk associated with exchange rates as future contracts not yet procured contain a component of foreign currency exposure.

3.15.11 Interest Rate

Interest rate variability has decreased over the past year. Market interest rates have been lower than BC Hydro's forecast at Final Investment Decision. In addition, BC Hydro has received British Columbia Utilities Commission approval for an interest rate hedging program that will allow the company to reduce future exposure

to market fluctuations in interest rates. There remains some risk associated with interest rates as BC Hydro's rates are not fully hedged, and may be affected by future market fluctuations.

3.15.12 Change in Tax Rates

The risk of changes in tax rate has not materially changed over the past year. There remains some risk of future changes to key tax rates, such as the Provincial Sales Tax and/or carbon tax.

4 Look ahead – October 2016 to September 2017

4.1 Construction

4.1.1 Main Civil Works

During the next year, Peace River Hydro Partners will continue with construction activities. Construction of the South (Right) Bank cofferdam is in progress along with excavation of the North (Left) Bank required to construct the diversion tunnels. The first stage of the approach channel excavation has begun and will continue through into 2017.

4.1.2 Highways

The geotechnical investigation for the Cache Creek section of the Highway 29 realignment was completed in fall 2016. The archaeological work will be substantially completed by the end of October 2016.

In spring 2017, the Ministry of Transportation and Infrastructure will issue a Request for Proposals for construction of the Cache Creek section of Highway 29 realignment. Procurement activities will also commence for the design of the Hudson's Hope Berm and the Halfway Creek section of the Highway 29 realignment.

4.1.3 Turbines and Generators

Over the next year, design will continue for the Turbines and Generators contract. In spring 2017, Voith Hydro Inc., the selected Turbines and Generators contractor, will initiate procurement for the materials and manufacturing of pier noses, which are planned to be delivered to site in fall 2017. Voith Hydro Inc. will also commence construction of a temporary manufacturing facility on site in 2017.

4.1.4 Transmission Works

Over the next year, key construction activities are planned for the transmission works. In fall 2016, upgrades to the access roads began. Clearing will commence in late 2016. In early 2017 two key contracts are expected to be awarded: the Peace Canyon 500 kV Expansion Contract and the contract for the transmission towers. This will be followed by two key procurements for the Substation Construction and the Transmission Line Construction. The Substation Contract is planned to be awarded in late spring of 2017 with construction expected to commence in summer 2017. The Transmission Line Construction Contract is planned to be awarded in fall 2017.

4.2 Engineering

Key areas of focus over the next year include providing technical reviews of contract submittals for both the Main Civil Works contract and the Turbines and Generators contract; continue to provide Resident Engineering support to the construction team at site; support procurement for the Generating Station and Spillways Contract, Hydro-Mechanical, and Transmission Substation Contracts; completion of the design for the Cache Creek and Halfway River areas, and progressing design for the Completion and Protection and Controls contracts.

The Technical Advisory Board will continue to meet semi-annually, with the next meetings scheduled for November 2016 and spring 2017 respectively. The focus of

the November 2016 meeting will be a discussion of the sensitive winter construction activities and excavations at site.

4.3 Safety

The Project team will continue to monitor contractor safety performance on site. This includes completing regular audits of specific contractors work areas with specific focus on high risk work.

4.4 Aboriginal Consultation

Efforts will continue in the next year to conclude Impact Benefit Agreements with the remaining Aboriginal groups who do not yet have agreements. In addition, BC Hydro will consult with respect to the construction stage of the Project, including 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.

4.5 Litigation

Several legal proceedings are in process as of September 30, 2016. Table 16 below summarizes the proceedings with hearings or decisions pending.

Table 16 Summary of Proceedings with Hearings or Decisions Pending

Outcome		Date
Federal Court of Appeal: Federal Environmental Approval		
Prophet River First Nation West Moberly First Nations	Appeal - Decision pending	
Federal Court: Federal Permits		
BC Hydro Ratepayers Association	Hearing date	To Be Determined
B.C. Court of Appeal:		
West Moberly and Prophet River First Nations	Hearing date	December 2016
Environmental Appeal Board		
West Moberly and Prophet River First Nations	Hearing date	To Be Determined
Other Proceedings		
Building Trades v. BC Hydro	Civil claim filed, Response to claim filed	
Sierra Club of British Columbia	Judicial review - Hearing date	January 27, 2017

As at October 31, 2016

4.6 Permits and Government Agency Approvals

Permits and licenses are required for construction activity to be undertaken from October 2016 to September 2017. Approximately 43 permit applications are anticipated to be submitted for approval in this time frame.

Delays to these permits and licenses may 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. Specific actions to mitigate risk to permits and licenses include:

- Early identification and submission of permit and license applications through consultation with contractors (e.g., weekly meetings with Main Civil Works on permits/permitting plan);
- Weekly meetings with Ministry of Forests, Lands And Natural Resource Operations on permitting process, technical details and consultation status;

- Leave To Commence Construction scoping meetings with the Comptroller of Water Rights, Independent Engineer, and Independent Environmental Monitor (and contractor, as appropriate);
- Weekly meetings and monthly on-site visits (and more, as required) with BC Hydro, Peace River Hydro Partners, Independent Engineer and Independent Environmental Monitor regarding Leave To Construct approvals; and
- Joint development of permitting dashboards between the Ministry of Forests, Lands and Natural Resource Operations, Comptroller of Water Rights and BC Hydro to track permit risks and develop mitigation measures.

4.7 Compliance

Site environmental monitoring and survey work will continue over the next year. The Project team will continue to collaborate with Aboriginal groups and stakeholders to ensure BC Hydro is adhering to the environmental conditions of both the Environmental Assessment Certificate and Federal Decision Statement and any other permits or authorizations.

4.8 Community Engagement & Communications

Leading construction communications will continue to be a major focus for Site C communications over the next year, by issuing ongoing construction bulletins, hosting events and announcing significant project milestones and agreements. In 2017, there will also be community outreach taking place in Old Fort, Hudson's Hope and Fort St. John.

Site C public affairs will continue to promote local and B.C. business participation on the Project by encouraging businesses to sign up to the Site C Business Directory to receive information about the project and notifications about procurements; posting procurement information on the project website and providing a copy of the Site C

Business Directory to proponents during the competitive selection process to encourage partnering with local businesses.

A number of community mitigation plans will progress and be completed in 2017 including the Outdoor Recreation Mitigation Plan, Agricultural Mitigation and Compensation Plan and Affordable Housing Plan. Discussions will continue with the community of Hudson's Hope and the Peace River Regional District to reach community measure agreements related to the construction and operation of Site C.

The Regional Community Liaison Committee will continue meeting at least four times in the year, with increased frequency as requested by the Committee.

4.9 Properties Acquisitions

Over the next year property will be acquired that is required for further highway realignments, shoreline protection and the reservoir area. We will also continue engagement with crown tenure holders who are impacted by the transmission line and reservoir areas.

4.10 Cost Plan by Quarter F2017 and 2018

Table 17 Annual Cost Plan ($ million Nominal) Reporting Period: October 2016 to September 2017

Description	Final Investment Decision	F2017 Q3	F2017 Q4	F2018 Q1	F2018 Q2	Summary of Quarters
Total Project Costs ($)	8,335	199	183	213	172	767
Treasury Board Reserve	440	0	0	0	0	0
Authorized Project Cost ($)	**8,775**	199	183	213	172	767

4.11 Material Project Risks

Risk Management is an ongoing, iterative process where early steps are revisited on a regular basis. As documented in the Site C Risk Management Plan, these ongoing activities include risk identification, risk analysis and evaluation, risk response planning, and risk monitoring and control. Over the next year, the Project's risk

registers will be regularly updated to identify new risks, refine risk evaluations and treatment plans, and monitor mitigation activities. In particular, a significant focus of risk management activity and analysis will relate to the procurement of the Generating Station and Spillways civil contract.

4.12 Key Milestones

The Project is on track to achieve the Project completion date of November 2024.

The key milestones for the next year are listed in Table 18.

Table 18 Key Milestones

Milestone	Plan Date	Forecast Date	Variance (months)	Status
South Bank Stage 1 Cofferdam Complete	April 2017	December 2016	4	On Track*
Tender Design for 5L5 Complete	February 2017	February 2017	0	On Track
Powerhouse Excavation Complete	April 2017	April 2017	0	On Track
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
Generating Station & Spillways Civil Contract Award	July 2017	July 2017	0	On Track
Cache Creek Roads Contract Award	June 2017	June 2017	0	On Track

* The Plan date for this milestone assumed a later date than the date submitted by Peace River Hydro Partners on contract award.

5 Risk & Cost Management Assessment Summary

BC Hydro engaged EY and BTY to provide an independent, external review of the Site C Clean Energy Project's business and risk management plans, and risk analysis of major components of the project budget.

The independent review of Site C by EY/BTY focused on four key areas:

1. Review of major contracts (over $50 million) awarded to date;

2. Review of risk management plans, processes and risk registers;
3. Review of cost management plans and processes, with an assessment of overall cost controls; and
4. Review of key cost drivers and indicators compared to the estimate baseline.

During the months of July and August 2016, EY and BTY reviewed in excess of 100 project documents, interviewed senior project personnel and conducted a site visit.

The report's executive summary states that given the project's early stage, the "review did not find any evidence to suggest that major project milestones and financial targets will not be met."

The review also found that, despite strong overall project management practices, some gaps exist. These include:

- Of primary concern, the capacity of contractors and project delivery team to manage and monitor work as the project progresses, particularly given design and construction dependencies across work packages;
- Managing major work packages in parallel requires significant project resources and close monitoring of interfaces, and will be central to managing and mitigating overall project risks; and
- Good project controls and reporting will also be a fundamental support to the project effort by enabling issue-forecasting and performance monitoring.

Subsequent to the release of the report, BC Hydro developed an action plan to address the gap areas identified.

Table 19 EY Recommendations & BC Hydro Action Plan

EY Finding/Recommendation	BC Hydro Action
While the complex nature of these interfaces will put significant pressure on BC Hydro to manage and control as multiple contracts run in parallel, we are encouraged by the depth of experience across the organization in managing complex interfaces. **Recommendation 1**: An interface manager and team should be considered as part of the overall project organization.	BC Hydro will develop an interface management plan between major contracts and implement an interface register.
Current contract management needs and reporting requirements are placing significant strain on the capacity of the Site C project team. **Recommendation 2**: As the project progresses, Site C would benefit from an independent review of the capacity and capability of the project team to deliver upon evolving project needs.	As the project progresses, BC Hydro will commission an independent review to ensure sufficient capacity and capability with regards to contract management and reporting requirements.
The project team is aware of the risks on the Main Civil Works package and is supporting the contractor in many aspects. **Recommendation 3**: The Main Civil Works contractors would benefit from a forward-looking capability and capacity review to help monitor contractor performance against schedule. The implementation of Earned Value Management and Unifier will also support contract management.	BC Hydro will: Continue implementation of a site verification process including weekly surveying of progress. Develop a plan in collaboration with Unifier Sustainment team to implement required enhancements to Unifier tool, processes and procedures. Implement Earned Value metrics on sub-projects: main civil works, generating station & spillways, transmission, and turbines and generators, as work commences.
We observed strong schedule development and controls processes, including a challenge function, when reporting schedule against planned. The underlying data feeding the schedule and capability and capacity to manage the project will need to be evaluated throughout the lifecycle. **Recommendation 4**: BC Hydro should commission a comprehensive, independent review of the project schedule at a work package-by-work package level in order to both validate schedule content and to identify any schedule risks.	BC Hydro will commission an independent review of the project schedule at a work package-by-work package level to validate schedule content and to identify any schedule risks.

EY Finding/Recommendation	BC Hydro Action
The capacity of the project team to keep pace with reporting requirements will be challenged going forward. **Recommendation 5**: Reporting requirements should be assessed and streamlined where possible.	BC Hydro will propose to streamline reporting by changing the frequency of some quarterly reports to semi-annually, where appropriate.
Positively, we observed many areas of insightful, forward-looking reporting including data and information on schedule, cost, interfaces, etc. Some of these areas include weekly construction reports, Progression Meetings, and the Accountability Report, which provide an important 'look ahead' view for risk management. However, this reporting could benefit from further refinement into a concise, easily digestible format. **Recommendation 6**: Dashboards with key project data should be considered to aid decision-making across the project.	BC Hydro will develop an implementation plan for the appropriate Dashboard tool with key project data.
We have seen good practice with quality management and in assuring the schedule integrity, however what isn't clear is the contractors' capability to manage and report on the works accurately. **Recommendation 7**: An audit and people, process, and systems review of the contractors should be considered.	BC Hydro will conduct a review of the contractors systems to verify the validity of the information being provided by contractors and will review the organizational structure of major contractors to ensure the optimal team, systems and processes are in place.
We recognize the integration of Unifier into the suite of project tools will support cost management and contract management on the whole, however, gaps still exist related to cash flow projections. **Recommendation 8**: BC Hydro should continue supplementing P6 with other tools to address limitations as required.	BC Hydro will develop a plan to update P6 schedule set up to enable improved cashflow forecasting and to enable Earned Value.
Project controls should be a key focus for the project management team going forward. **Recommendation 9**: Continue to refine the project controls processes on the project.	BC Hydro will develop a Project Controls Handbook customized for the Site C project team.
Most cost drivers have been stable or have seen reductions, with the notable exception of currency exchange rates. **Recommendation 10**: Continue proactive management of cost drivers.	BC Hydro has embedded a monthly review of Estimate at Completion in the Site C Progression process.

6 Technical Advisory Board

The Technical Advisory Board is a global panel of engineering and construction experts appointed by the Board of Directors. Its mandate includes:

- Advising the Vice President and Director of the Site C Project, the Deputy Chief Executive Officer and the Project Board regarding the engineering and technical decisions related to project design consistent with best practices and current international guidelines;
- Provide technical review of key design milestones and ongoing external advice to supplement existing engineering and design and procurement expertise;
- Report out to the Project Board and Management following each meeting and provide a report of key findings and recommendations;
- Prepare and submit Technical Reports as required to Management and the Board; and
- Conduct a periodic review of the construction budget estimate.

Over the reporting period the Technical Advisory Board met in April 2016.

The fifteenth meeting of the Technical Advisory Board was convened in Vancouver from April 25 to April 29, 2016. The primary objective of this meeting was to update the Technical Advisory Board on the status of the project since it has entered the Implementation Phase with the issue of the Main Civil Works contract. In addition, technical evaluation of some residual issues, as well as new considerations arising from design submissions from the MCW Contractor was reviewed. The board provided a number of recommendations for BC Hydro's consideration which are detailed in Appendix C, Technical Advisory Board Meeting No. 15 Report.

7 Annual Compliance Report

As per the Environmental Assessment Certificate, the Project is required to submit an Annual Compliance Report describing the status of compliance with the conditions of the certificate. To date the Project has met all required conditions and submitted its first Annual Compliance Report on time on March 31, 2016, which can be found in Appendix E.

BC Hydro
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Site C Clean Energy Project

Annual Progress Report No. 1

Appendix A

Site Photographs

Figure A-1 Construction of the Site C Project Started July 2015 with Site Preparation Activities

Figure A-2 Clearing in Progress at Dam Site (August 2015)

Figure A-3 Logs Piled from Removal from Dam Site (August 2015)

Figure A-4 Excavation of Material, Part of the North Bank Stabilization of the Site C Dam Site (September 2015)

Figure A-5 North bank stabilization of the Site C Dam Site (October 2015)

Figure A-6 North Bank Excavation viewed from South Bank. The Main Civil Works Component of the North Bank Excavation Commenced June 2016

Figure A-7 View of South Bank (October 2015)

Figure A-8 View of South Bank (July 2016)

Figure A-9 **Working on Access Roads and Site Preparation for the Worker Accommodation Lodge (August 2015)**

Figure A-10 **Crews Installing Foundation Piles for the Worker Accommodation Camp in the North Bank of the Site C Dam Site (September 2015)**

Figure A-11 Worker Accommodation Lodge under Construction (December 2015)

Figure A-12 Work Continues on the Worker Accommodation Lodge (April 2016)

Figure A-8 Aerial View of North Bank of Dam Site Showing the Worker Accommodation Lodge (July 2016)

Figure A-9 Temporary Construction Access Bridge Partially Built (February 2016)

Figure A-10 **Peace River Construction Bridge in Service (April 2016). The Bridge was Completed on Time and on Budget by Ruskin Construction and a First Nations Joint Venture Partner**

Figure A-11 **Logging Trucks Hauling Timber from the Dam Site on Temporary Construction Access Bridge (May 2016)**

Figure A-12 In River Excavation (February 2016)

Figure A-13 Placing Rip-Rap on River Road (May 2016)

Figure A-14 **Aerial View of North Bank of Dam Site Showing River Road Riprap Placement (July 2016)**

Figure A-15 **Ministry of Transportation and Infrastructure Contractor A.L. Sims and Sons Prepares 240 Road for Paving (November 2015)**

Figure A-16 Upgrading Continues on 240 Road (June 2016)

Figure A-17 Construction of Site C North Bank Distribution Line by Arctic Arrow (December 2015)

Figure A-18 Raising of 138 Kilovolt Transmission Poles for Septimus Road Crossing (November 2015)

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Figure A-20 Completed Site C Temporary Substation (July 2016)

Figure A-21 Peace River Hydro Partners Preparing to Mobilize to Site (April 2016)

Figure A-22 Peace River Hydro Partners Digging Test Pits in the Generating Station and Spillways Area (May 2016)

Figure A-23 Excavator Preparing Area at Right Bank Drainage Tunnel (July 2016)

Figure A-24 South Foundation for Roller-Compacted Concrete Batch Plant (July 2016)

Figure A-25 Roller-Compacted Concrete Batch Plan (August 2016)

Figure A-26 In Progress Drilling for Instrumentation of Right Bank Adit 5 (August 2016)

Figure A-27 Right Bank Cofferdam Preparation (August 2016)

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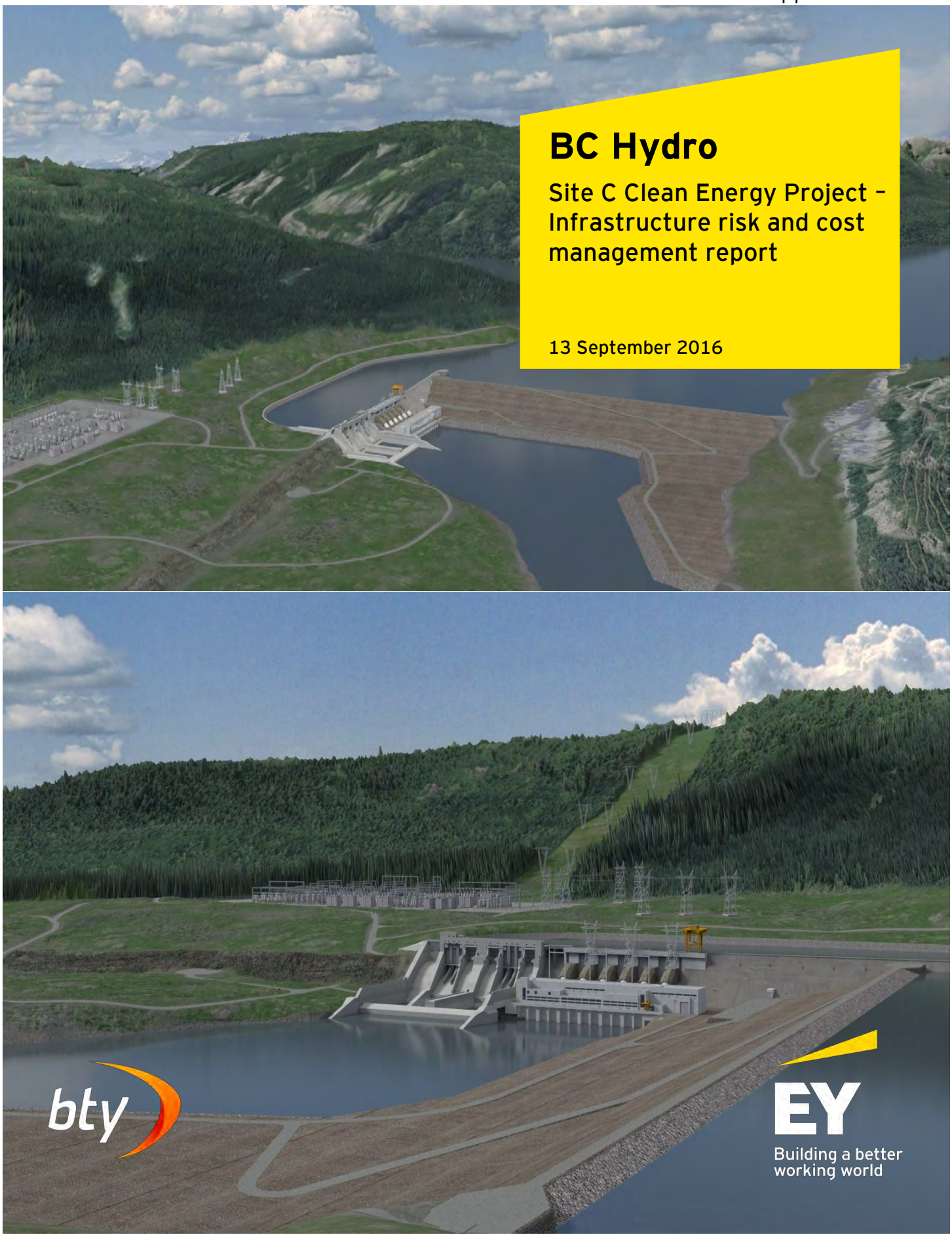
Appendix B

Site C Clean Energy Project – Infrastructure Risk and Cost Management Report



BC Hydro

Site C Clean Energy Project – Infrastructure risk and cost management report

13 September 2016

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Jessica McDonald
President & Chief Executive Officer
BC Hydro, 333 Dunsmuir Street
Vancouver, BC, V6B 5R3

6 September 2016

Re: Site C Clean Energy Project – Infrastructure Risk and Cost Management Services

Dear Ms. McDonald:

EY and BTY Consultancy Group Inc. ("BTY") have completed a report as part of the review of the Site C Clean Energy Project ("Site C"). This engagement is being performed in accordance with the signed consulting services agreement dated 15th July 2016 between EY and British Columbia Hydro and Power Authority ("BC Hydro").

The objective of the Engagement is to assess the Site C Project's risk and cost management processes and to identify opportunities to address any material or critical gaps. As requested, this report will assess the practices for cost and schedule forecasting, including risk management and mitigation. This report:

- Evaluates the project management maturity of Site C;
- Identifies current potential risks and issues to the successful completion of Site C on schedule and on budget;
- Provides recommendations to support the achievement of the project's operational and financial targets.

The field work for this report was completed in July and August 2016 and consisted of reviewing project data and documentation, enquiries and discussions with senior management and the project team, and a site visit. The services provided by EY and BTY in this report are advisory in nature.

EY and BTY have not developed their own cost, schedule or risk forecast, but instead have assessed the process undertaken by BC Hydro in preparing these forecasts by reviewing documents provided to us and through information obtained during interviews.

We would like to express our appreciation for the cooperation and assistance provided to us by the Site C Project team and BC Hydro corporate.

Yours sincerely,

Ernst & Young LLP

Ernst & Young LLP

Disclaimer

This report is intended solely for the information and use of British Columbia Hydro and Power Authority and is not intended to be and should not be used by any other parties. In preparing this report, EY and BTY relied upon information provided by their client. EY and BTY have not audited, reviewed or otherwise attempted to verify the accuracy or completeness of such information. This report has not considered issues relevant to third parties and is subject to certain limitations. We shall have no responsibility whatsoever to any third party that obtains a copy of this report. Any use such a third party may choose to make of this report is entirely at its own risk. We disclaim responsibility for loss or damage, if any, suffered by any third party as a result of reliance on, decisions made or actions taken based on this report.

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1. Executive summary

Summary

EY and BTY were engaged by BC Hydro to provide an independent, external review of the Site C Clean Energy Project's ("Site C") business and risk management plans, and a risk analysis of major components of the project budget. Our review focused on four key areas: 1) major contracts (>$50m) awarded to date; 2) risk management plans, processes, and risk registers; 3) cost management plans and processes, with an assessment of overall cost controls; and 4) key cost drivers and indicators compared to the estimate baseline. Over the course of July and August 2016, EY and BTY have reviewed in excess of 100 projects documents, interviewed senior project personnel, and conducted a site visit.

Given Site C's early stage in its lifecycle, our review did not find any evidence to suggest that major project milestones and financial targets will not be met. Overall, the Site C project is both clearly defined and well-planned. BC Hydro employs an industry leading approach to project management via the Project & Portfolio Management system, with practices scaled to both the complexity and size of Site C. While project execution risks do exist, we consider those risks to be well-understood and managed by the project team. A robust process was followed in order to establish the project budget, and extensive due diligence was conducted. Site C also benefits from best-in-class software that BC Hydro has implemented and integrated over the past 5 years, including SAP, P6 (Primavera), HeavyBid, Unifier, and others. Finally, we were strongly encouraged by the level to which Site C has leveraged the depth of knowledge within the broader BC Hydro organization around key areas such as project, contract, and interface management.

Despite strong overall project management practices, our review identifies what we believe to be some key gaps BC Hydro will need to carefully consider in order to meet the projects' financial and schedule targets. Of primary concern, the capacity of both the contractors and project delivery team to manage and monitor the work will be a critical area to watch as the project progresses, particularly given design and construction dependencies across work packages. Managing major work packages in parallel requires significant project resources and close monitoring of interfaces, and will be central to managing and mitigating overall project risks. Good project controls and reporting will also be a fundamental support to the project effort by enabling issue-forecasting and performance monitoring.

Important to addressing these gaps will be the strong culture of continuous improvement we observed when speaking with both senior BC Hydro and project-level leadership. There is also a clear desire within the organization to further mature project execution capabilities and become an industry leader in project management.

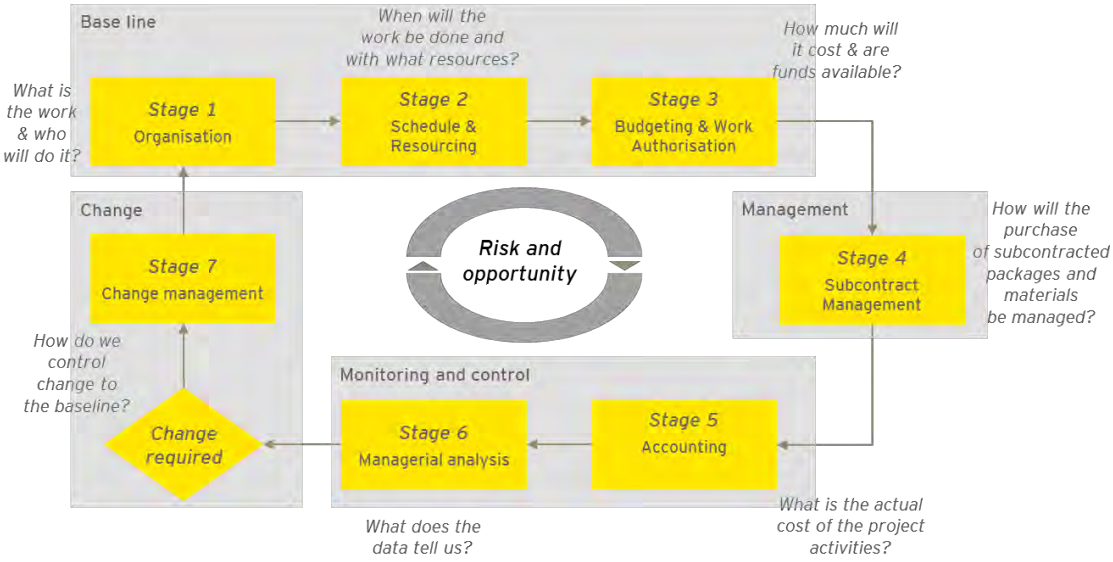
Project management maturity

In 2010, BC Hydro rolled out an integrated project management solution which included such tools and enablers as the Project & Portfolio Management system, P6, and SAP. A maturity assessment measuring the degree of the project delivery maturity in Organizational Project Management (Project Management, Program Management, Portfolio Management and other Organizational Enablers) was performed in both 2010 and again in 2015 using the Project Management Institute's "Organizational

Project Management Maturity Model" (OPM3®). At the beginning of implementation in 2010, BC Hydro received an OPM3® score of 5%, and when reassessed in 2015, received a score of 91%. While we recognize the impressive improvement in overall project management maturity, it is important to note that the OPM3® assessment evaluated project delivery maturity at an organizational level, and not at a project level.

As a result, to support our findings, EY and BTY have used similar industry-recognized Maturity Rating Criteria to measure Site C's maturity on project management practices at a project level. To provide further context to our ratings, Exhibit 1 provides an overview of best-in-class cost and risk management processes for major capital projects.

Exhibit 1: Leading Practice Project Management Process for Major Capital Projects



In Table 1, we provide a high-level overview of the average performance of the Site C project along each of the criteria measured. **We have rated Site C-level practices *only*, and have not provided an assessment of BC Hydro's overall project management maturity**. Our assessment is based upon our observations and analysis of the information provided by BC Hydro over the assessment period. We would not expect, nor require, all projects to be a Level 5 in all areas in order to demonstrate leading practices. Detailed criteria for each rating are provided in Appendix C of this report.

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Table 1: Maturity Rating Criteria

Site C score ✓ Expected score based on stage in project lifecycle ●

No.	Observation	Level 1	Level 2	Level 3	Level 4	Level 5
1	Scope definition: how clearly is the scope documented as a baseline for the project				✓ ●	
2	Front end loading (planning) and how well defined is it based on the project scope			●	✓	
3	Capacity of Project & Portfolio Management (PPM) system to meet the project management needs				✓ ●	
4	Procurement strategy and how it addresses the risk of the supply chain				✓ ●	
5	Cost management reporting and how effective it is			✓	●	
6	Project governance as an approval mechanism			✓ ●		

Based on our maturity assessment, Site C follows leading industry practices in key areas that allow effective management of many project risks. While some gaps exist, outlined in further detail below, we recognize the efforts currently underway to build capability in this area.

Summary of key findings/gaps

The main findings in all of the four key areas assessed are summarized in Table 2 below.

Table 2: Key findings/gaps

	Key findings/gaps	Action	Priority level [0-3 months – high] [3-6 months – medium] [6-12 months – low]
Review of major contracts (over $50 million) awarded to date			
1.	**The complex nature of the work and contracting strategy exposes the project to risks related to interface management.**	**An interface manager and team should be considered as part of the overall project organization.**	3-6 Months Medium
	Our review noted that BC Hydro has assumed overall responsibility for interface management risk. However, the contracting approach has transferred risk to the extent possible over to the contractors. While the complex nature of these interfaces will put significant pressure on BC Hydro to	A specific interface management plan with clearly defined roles and responsibilities across all contracts should be developed. This would represent a departure from the current view of interfaces at the individual work package level, to an overall integrated and coordinated approach. For instance,	

	Key findings/gaps	Action	Priority level [0-3 months – high] [3-6 months – medium] [6-12 months – low]
	manage and control as multiple contracts run in parallel, we are encouraged by the depth of experience across the organization in managing complex interfaces.	we note that the detailed roles and responsibilities matrix in the Main Civil Works contract is effective, and should be developed across all major contracts.	
2.	**Current contract management needs and reporting requirements are placing significant strain on the capacity of the Site C project team.**	**As the project progresses, Site C would benefit from an independent review of the capacity and capability of the project team to deliver upon evolving project needs.**	3-6 Months Medium
	When the main works contracts are fully executed, there will be a significant volume of information to process, analyze and approve. The contracts have transferred much of risk onto the contractors, however, BC Hydro will still have specific timeframes within which to respond to requests, changes etc.	This review may also be extended to the major contracts to ensure that the team can meet all contract requirements. This will also support any audit of reimbursable elements of contracts. Given the number of current vacancies and potential need for additional resources, a dedicated Human Resources staff should also be employed to the project.	
3.	**The scale and importance of the Main Civil Works package in our view will require additional overview and coordination.**	**The Main Civil Works contractors would benefit from a forward-looking capability and capacity review to help monitor contractor performance against schedule. The implementation of Earned Value Management and Unifier will also support contract management.**	0-3 Months High
	It is clear that a Joint Venture approach for the Main Civil Works work package has clear benefits for executing the nature of the work. This said, given that the parties contracted have not had extensive experience working together on major projects, additional oversight and reporting to ensure cost and schedule targets are met should be considered.	The project team is aware of the risks on the Main Civil Works package and is supporting the contractor in many aspects. Of all the major contracts, it is the one that is most difficult to measure performance on as it is based on a Schedule of Rates and has various 'below ground' risks. The contractor's experience in project controls should be understood before agreeing what level of project controls should be implemented. The planned implementation of Earned Value Management and Unifier will also support performance measurement and	

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	Key findings/gaps	Action	Priority level [0-3 months – high] [3-6 months – medium] [6-12 months – low]
		contract management.	
Review of risk management plans, processes, risk registers, and reporting			
4.	**We observed strong schedule development and controls processes, including a challenge function, when reporting schedule against planned. The underlying data feeding the schedule and capability and capacity to manage the project will need to be evaluated throughout the lifecycle.**	**BC Hydro should commission a comprehensive, independent review of the project schedule at a work package-by-work package level in order to both validate schedule content and to identify any schedule risks.**	0-3 Months High
	In particular, the bottom up information and data feeding the contractor's schedule reporting and management into the overall master schedule needs to be independently validated to identify risks areas against the Project Management Baseline.	As mentioned in Key Finding no. 2, an independent review of the capability and capacity of the project team to deliver upon the schedule should also be formally undertaken. The timing of the reviews should be assessed critically in light of major project milestones.	
5.	**The capacity of the project team to keep pace with reporting requirements will be challenged going forward.**	**Reporting requirements should be assessed and streamlined where possible.**	0-3 Months High
	As major contracts start running in parallel, reporting requirements to the various stakeholders will prove overly burdensome with current project resources, and key data and information may be missed.	The project team should seek to streamline reporting across the spectrum of stakeholders where possible. Additionally, while we have seen positive evolution of reporting in terms of both efficacy and efficiency, overall expectations for monthly reporting should not diverge substantially month-on-month.	
6.	**A consolidated view of key forward-looking data analytics and insights would help management level decision-making.**	**Dashboards with key project data should be considered to aid decision-making across the project.**	0-3 Months High
	Positively, we observed many areas of insightful, forward-looking reporting including data and information on schedule, cost, interfaces, etc. Some of these areas include weekly construction reports, Progression Meetings, and the Accountability Report, which provide an important 'look ahead' view for risk	The project team is implementing Earned Value Management to support processes at effectively feeding data into a new managerial analysis/dashboard system. The Tableau dashboard tool is also being rolled out across the organization, and Site C intends to leverage it to enhance	

	Key findings/gaps	Action	Priority level [0-3 months - high] [3-6 months - medium] [6-12 months - low]
	management. However, this reporting could benefit from further refinement into a concise, easily digestible format.	capabilities in this area. The team should also consider the use of Earned Value Types as another reporting tool and project control.	
7.	**Our review has focused on the project team's ability to meet targets, and not on the integrity and accuracy of the data being fed up by the contractors.**	**An audit and people, process, and systems review of the contractors should be considered.**	6-12 Months Low
	This represents a risk as contractor data feeds the master schedule, for which BC Hydro is ultimately accountable. We have seen good practice with quality management and in assuring the schedule integrity, however what isn't clear is the contractors' capability to manage and report on the works accurately. While this area was not the subject of this review, it will be addressed in subsequent reviews.	Particular focus should be on: 1) contractors ability to deliver accurate and timely data; 2) the process and rigor behind the process; and, 3) the accuracy of reporting.	
Review of cost management plans and processes, with an assessment of overall cost controls			
8.	**P6 has limitations as a cost reporting and cash flow tool.**	**BC Hydro should continue supplementing P6 with other tools to address limitations as required.**	3-6 Months Medium
	Project schedulers may be challenged in keeping the project schedule up-to-date as the volume of activities on the project increases given the limitations of the P6 tool. We recognize the integration of Unifier into the suite of project tools will support cost management and contract management on the whole, however, gaps still exist related to cash flow projections.	Another alternative the project team has evaluated is working with P6 vendors to customize the tool for Site C's purposes. The team has rightly only considered this option where benefits can be created for the broader business.	

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	Key findings/gaps	Action	Priority level [0-3 months – high] [3-6 months – medium] [6-12 months – low]
9.	**Project controls should be a key focus for the project management team going forward.**	**Continue to refine the project controls processes on the project.**	0-3 Months High
	Site C is in the process of implementing Earned Value Management and other project controls on the project. We agree that efforts should be focused in this direction and believe that improvements to the project controls function in terms defining clear responsibilities and processes, as well as how the function reports outward should be a focus. An integrated controls process would allow Cost Performance and Schedule Performance to be combined in a concise report and used as a check on how the construction activity is performing. S-curves are currently only used for engineering but should be embedded in the project for cost, schedule and contingency draw on the project.	Particular emphasis should be placed on the integrated project controls practices across scope, schedule, cost and contingency draw that will provide a full performance report. It would also be valuable to assess gaps in existing Project & Program Management documentation and potentially produce a project control handbook in order to ensure that roles, processes and procedures in this area are clear. Earned Value Management will allow a clear picture of Cost Performance Index and Schedule Performance Index using well established rules of credit.	
Review of key cost drivers and indicators compared to the estimate baseline			
10.	**Most cost drivers have been stable or have seen reductions, with the notable exception of currency exchange rates.**	**Continue proactive management of cost drivers.**	6-12 Months Low
	A notable exception has been currency exchange rates. BC Hydro has effectively mitigated price risk to the extent possible through risk-transfer and risk-sharing with the contractors.	While some market conditions have moved in favour of the project, this could turn at any point, thus ongoing monitoring and mitigation efforts should continue. With the recent award of the Turbines & Generators contract, much of the currency risk on the project has been eliminated.	

In summary, the project scope has been well defined and understood, which has allowed the project to produce a robust risk management plan and strategy. The main gaps identified are the controls for managing performance and reporting against its approved Performance Management Baseline. Actions have been recommended in order to close these gaps.

2. Project background, scope, and approach

2.1 Background

BC Hydro is two years into the development of the Site C Clean Energy Project following Government of British Columbia's Financial Investment Decision in late 2014. The $8.335 billion hydroelectric dam is the largest public infrastructure project in the province's history, and will generate 1,100 megawatts of clean energy on an annual basis once the project is complete in 2024. The project is located on the Peace River in northeast British Columbia.

Given the scale and complexity of the project, EY and BTY have been engaged by BC Hydro to provide an independent external review of BC Hydro's ability to deliver the project on time and on budget based upon current project management and budgeting processes. While the project is in early stages of implementation, key decisions on procurement strategy, design, and major contracts have been made. The project is being delivered through multiple separate contracts, and several major contracts have been awarded to date, including Early Works, Main Civil Works, Workers Accommodation and Turbines & Generators. The Site C project team supports contract delivery by acting as project and interface manager between proponents. Since the beginning of Site C's development, BC Hydro has employed an integrated design model using SNC Lavalin, Klohn Krippen, and BC Hydro to form the lead engineering team for the project, and established an independent technical advisory board providing oversight. BC Hydro also has a number of best-in-class software tools to support project delivery, including P6, HeavyBid, and SAP.

The project has been through two major cost reforecasting processes over the past six years – one in 2010 at the start of the permitting process and one in 2014 to reflect the new design of the project. As part of the refresh in 2014, BC Hydro prepared an estimate and SNC Lavalin prepared a shadow estimate to provide a cost comparison and test assumptions made by BC Hydro. The current forecasted

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cost of $8.335 billion is the result of the final estimate updated in 2014. The project also has access to a $440 million reserve held by the British Columbia Treasury Board.

2.2 Scope

The scope of the engagement, as described in the statement of work, is to provide an independent external review of Site C Project business and risk management plans, a risk analysis of major components of the Site C project budget and recommendations to ensure that approved operational and financial targets and milestones will be met. EY and BTY have not developed their own cost, schedule or risk forecast, but instead have assessed the process undertaken by BC Hydro in preparing these forecasts by reviewing documents provided to us and through information obtained during interviews.

The following project components were reviewed by EY and BTY:

- Review of major contracts (over $50 million) awarded to date
- Review of risk management plans, processes and risk registers
- Review of cost management plans and processes, with an assessment of overall cost controls
- Review of key cost drivers and indicators compared to the estimate baseline

The scope of services does not constitute an audit or review in accordance with generally accepted accounting standards or company law. Nor does it include an assessment of the technical feasibility of the project, nor is it a technical engineering review.

2.3 Approach

EY and BTY have undertaken a number of high profile multi-billion-dollar program reviews over the past ten years, including Muskrat Falls (EY) and the John Hart Generating Station Replacement Project (BTY). This experience has demonstrated that no two programs are alike; the approaches our clients have taken in developing the baselines, interpreting the requirements and modelling costs and risks are necessarily different. As such, the approach we employed during the review provides flexibility to adjust and reflect the manner in which BC Hydro's team has developed the initial data by considering challenges faced, perceived issues, and hard deadlines for delivery the project.

There are four elements that needed to be considered in the review:

- The management of program requirements
- How well defined and understood the scope of works is
- How costs have been estimated and changes are controlled
- How risks have been included, accounted for and modelled

Overall, our framework is designed to evaluate these inputs and provide confidence in each, as well as an overall comparative probabilistic view of the likely outturn cost and schedule. The table below details our step-by-step evaluation process.

Major Capital Projects Program Management Assessment Approach	
Factor	**Factor description and underpinning detail**
A. Contract performance management	**Is there a robust contract performance management process and Critical Performance Indicators?** • Have Critical Performance Indicators been clearly defined • Has a robust performance management process been defined
B. Contract implementation	**Has the contract been implemented to establish the project values, processes and culture?** • Has an implementation workshop been conducted to establish and define the project values, processes & culture • Was a set of contract management controversial scenarios competed to confirm processes • Is a robust contract change process in place along with cost and claims management • Is a risk management process in place and being reviewed regularly
C. Change and cost management	**Is there a robust change and cost management process in place?** • Is there a robust change and cost management process established • Is there a process to identify any forward pipeline of potential changes • Is there a client estimating capability and process to support/manage the change process
D. Risk and issue management	**Is there a robust risk management methodology and active process?** • Is there a clearly defined and managed risk process and a Risk, Actions, Issues, and Decisions Log • Is there a culture of active risk management across the project
E. Governance	**Is there a clear and robust governance process for the project with escalation when appropriate?** • Is there a clear governance process • Are appropriate project contract controls and defined reporting
F. Contract Administration & Management Information System	**Is there an appropriate contract admin support for the project with a robust Management Information System?** • Is there a defined project contract administration function • Is there contract management, documentation and cost management functionality within the project Management Information System
G. Organizational Structure	**Is there an appropriate contract management capability within the client org structure?** • Is there a clearly defined contract management capability with roles, responsibilities and processes • Is there a clearly defined claims, estimating and cost management capability with roles, responsibilities & processes

The approach is predicated on establishing a risk and materiality-based sample of the most critical components of the program which have the greatest impact on delivery confidence. We did this by undertaking an analysis of the baseline models, including project definition, contracting strategy, risk and cost, including vendor performance for major contracts. This approach allowed us to quickly identify the areas of greatest vulnerability and opportunity, the key drivers of success, and elements the baseline is most sensitive to.

Our review does not constitute an audit of the Site C project budget, nor is it an assessment of whether or not the project budget will be achieved. Instead, the outputs of our analysis include:

- identification of areas where leading industry practice has been applied;
- areas of confidence which have been appropriately modelled in the baseline; and
- gaps and variances within the Site C project;
- areas of vulnerability that have the potential to threaten the Site C project's success.

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Functionally, EY and BTY's assessment was composed of three main elements: 1) document review; 2) interviews, and 3) site visit. BC Hydro provided access to relevant project documentation such as risk registers, major contracts, procurement strategy, etc., as well as a list of senior management and key members of the project team to be interviewed (for full list of documentation reviewed and interviews conducted see Appendices A and B, respectively). Additional interviews and documentation to be included in the assessment were identified as the review proceeded.

A site visit was also conducted, allowing the reviewers to assess the project from the perspective of those in the field. The site visit provided insights into the robustness of project and cost management processes in action, and helped identify execution gaps that were not evident from exclusively a programmatic perspective.

Our approach carefully considered what we believe is a good balance of the value, cost and risk expectations.

3. Detailed findings and recommendations

3.1 Major contracts (>$50 million) awarded to date

As part of our overall review, we assessed the commercial elements of the four main contracts over $50 million awarded to date. The main areas of consideration included: a) the contract mechanisms for transferring risk and liability to the contractors; b) BC Hydro's responsibilities under the contracts; c) how performance is managed under the contracts; and d) gaps we consider could present future challenges to delivering against contractual requirements and overall project objectives.

Our review does not constitute a legal assessment of the terms and conditions within the contracts, but instead focuses on the processes and controls stated within each of the major contracts.

Findings

3.1.1 Liability transfer

a. For all four major contracts signed to date, BC Hydro has put careful consideration into risk transfer, transferring over significant risk to the contractors under each work package where appropriate;

b. In particular, the Public-Private-Partnership contract with ATCO Two Rivers Partnership outlines clear responsibilities for delivery of work and liability for non-performance;

c. That said, we positively note that BC Hydro recognizes that while liability may have been transferred, they still play an important oversight role in monitoring and supporting the contractor in managing project risks. The work package that will require a high degree of coordination between BC Hydro and the contractors on risk management is Main Civil Works. Although the Main Civil Works contract is clear on scope and responsibilities, the size, complexity, and potential for unknown risks, particularly the geotechnical risks, mean that ongoing, close coordination to manage and mitigate risks will be required.

3.1.2 Contract administration

a. In October 2015, the Site C team implemented an Excel-based Contract Tracker tool to track contracts, schedule, status, changes and change details, costs, variances, etc. This tool allows the team to look forward and identify potential risks or contract changes, and helps avert contractor disputes. Going forward, Site C hopes to transition much of this functionality to Unifier. Unifier will enable the tracking of line item detail at the contract level, and provide portal access for vendors to provide direct progression updates for validation by a BC Hydro representative. Site C has already implemented Unifier with the Main Civil Works and Early Works contracts, and will fully transition away from the Contract Tracker to Unifier once all of the major contracts have been awarded. We believe that this is a step in the right direction for contract management practices on the project, and will significantly enhance schedule reporting and accuracy overall.

b. Despite the mature contract administration tools that are in place, the matrix between BC Hydro and the Site C contractors is complex. While it is clear that BC Hydro assumes ultimate project risk and, therefore, acts as overall contract manager, many of the major contracts have outlined BC Hydro's role as administrator and coordinator. This may lead to some confusion on the part of the contractors as to defined roles, responsibilities, and accountabilities, particularly in both design and construction. Further, BC Hydro has outlined an extensive process for administering the contract on a daily basis. While this may reduce risks, this commitment may prove onerous at current project resources. Clarity on contract administration will be key as scrutiny on the project intensifies, and challenges require more operational oversight and management.

c. Additionally, both the scale of the major contracts and the mature contract administration processes will require significant effort on the part of both the construction and project management teams. For example, the use of a schedule of rates as defined in the contract for measuring and controlling interim payments, scoping and costing change on packages, such as the Main Civil Works, will require significant staff to control effectively.

d. That said, the scope of work for each major contract is well defined, as is the process for managing contract change. Additionally, we are encouraged by the implementation of the Unifier tool, which will further support contract administration, particularly with respect to scheduling. Our primary concern in this area is potential confusion arising from a lack of understanding of which party has ultimate interface responsibility.

3.1.3 Interface management

a. While the major contracts define the requirements for interface management, we note that it is unclear who will take the lead in proactively identifying and controlling issues and risks;

b. We consider interface risks to be one of the significant areas of exposure for the project, but are encouraged by both the Site C teams' awareness of the risks and proactive efforts to close gaps. BC Hydro also has a long history of successful interface management and deep institutional knowledge of what is required on major projects in this area.

c. Turbines & Generators Contract:

   i. Our general comments on interface management are particularly relevant to the Turbines & Generators contract, where the overall responsible party is not apparent. While the timescales

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for issuing information are very clear, how interface management works in practical terms when on site and during the installation phase, including who leads and who manages, has not been fully articulated. Here, a single point of responsibility for interface management may be Site C's best solution. While the construction and contract management team lead has current responsibility for interface management, we believe the interface management complexities on this project require a dedicated role.

ii. Further, the control mechanism to manage the milestones may be rendered ineffective by unclear expectations as to who is responsible and how. In particular, the cause and effect of a delay or event occurring may be difficult to allocate to one particular party. In some cases, it may not present issues, however if certain milestone activities noted in the table are on the critical path, the impact could be significant.

d. With regards to the main civil works there are interface risks that exist as with the other work packages. BC Hydro are responsible for managing the overall interface risks between the work packages, as they identified early on in the project that they are best placed to manage it. We observed significant effort had been made to identify the risks and mitigate them but note that it remains one of the critical risk management items to monitor throughout the project duration.

3.1.4 Warranties, guarantees, and liquidated damages

a. **Turbines & Generators contract:**

i. The specific guarantees BC Hydro has included in the Turbines & Generators contract, including holdbacks, milestone liquidated damages, total completion liquidated damages, Letter of Credit, and Third Party guarantee, places requirements on the contractor to finance guarantees early on in the project. This pressure on the contractor's cash flow should be monitored on an ongoing basis, particularly if the contractor has major projects occurring elsewhere.

ii. The statement that 'liquidated damages set out in the milestone payment table are the amount of damages the parties have agreed to be paid by one party to the other' may be confusing as there is no contractual link between the Generating Station and Spillways (GSS), Turbines & Generators and Completion Contract contracts. How this would work in practice should also be considered.

iii. Positively, the project has a comprehensive insurance strategy, including the purchase of a $1.5 billion construction policy and a $100 million property insurance policy. They are currently in the process of putting in place an owner's protection policy.

3.1.5 Performance monitoring/contractor reporting

a. In general, the reporting requirements outlined in the major contracts, (excluding the ATCO contract), request percentage complete as a method of monitoring progress. Our report highlights the need for improved project controls on the overall Site C project to allow for more accurate checks and balances on progress. From a contractual standpoint, recording percentage complete for all works, checked against planned performance and reported using rules of credit, Earned Value, Schedule Performance Index and Cost Performance Index, would give a more accurate picture of contractor performance (as highlighted in section 3.3.7 of our report).

Recommendations

In summary, our assessment finds that the majority of liability and risk has been transferred to the four current major contractors. However, some significant gaps to consider are:

- The contractual terms for controlling interfaces should be more clearly articulated. In our experience, interface issues in design and execution lead to a significant number of disputes and delays on major projects such as Site C. The Site C team should review the interface requirements on the project and set out an interface plan with defined responsibilities. The interface plan should then be reviewed with contract terms to determine if changes are required or additional management processes should be implemented. A dedicated interface manager should be in place in order to administer and coordinate the interface management plan;
- BC Hydro's capacity to administer the contracts with current resources may be strained as the project ramps up, and particularly during peak periods when major contracts are running in parallel. Given Site C's stage in the project lifecycle, it would be prudent to undertake a capability and capacity review of the project team to ensure that BC Hydro can fulfil their contract requirements;
- The performance reporting outlined in the contracts may need to be adjusted as project controls improves on the project. Specifically, as Earned Value Management is implemented across the project, there will be an improved ability to monitor and manage the performance of the works and contractors;
- In the Turbines & Generators contract, the requirement for guarantees and potential application of liquidated damages may put significant financial pressure on the contractor and will need to be monitored regularly.

3.2 Risk management plans, processes, risk registers, and reporting

Overall, our assessment found that BC Hydro has a disciplined approach to project delivery, which is defined and managed by the ongoing implementation of the Project & Portfolio Management system used across the organization. Site C's Risk Management Plan clearly outlines the risk management process and plan for the project. We found the risk management process to be both robust and fulsome, detailing project-level requirements for risk management planning, risk identification, risk evaluation, risk response, and risk monitoring and control. These processes follow industry best practices set by both the Project Management Institute and the Institution of Civil Engineers Risks Analysis and Management for Projects. Furthermore, accountabilities and responsibilities for managing and mitigating risks for all key project roles are outlined in a clear "Responsible, Accountable, Consulted and Informed" matrix.

Findings

3.2.1 Risk management approach

a. Importantly, risk management on the project is scaled to the project complexity and size. Both the project delivery objectives and BC Hydro's experience delivering other projects form the baseline for

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the risk management approach. Additionally, at the outset of the project, risk workshops using historical BC Hydro data were conducted to develop detailed preliminary risk registers, which are now updated on a monthly basis. Cost and environmental factors are evaluated to aid final investment decisions for cost estimates.

b. Any update to cost estimates requires revisions to the Monte Carlo simulations using @RISK software to provide the most accurate data. The software used to assign contingencies is widely recognized as an industry best practice. A P50 Contingency is recommended by BC Hydro and is in line with previous BC Hydro projects, which have generally been completed on budget (of over 653 projects, actual project costs, as compared with approved budgets, are an average of .18% under budget). It should also be noted that while the P50 level is the standard, a range of expected values at different levels of certainty continues to be reviewed as risks progress and unfold. A case in point is the use of a Tornado Chart to present risks associated with the preferred proponent for the Main Civil Works contract during review of their bid with P10, P50 and P90 results for each risk input.

c. The Site C team proactively assesses risk during key procurement phases by reviewing the potential cost variability for contractual risks in the engineer's estimate. Actual contractual risks can then be transferred to the contractor under the award of the work package contract. Changes to the risk allocation from that envisaged in the risk register are then included in the engineer's estimate. The output from the 2014 Monte Carlo model was assessed against the available contingency and determined that no further adjustments to project contingency were required at that time. Contingency is split between the Treasury Board and the Board of Directors. At the Board level, contingency is controlled through six levels of management, which provides strict governance of contingency. Risk assessments of the contingency are undertaken after the preferred proponent has been selected for each contract work package to determine if the budget contingency available is sufficient to address potential contract risks.

3.2.2 Risk control

a. To make the high volume of potential risks on Site C more manageable, and to avoid duplication, risks are categorized as either contractual or strategic before being consolidated into monthly risk reporting. The project risk register is not considered a risk analysis tool, but a repository for the risk analysis results, which are comprised of both key qualitative and quantitative data. Exposure to reputational risk is also considered to provide an overall comprehensive rating. In our view, there exists a relatively high level of buy-in and engagement in the risk identification, management, and mitigation process across the project team. For example, there are currently 2 risk registers with a high level of detail being maintained at the project level. This has largely been the result of a concerted effort to improve proactive risk management given some early adoption challenges, namely capacity of the project team. Going forward, there should be continued emphasis on risk controls as the possibility of high employee turnover and increasing demands of the project have the potential to challenge current resources.

b. We note that the project control for identifying and managing schedule risk is in place, and is used to build float into the schedule where required. The use of milestone reporting was another control mechanism observed, and is managed on a proactive and detailed level. The project control schedule process is under development and, we believe, is a critical overall project control. To

further support this effort, the correct Earned Value Types need to be developed and applied to the relevant elements of the schedule, including in the contractors' own schedules. We note that early start and finish dates are used as scheduled dates, so that milestones are sometimes flagged as missed, even when they still have float available. We are satisfied, however, that procedures are in place to insure that management effort is focused primarily on activities that are critical or near-critical.

3.2.3 Risk evaluation

a. The Risk Management Plan details the risk evaluation process clearly. First, risk evaluation workshops are conducted to consider the treatment, potential probability, consequence and exposure of each specific risk identified. Possible risk "zones" range with colour-coded exposure levels, and are addressed by the respective area lead unless considered critical at which point they are elevated to more senior levels of project management. From our review, it is evident that the project team follows the risk analysis process generally set out in the Risk Management Plan, which is representative of strong industry practice.

b. Schedule risk is well understood and evaluated. Major contracts clearly identify who holds the schedule risk for non-performance. Large projects such as Site C rely on the quality of the contractor's schedules and ability to control and manage activities against the contracted schedule. This then feeds up into the BC Hydro master schedule with risks evaluated throughout the process. The integrity of the data feeding the schedule is central to managing future schedule risks. In summary, the schedule reporting for management purposes is only as good as the information that feeds it.

c. One of the most critical components of monthly reporting is the risk register. There are 2 risk registers that capture and classify all project lists, and a risk 'hotlist' and risk 'heat map' summarizing the top risks for management reporting. The 'hotlist' is generated by assessing factors such as work area, risk event description, risk status, risk and response summary, and residual risk zone. The risk registers include key information on risk details, ownership, planned treatment, and exposure level. Overall, we found that risks are well-articulated and reported in a manner that is in line with leading practices.

3.2.4 Reporting

a. The implementation of the Project Management Office is a significant transition which has taken place over the past 6 months. It is clear that there is strong technical expertise on the Site C team in the Project & Portfolio Management system, as well as project management practices more broadly, however, as the project ramps up, reporting tools and processes will need to be streamlined in order to keep pace with the volume of information. Our review found that reporting requirements on the project are generally onerous and time-consuming, requiring a considerable level of time and effort on the part of the project team.

b. There are two main sources on ongoing, forward-looking project reporting: 1) Construction Reports; and 2) Progression Meetings. Construction Reports are fed into the Program & Project Management system weekly by the construction managers, and provide a view of progression, areas

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of project exposure, safety, drawings, labour statistics, and so forth. These reports are used as the primary way of managing what's happening on the ground, and feed into higher levels of project reporting through the Program & Project Management system, including Progression Meetings. Progression Meetings are conducted with area leads on a 12 day cycle in order to discuss the initial outputs of the Project & Portfolio Management system and refine them based on a look ahead of the schedule.

c. An important practice to add to Progression Meetings is the assessment of how progress is being monitored and reported, so that checks can be developed. For example, the methods of measuring performance against schedule should consider a mix of Level of Effort, discrete activities (end product) including 0/100 milestones, incremental milestones etc., and where possible, should not be percentage complete (which is often used elsewhere for monthly payment and schedule reporting purposes). We recommend that as part of the Earned Value Types evaluation, quantities against which progress is measured should be developed in light of individual work package specificities, particularly where schedules of rates are being used for payment purposes. This is important as the volume of schedule data will be significant and risk exists with inaccurately reported information.

d. Construction Reports and Progression Meetings roll up into the Accountability Report, which is an overall project status summary prepared on a monthly basis. The Accountability Report is presented to the Site C Leadership and Executive during the monthly Accountability Meetings, as per BC Hydro-wide practices for major capital projects. There are a number of key inputs to the Accountability Report, including direct updates provided by each area lead, risk registers, as well as cost and schedule updates from the Progression Meetings. The report is highly detailed and forward-looking in nature and has evolved over time via enhancements from the project team to provide more impactful information for Site C. However, we found that given the comprehensive nature of the report, it may not be in the most digestible format for management decision-making.

e. Given that the objective of the Accountability meeting is to support executive-level decision making, we believe that the meeting would benefit from a more forward-looking discussion of key potential risks. One way to facilitate this might be the implementation of a central dashboard for key data analytics and forward-looking insights, bringing many different elements of project reporting together into a single, concise view. We understand that BC Hydro is in the process of implementing a project dashboard using the Tableau tool for this specific purpose, and believe that this is a good direction for project reporting to go. The implementation of Earned Value Management will help provide some of the inputs for the high-level project dashboard. Project level reporting might also benefit from a brief Executive Summary, which we understand is also being implemented by the project team. To be effective, the Executive Summary should identify key accomplishments, key focus issues, key decisions, contract summary, trending analysis, a 90-day look ahead and construction progress. We also note that the Site C team is developing a project scorecard to provide annual metrics on the program, which we believe will be an important accountability measure as the project progresses.

f. We observed that keeping pace with the volume of weekly and monthly reporting requirements may be a challenge with current resource levels:

i) As mentioned, during Progression Meetings, the initial outputs of the Project & Portfolio Management system are discussed and refined based on a look ahead in order to arrive at a final "snapshot" for the previous month. Quantitative rules set within Project & Portfolio Management determine what issues would require elevation to higher levels of leadership. This reporting cycle involves meetings with each individual area lead and project leadership, and repeats over a 12-day period at the beginning of each month;

ii) Many elements of the Accountability Report are generated outside Project & Portfolio Management using a variety of standard tools such as Word and Excel. These relate to areas such as aboriginal relations, environment, permitting, etc., which have not been treated in the Project & Portfolio Management system but are included in the monthly reporting. Moves are underway to migrate more of the control mechanisms into the Project & Portfolio Management while the project is ramping up.

iii) Major contracts will add to the volume of data and it will become more difficult for the management team to process. Management information needs at each level need to be clearly defined and methods of filtering developed so that all relevant exceptions are identified in the reporting cycle.

g. The Project & Portfolio Management system is not customized for Site C, bringing a beneficial level of understanding and familiarity of the system to the team. However, Site C is the first of its size and complexity at BC Hydro, and the Project & Portfolio Management system is not currently capable of meeting all reporting demands. Further automation of key project data and information should be prioritized, as well as the increased use of quantitative filtering of information. This could alleviate some of the time burden on the reporting cycle and free up meeting time for project delivery.

h. Upcoming, scheduled Project & Portfolio Management system upgrades should be carefully monitored and supported by change management efforts in order to ensure that key project data and information is not lost, and that reporting requirements are met.

Recommendations

Overall, Site C follows a rigorous and effective process for identifying, analyzing, and mitigating risks on the project. To further augment risk management, BC Hydro should consider the following:

- Generally, risk management is scaled to both the size and complexity of the project. The Project & Portfolio Management system supports the risk management process with a robust set of guidelines and tools, and is used effectively by the project team;
- The risk management approach includes employing strict governance over contingency. Proactive assessments are in place to review and evaluate contingency requirements as the project progresses, both in the project budget and during procurement phases. This approach should continue with the same level of rigour as is currently in place;
- A detailed, independent validation of the schedule should be undertaken given the size and complexity of the contracts that have been awarded to date. The review should analyse the contractor's performance and capability to deliver and meet the agreed upon schedule. How contractor performance has been integrated into the overall schedule and then used to monitor performance also needs to be understood in more detail. Only once the project undertakes both a

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schedule content and process validation, and a capability and capacity to deliver assessment, will the full picture of schedule risk be clear;

- Given the already substantial effort required to keep pace with weekly and monthly reporting requirements, as the project ramps up and major contracts are running in parallel, the capacity of the project team will be challenged. In particular, it may prove increasingly difficult for current project resources to maintain the volume of data and information feeding into the risk registers, and integrate them with reporting requirements. While initial quantitative filtering of risks is already done prior to selection of the "hot list" for the Accountability Report, further refinement of the quantitative filtering approach taking into account priority, expected value, and cost to date is recommended. This will help to identify which risks are new to a particular reporting cycle, help quantify and track risks, and provide better information for management decision-making. Other opportunities for automating report content, or streamlining reporting across stakeholders, should also be considered where appropriate;
- Further, we recommend an independent capability and capacity review of the project team to determine where gaps in current resources exist in light of future project needs;
- Management and executive decision-making would be supported by the development of a single, concise view of key project metrics, data analytics, and forward-looking insights. The Site C team should continue with the planned development and implementation of a project dashboard, Executive Summary, and annual scorecard as these tools will help draw out the most critical elements of overall project reporting in an easily digestible format;
- A final consideration is both the quantity and quality of data being fed up to the project team by the contractors. While we are aware that there is an onsite quality management program providing oversight to the contractors, the process for validating contractor data and information was not the subject of this review, but will be further evaluated in subsequent reviews.

3.3 Cost management plans, processes, and overall cost controls

The cost management plan and processes provide a thorough approach on how the costs for this project should be managed during the lifecycle of the project, and is aligned with leading practices for a project of this magnitude.

Findings

3.3.1 Cost management plan

a. Having interviewed personnel from the estimating and controls teams, it is clear that the process followed to establish a project budget for Site C was extensive and that the due diligence and approach were solid. There was a major estimate revision in 2010 which was refreshed in 2014 to reflect a re-design of the project. As part of this refresh, the BC Hydro team completed their estimate and SNC Lavalin was asked to prepare a shadow estimate. Both teams used the same Heavy-Bid software to develop the estimates. This software enables the estimates to be resource-based and built from the bottom up by establishing a crew for various work items, number of labour hours per crew, plant, material and overheads.

b. Estimates were developed for a number of work packages such as the clearing, highways and transmission lines by parties that could be considered external to the project, such as the Ministry of Transportation and the BC Hydro Transmission group. In such a situation, there could be scope gaps at the various interfaces between the work packages. The detailed estimates by these parties were thoroughly reviewed and signed off by BC Hydro's lead on the project. The outcome of the estimating process was an amalgamated estimate which was reviewed by an outside, independent team of experienced contractors, and concluded with them testing and approving BC Hydro's estimating methodology and budget.

c. The updating and renewal of the estimate is a continuous process as the procurement process unfolds. As a case in point, the Main Civil Works contract has been bid and awarded at a value of $1.75 billion. BC Hydro's engineer's estimate was a comprehensive update of the 2014 estimate and was 3% lower than the bid price. This is within the benchmark pre-tender estimate range of -5% to +10% expected at this stage of the design for the contract package. The engineer's estimate incorporated a risk transfer amount as the Request for Proposal required the contractor to assume some risk not envisaged at the time of the 2014 estimate. A second major contract, for Turbines and Generators, did require a draw on contingency, but so far the rate of contingency usage from estimate disparity is modest.

d. In summary, we are of the opinion that the due diligence and care taken to establish the budgets for Site C represents good industry practice.

3.3.2 Change control

a. The project change control plan provides a clear description of the change control process for the project. This process is straight-forward and follows a logical sequence, including some key elements we believe are representative of best practices:

   i. The Work Breakdown Structure established to manage the project is effective and provides a clear baseline from which to monitor costs. For example, any claim for change by the contractor that is more technical in nature, might result in a delay, or that cannot be absorbed by the contract budget will be validated by the estimating team. Routine time and materials claims for change are addressed by the contract management team. There is a separate Work Breakdown Structure for contingency draws for the overall project which is controlled by the project's change control plan. Careful management and control of this contingency is instrumental in ensuring the project remains within the budget.

   ii. There is a mechanism for early identification and tracking of anticipated changes through the Site C Contract Tracker tool. This provides a tool for recording areas of concern, planning and, where possible, mitigating any potential issues. When the Unifier tool is implemented across the project it is expected to replace and enhance much of the functionality of the Contract Tracker. Potential cost issues are also tracked manually by Finance, providing an additional early-warning system and allowing timely management action to be taken.

   iii. In order to manage contractor claims, Site C employs a 'one-window' approach. A central point of contact on the BC Hydro side is responsible for receiving and

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transmitting all change claims or preliminary change instructions with contractors. This ensures the entire change control process is managed consistently and accurately.

iv. Finally, for major contracts, the details required for submitting a claim are outlined clearly, for example, a contractor must value a change in specified ways, such as lump sum, direct costs, etc. However, flexibility is provided for smaller changes.

3.3.3 Cost, schedule and cash flow interface

a. The concern about the strains on the management structure with an increasing data burden may also be felt by the schedulers, who reside both in Finance and Project Management. (It is difficult to see clear lines of demarcation between the two as the scheduler in Finance recently transferred over from Project Management). Actual costs are ported over from SAP to P6 at the beginning of each month and are reported by activity. There are roughly 6,000 activities in the project schedule. For construction activities, each of these is a summary activity of a series of activities in a contractor schedule after a contract has been awarded for that part of the works. This has the benefit of providing a unified structure for both cost and schedule reporting, avoiding maintaining an interface between cost and schedule "silos". (The Earned Value Management method is another way of doing this, by expressing schedule slippage in dollar terms). The central problem, however, is that P6 was designed as, and remains primarily, a critical-path scheduling program and has limited capability as a cost reporting and cash flow tool. The challenge is further described as follows:

   - P6 has three options for distributing dollars loaded on an activity of doing cash flow analysis: front-loaded, back-loaded, or evenly distributed by month. The front-loaded feature places all the budget in the first month while back-loading places all the dollars in the final month. To overcome this lack of flexibility, the schedulers create dummy activities and load them with the cash flow dollars. This also comes into play on management activities, some of which last for years.
   - While we have not analysed the content of the schedule in detail, there must be a considerable maintenance burden in keeping the summary activities aligned with contractor schedules. This process is assisted considerably by the Acumen Fuse tool, a program that compares versions or updates of a P6 schedule and lists the changes in logic, durations, etc. between them. Nonetheless, there remains the task of mapping the more detailed schedule onto BC Hydro's summary schedule, which is a manual task and requires intensive communication and coordination with the contractors. In addition, to make the logic work, there may be a need for more complex, artificial logic connections, which may compromise the ability to accurately identify the correct critical path and near-critical activities. In summary, a significant amount of checking and fine-tuning is required to accurately report the schedule. There is a concern that, with an increasing data burden, the P6 schedule might deliver an inaccurate view of the project schedule.

b. We understand that P6 has been used at BC Hydro with considerable success on many projects. Given the size and complexity of Site C, BC Hydro should either work with the P6 vendors to overcome its limitations or consider adding other tools to the PPM system augment the limitations of P6. For example, schedule dates could be ported into a separate program and loaded with dollars to do cash flow forecasts, thus avoiding the burden of the summary activities. Or the contractors

could be required to provide their own cash flow forecasts and that data could be collated by BC Hydro.

c. We observed a considerable level of effort expended upon validating and re-validating data. The Project Controls group recently moved under the purview of Finance in order to provide a degree of independence from the Project Management group. While we consider this a positive move, concerns remain as to the clear definition of roles and responsibilities within the Project Controls.

d. Apart from the use of P6 as a cost reporting tool, we note that BC Hydro's general policy regarding reporting of activity dates is to use the early start and finish dates, as opposed to positioning an activity within the range of its float to, for example, level resources. This can lead to some confusion in reporting as activities are reported both as late (behind the early dates), and also on time within the activity's total float. We suggest that this convention be clarified and reporting adjusted accordingly.

3.3.4 Project Controls

a. In moving to a more integrated use of Project & Portfolio Management on the project over the past year, significant improvements to management and controls have been made. Changes are still ongoing, including the recruitment of key project controls positions. Both of these efforts will ultimately enhance performance reporting, and transition current project reporting from backward to more forward-looking with the use of good project analytics techniques.

b. A project of this scale and complexity should use effective project controls and Earned Value Management to support decision making and forecasting. In particular, using cost performance index and schedule performance index will allow the project team to better understand 'value for money' and if the project is achieving the correct ratio of earned value to planned activities. The improvements to project controls will also support improvements to project reporting as it will allow good analytical data to produce S-curves and heat maps for effective management decisions.

3.3.5 Conclusions/recommendations

Overall, Site C's ongoing cost management and process for maintaining cost estimates are what we would expect to see on a major capital project. Some key considerations include:

- The process followed for establishing the project's budget was extensive, and generally representative of good industry practice. The estimating process involved a substantial amount of due diligence and integrity checks, including an outside review by an independent team of experienced contractors who also tested and approved BC Hydro's estimating methodology and budget.
- The process for managing change notices is clear, with key information included for assessing the impact of the change, such as contract sum adjustment, schedule impact, and re-allocation of funds.
- Project schedulers may be challenged in keeping up the project schedule up-to-date as the volume of activities increases. Furthermore, P6 has limitations as a cost reporting and cash flow tool. BC Hydro should consider working with P6 vendors to customize the tool for Site C's purposes, or consider supplementing other tools to the Project & Portfolio Management system.

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- Continued implementation of robust project controls on Site C will help support the achievement of both cost and schedule milestones. In particular, Earned Value Management can considerably enhance decision-making and forecasting by better understanding value-for-money and the ratio of earned value to planned activities.

3.4 Key cost drivers and indicators compared to the estimate baseline

We have reviewed the main cost drivers on this project and the extent to which they have changed since the project estimate was prepared in 2014. Most of the cost drivers have been stable or have seen reductions, with the notable exception of currency exchange rates. As identified under Preliminary Risks, Main Civil Works, dated June 2014, specified Key Cost Drivers include the cost of materials, equipment, transport, and electric power.

Findings

The following is a list of Key Cost Drivers we identified during our review:

3.4.1 Geotechnical/soils issues

a. Knowledge of the soil conditions underlying the site is key to successful planning and execution of civil engineering works. As outlined in the Main Civil Packages Preliminary Risk Report, some key risks identified included: rock rebounding and swelling, shears, relaxation joints, bedding planes; and bedrock deterioration.

b. The risk of cost and schedule overruns due to unforeseen ground conditions is generally mitigated by carrying out extensive geotechnical investigations and through careful allocation of risks through contracts. Extensive investigation of the site was undertaken during planning of the project, but it is impossible to understand every nuance of the sub-surface conditions of such a large site. As a result, unforeseen problems have arisen, and will continue to arise, requiring innovative engineering responses to contain cost increases.

c. Contractual responses to risk from sub-surface conditions vary from one contract to the next. BC Hydro's broader strategy is to pass on risk to the contractors if it is appropriate, i.e. a judgement is made as to the cost premium a contractor will charge for assuming a risk, compared with the probable cost to the project should the risk be retained and result in increased cost. In some instances, the risk is transferred completely, with the owner providing all the available documentation to the contractor. In others, (such as for coffer dams) the risk is shared, with the project retaining a portion of the risk. It must be recognized, however, that in cases where there is some transfer, there can still be an adverse effect on the project. We are satisfied from our investigation so far that these calculations are being made in a considered and professional manner.

d. It is worth noting that, when a risk had been assumed to be retained by BC Hydro during budgeting, and is then re-allocated to the contractor at Request For Proposal stage, the value of that risk is included as a line item in the Engineer's (Pre-tender) Estimate.

3.4.2 Design updates

a. This project has a long history with analysis and re-analysis of design options over decades. The 2014 estimate incorporated a re-design of parts of the project, but the design has remained relatively stable since then. We are satisfied that there is a robust system in place for controlling design changes and accounting for their impact on the project.

3.4.3 Labour resources

a. Based on Statistics Canada data, labour availability in the Peace River Region has increased since 2014, due to decreased investment in the oil and gas sector. This is likely to drive down construction cost to some extent. The extent to which this takes place is dependent on contractors' perceptions of future labour trends over the course of long-term contracts.

b. The Peace River region's labour supply is heavily reliant on the adjacent, Alberta market. Based on recent Statistics Canada data for July 2016, the unemployment rate in Alberta has risen to 8.6%. In the event labour resources from outside BC are required, accommodation would not be an issue as BC Hydro already has site accommodation in place.

c. On the management side, staff with specialist expertise or those on the leadership team are experiencing greater demands on their time as the project ramps up. There appears to be a high level of confidence, however, that the right staff can be found to fill vacant positions, often from within BC Hydro itself.

3.4.4 Plant and machinery

a. As with labour availability and pricing, the turn-down in the oil and gas sector has reduced pressure on the project in terms of possible shortages of plant and equipment required as part of the construction process. While this could change with an upturn in the fortunes of the oil and gas industry, many of these costs are being locked in as major contracts are let. More broadly, based on American Rental Association data, there has been from 7% to 9% annual growth in rental revenues from 2014 to 2016. Total rental revenue in Canada is expected to grow at a compound annual growth rate of 4.2 percent over the 2016 to 2020 period.

3.4.5 Currency exchange rates

a. The currency exchange rate between the Canadian and U.S. dollars represents the one cost driver among those reviewed that presents a cost challenge to the project. The 2014 average exchange rate was approximately 90 cents and it is currently 76 cents. This can have a major impact on purchases of any commodity purchased outside Canada, and might be felt particularly strongly when purchasing major equipment priced in U.S. dollars. Movement in the relative value of the Canadian and the Euro has been significantly more modest over the 2-year period.

b. The Turbine and Generator Design-Bid-Build package was awarded in April 2016 for $470 million. Given market conditions, the currency risk/impact at the time of award of this contract was negligible.

c. With the award of the Turbines & Generators contract, the currency risk on the project has been largely extinguished. We also understand that BC Hydro also has long-term contracts with some suppliers, which may have additional price stabilisation mechanisms.

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3.4.6 Interest rates

a. We continue to see low interest rates, a considerable boon for a project of this size and duration. The Bank of Canada overnight interest rate has dropped a further 0.5% since 2014, resulting in a reduced estimate for interest during construction. It appears likely that this situation will persist for the foreseeable future.

3.4.7 Land costs

a. We understand that the purchase of lands for the reservoir is imminent. We have not been able to discern trends in land prices in the Peace River Region and understand that this is a delicate process, especially when compulsory purchase is involved. A detailed study was carried out in January 2002 to determine the potential impact of the dam construction on land values in or near the Peace River Region.

3.4.8 Permits

a. The permitting process for Site C is necessarily complex and time-consuming. Responding to information requests and managing to government conditions have the potential to result in unforeseen cost and schedule changes. We observed an effective process for managing all components of the permitting process, including proactive stakeholder management, comprehensive mitigation programs, and ongoing monitoring.

3.4.9 Material Prices

a. Two types of requirements for materials have been identified for the project. The first is specialised in nature, and in some cases one-off orders. Items such as turbines, major butterfly valves, steel lining and transformers will most likely not be available locally and will require special order from various locations worldwide. Transportation for these items will mainly be by air and road, and the project also has rail transportation available as an option.

b. The second type of materials/equipment includes commonly used construction materials, such as concrete, reinforcing steel, structural steel, and gravel. In comparison with the 2014 baseline, most of the commodity prices have been decreasing. Copper dropped approximately 10%, structural steel and rebar dropped about 5%. Concrete, aggregate, fly ash and timber are expected to see cost reductions from the 2014 baseline. Cement/fly ash manufacturing would be a benefit in this project.

3.4.10 Fuel/diesel

a. Oil prices dropped almost 50% since 2014, therefore it is expected to see a cost reduction on fuel costs for plants and machinery. The drop in price at the pump has not been as great as the drop in the price of crude oil.

3.4.11 Taxes

a. There has been no change in the rate of GST & PST since 2014. The 2014 estimate incorporated an increase of $200 million to account for the re-instatement of the PST.

3.4.12 Conclusions/recommendations

In summary, most of the major cost drivers for Site C have moved in favour of the project, with the exception of the exchange rate with the U.S. dollar. Most of the major equipment purchases are now under contract, however, so this risk has been largely contained. BC Hydro should continue their ongoing monitoring and proactive management of cost drivers in order to capitalize on favourable market conditions where possible.

4. Conclusion and next steps

Overall, our review finds that the project is well defined and that the processes for managing risks and costs are largely representative of leading practices. Execution of the major work packages are clearly scoped and supported by both a robust set of project management practices and tools, as well as by a team with deep experience on delivering major projects for BC Hydro. The Site C team follows a continuous process for updating and renewing cost estimates, which we found to support the integrity of the overall budget. Furthermore, the project has been aided by general stability or reductions in most of the cost drivers.

Going forward, it will be critical for BC Hydro to place strong emphasis on project controls and resources to support the achievement of both the project's financial and operational milestones. The processes under BC Hydro's Project & Portfolio Management system bring clear benefits to project execution, such as bottom-up approvals, all-encompassing change management procedures, and the ability to bring in team members from the BC Hydro organization with deep institutional knowledge of the system and a portfolio-perspective. As the project ramps up, the volume of work to be coordinated and data to be consumed will mean that the project needs to re-evaluate how it uses the processes as defined under Project & Portfolio Management. Additionally, clear resource gaps should be carefully evaluated in light of future project needs. The ongoing development and implementation of effective project controls to produce forward-looking insights for management decision-making should be a key focus area in the coming months.

Next steps to consider are:

i) The managerial information and reporting from Project & Portfolio Management should be reviewed in further detail to determine if there are further improvement areas, and if so, a plan to design and deliver the improvements should be developed.

ii) The ongoing changes in project controls should be accelerated as the use of fully integrated Earned Value Management will provide more meaningful project in monitoring and reporting. (See Appendix D for details).

iii) BC Hydro should undertake a detailed, independent validation of the schedule to analyze the contractors performance and capability to deliver and meet the agreed upon schedule.

iv) As the project progresses, the capability and capacity of the project team should be assessed in order to ensure that future project needs at the various stages will be met. We recommend an independent party performs the assessment.

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v) A forward-looking review of the major contractor's capability and capacity should also be performed in order to monitor the work performed against schedule. This would be particularly useful when considering the gaps in Earned Value Management, overall capability and capacity constraints on the project, and the contractor performance challenges identified.

vi) Project roles and responsibilities should be reviewed and updated to ensure both the contractors and project team are clear on their roles within the project. This will need to be updated as the project progresses and new contractors and team members are added.

5. Appendix

5.1 Appendix A: Documents reviewed

We have reviewed in excess of 100 documents during the period of July 11th – August 15th.

- Cost Budget Management Reporting
  - Monte Carlo
- KPIs
- Procurement Management
  - Board Materials
  - Material Contracts
  - Payment Schedules and Documentation
  - Procurement options, approach, and plan
  - Contract roles
- Program Information
  - Construction Management, Contract Management, and Cost Management Plans
  - Financial models
  - Monthly progress reports
  - PPM System
  - Project Board & Board or Directors Reports
- Risk Management documentation
  - Risk Analysis and Reports; Risk Registers
  - Risk Management Plan
- Scope Management Change Control
- Technical Advisory Board Reports
- Time Schedule Management Reporting

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5.2 Appendix B: Interview list

Organization	Interviewee	Date
BC Hydro	Manager, Supply Chain Infrastructure Projects	July-14-16
BC Hydro	Vice President, Project Delivery (retired)	July-15-16
BC Hydro	Manager, Business Planning, Scheduling & Reporting	July-18-16
BC Hydro	Commercial & Risk Manager	July-18-16
BC Hydro	Principal Engineer Contracts, Procurement and Market Specialist	July-18-16
SNC Lavalin	Design Manager	July-19-16
BC Hydro	Project Manager, Early Works	July-19-16
BC Hydro	Director, Legal Services	July-19-16
BC Hydro	Director, Supply Chain Infrastructure Projects	July-19-16
BC Hydro	Director, Environment, Aboriginal Relations & Public Affairs	July-19-16
BC Hydro	Project Manager & Director of Operations	July-19-16
BC Hydro	Engineering Division Manager	July-20-16
BC Hydro	Scheduler	July-20-16
BC Hydro	Finance Manager, Business Services	July-20-16
BC Hydro	Project Manager, Main Civil Works	July-21-16
BC Hydro	Vice President & Project Director	July-21-16
BC Hydro	Estimating & Contract Scheduling Team Lead	July-22-16
BC Hydro	Director, Finance	July-22-16
BC Hydro	Deputy CEO & Capital Infrastructure Project Delivery Management Team	August-03-16
BC Hydro	Vice President, Project Delivery	August-24-16
BC Hydro	Contracts, Document Control & Submittals Manager	August-24-16
BC Hydro	Senior Manager, Contract Services Capital Infrastructure Project Delivery	August-29-16

5.3 Appendix C: Maturity rating criteria

EY and BTY have used industry-recognized Maturity Rating Criteria to measure Site C's maturity on project management practices for major capital projects. The tables below represent our assessment based upon the information and data provided by the Site C project team. It should be emphasized that we have rated project-level practices only, and have not provided an assessment of BC Hydro's overall project management maturity. Additionally, we would not expect, or require that all projects be a Level 5 in all areas to be representative of leading practices.

BC Hydro Score as at August 2016

Scope definition					
Sub-Process	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Baseline scope development	Ill-defined scope, with little or no stakeholder involvement. No formal process.	Project requirements fare documented after solicitation from stakeholders. A basic process is in place to define a high-level WBS.	The baseline scope is included in project approval document. A detailed WBS is created that is used as the basis for determining project tasks.	Corporate-level technical requirements are fully integrated in the scope baseline. The WBS is closely aligned with all project deliverables.	Quality assurance techniques are included as well as review of historical requirement definitions. Process is sustained and improved upon.
Baseline scope verification	Verification in the field, but limited documentation.	Verification against set of requirements, but not consistent across projects.	Documented baseline verification, following scope management plan.	Verification is integrated with schedule and cost tracking systems.	Largely automated and available for real-time analysis.
Scope change identification, analysis, and approval	Ill-defined scope does not allow for the identification of changes. No scope management plan.	Change identification is not systematic. Analysis and approval processes defined, but informal.	Formal process for identification, analysis and approval. Written scope management plan.	Changes identified and analyzed quantitatively. Approval with most stakeholders' involvement.	Proposed scope changes measure value in addition to cost and schedule impacts.
Scope change monitoring and control	Changes are communicated in an ad hoc manner. Updated scope not completely tracked and documented.	There are defined tracking parameters and a formal process used on large highly visible projects.	Detailed scope change control system, reporting, and analysis processes are defined and adhered to by all project teams.	The scope control system is integrated with corporate control systems, monitoring program, and risk management processes.	Changes are implemented and monitored for effectiveness. Lessons learned are documented and shared.

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Front end loading					
Sub-Process	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Schedule development	No activity definition, sequencing, or duration estimating process. Durations between milestones are usually rough guesses.	Basic guidelines exist which outline schedule development, but not always used. No detailed WBS or network diagram.	All projects have schedules that are detailed and resource loaded. Baseline schedules are developed.	Earned value management capabilities are developed for some projects. Schedule decisions are largely data driven.	Project as-built schedules are captured and maintained in a database to improve the process.
Schedule analysis	Schedule does not allow for analysis.	Schedule analysis is largely qualitative, no formal float or delay quantification process in place.	Schedule analysis performed at regular intervals. Standard CPM techniques used.	Schedule analysis based on simulation, resource levelling. Interdependencies regularly used in decision making.	Schedule analysis is contemporaneous with project decisions. Process is continuously improved.

Front end loading (cont'd)					
Sub-Process	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Schedule monitoring and control	Schedule control is left to each project team. Milestone changes are managed inconsistently and often are not monitored.	A formal process is developed including for schedule change control. Process is not consistently followed across projects.	A developed schedule change control and reporting process have been implemented on all projects. Cost and schedule systems are linked.	Schedule assessments are used to determine project efficiency. Earned value management in place at some projects.	Earned value trends monitored and corrective actions tracked on all projects. Historic performance trends stored in a project database.

Procurement strategy					
Sub-Process	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Project delivery and contract strategy	There is no formal procurement planning process. Basic requirements only.	The project manager plans high level contract strategy and how scope is bought.	A formal plan is prepared, including a full buyout log with a schedule and proposed contract strategies.	The procurement plan is coordinated with other projects and corporate buying activities for potential benefits.	Alternative project delivery models are evaluated on a periodic basis for improvement opportunities.
Bid and award	There is no standard for pre-qualifying vendors, requesting proposals, or evaluating bids.	Corporate procurement policy drives solicitation and award with little project team input.	Project-based bid evaluation and award processes are documented and followed.	Processes are part of formal procurement plan, integrated with corporate policy.	Project requisition and contract award are functions of the enterprise purchasing system.
Supply chain integration	Purchasing good s and services as needed.	Discounts negotiated on case-by-case basis.	Comprehensive list of preferred vendors maintained.	Long-term master agreements in place.	Strategic alliances considered.

Contract administration	Contracts are loosely managed with minimal reporting required in the contract.	Vendor's processes used for change management. Invoices reviewed by accounts payable department only.	Vendor and project change processes are integrated. Project team involved in invoice review and contract compliance.	Project vendors use standard templates to provide regular status updates. These templates are included as contract exhibits.	Contract management processes are continually evaluated and improved.
Contract closeout **[not assessed]**	Closeout is initiated after contract's end date with little to no data retention.	The closeout process follows the vendor's typical procedures.	Closeout process is driven by owner requirements and associated plan.	Closeout process is documented and integrated with other processes.	Closeout process provides continuous feedback to future procurement.

Cost management reporting

Sub-Process	Level 1	Level 2	Level 3	Level 4	Level 5
Cost estimating	Estimates are ad hoc and may miss some costs. Basis for estimate documentation is inadequate.	Cost estimates tied to a simple WBS. Cost estimating template used and basis of estimates documented.	Formal estimating standard and a cost management plan. Historical database and alternatives analyses used.	Integrated with finance and accounting systems. Discipline-specific cost standards developed.	Lessons learned are used to improve the estimate quality. Historical database maintained in corporate systems.
Cost budgeting	Processes are not standardized and not all projects may baseline costs.	Baselining on all large projects. Process is formal, but not implemented consistently.	All projects develop cost baselines at the lowest reasonable level per formal standards.	Fully integrated with project scheduling, corporate finance, and strategic planning.	Cost baselines are continuously evaluated for improvement on future projects.
Cost forecasting	Basic forecasting performed once budget is exceeded.	Cost forecasting on large projects upon manager's request.	Forecast performed and documented at regular intervals.	Forecast integrated with a quantitative risk assessment.	Forecast and related assumptions can be updated in real time.
Cost monitoring and reporting	Individual teams apply their own approach. Cost reports are provided only if requested.	Periodic reports by projects team, not fully reconciled to accounting system.	Cost change control, cost reporting, and cost performance analysis is performed regularly.	Cost reports are integrated with schedule, technical status and activity reporting.	Cost assessments for management decisions and for continuous improvement.
Payment application review	Invoices reviewed only by company accounts payable.	Project team involvement on large contracts.	Thorough, but manual review per contract terms.	Audit-level contract compliance review and cost evaluation.	Statistical methods used for sampling and tracking trends.
Cash flow projections	Budget is not integrated with schedule.	Inferred from cost curves provided by vendors.	Projections developed from master schedule.	Detailed resource-loaded schedule provides projections.	Increasing accuracy through analysis of previous spend.

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Capacity of PPM to support project management needs					
Sub-Area	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Project – specific tools and systems	Standard performance metrics are developed and used to evaluate the performance of individual projects.	There are simple systems that the PM can utilize across the project such as a shared drive or a centralized reporting system. Custom tools used by each project manager.	There is a central project system that contains project information tools, processes, and procedures. Not all team members are taking full advantage of functionality.	Project systems and tools are standardized across projects and used by all project team members.	Earned value management systems are in place to evaluate project efficiency and effectiveness. Lessons learned are used to make project management system improvements.
Capital program support by corporate-wide systems	No support to project management from corporate systems.	Enterprise systems have some project management functionality, but used at the PMs discretion.	Enterprise systems offer standard reports that can be exported and further customized by project management.	Enterprise and project management systems are integrated and standardized reports can be produced at regular intervals.	Enterprise system offers real-time automated reporting for project management.

Project governance					
Area	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Project initiation and authorization	Projects are initiated informally with limited or no documentation of approval.	There is a defined process for creating project charters, scope statements, but the project scope definitions are broad and difficult to track against.	Work does not begin for any project without a written authorization, including clearly defined scope and objectives.	The project charter process is highly developed and repeatable. Scope, assumptions, and constraints are documented and monitored.	Data from previous projects are consistently utilized to refine scope, define requirements and improve upon project management processes.
Progress monitoring	The project manager provides informal updates to management.	Consistent use of industry metrics to measure progress, but no formalized process.	Standard metrics are developed and used to evaluate the performance of individual projects.	Tracking and reporting at regular intervals against a detailed baseline across all projects.	Project progress tracked and updates available in real time. All projects report earned value.
Oversight organization	No oversight requirements on project delivery.	Executive committees briefed on large projects.	Program level oversight organizational structure.	Oversight structure is fully integrated with any and all capital spend.	Oversight structure is part of a project-based company organization.
Approval processes	No project approval hierarchy.	Large projects follow corporate approvals.	Approval authority is consistent across capital program.	Integrated project and operations approvals.	Continuously evaluated against oversight processes.
Decision – making	Decisions are made as issues arise and no formal process in place	Decision-Making process is defined but not supported by analysis tools.	Decision-Making process defined and supported by quantitative analysis.	Formal process in place for Decision-Making with evaluation criteria and methods for evaluation.	Process is managed and linked with progress monitoring to allow foresight.

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BC Hydro
Power smart

Site C Clean Energy Project

Annual Progress Report No. 1

Appendix C

Technical Advisory Board Meeting No. 15 Report

Site C Clean Energy Project

Technical Advisory Board Meeting No. 15

Report

(April 25 – 29, 2016)

April 2016

Table of Contents

List of Attachments

1. Introduction

The 15th meeting of the Technical Advisory Board (the Board) was convened in Vancouver between April 25 – 29, 2016. Since the last meeting of the Board, Mr. Karl Rytters has resigned and Dr. Peter Mason has joined the Board. The past members of the Board wish to express their appreciation to Mr. Rytters for his numerous contributions to the project and they wish to welcome Dr. Mason, particularly since he already has had a long association with the Site C Project.

The primary objectives of this meeting were to update the Board on the status of the project since it has entered the Implementation Phase with the issue of the Main Civil Works (MCW) contract. In addition, technical evaluation of some residual issues, as well as new considerations arising from design submissions from the MCW Contractor were required. The agenda for the meeting is included as Attachment A.

Two questions were put to the Board:

1. Are there any aspects of project construction that the Board would like to bring to the attention of BC Hydro as construction begins on the Main Civil Works?

2. Does the Board have any comment on the design of the Generating Station and Spillways?

Responses to Question 1 are embedded throughout the body of this report while Response to Question 2 can be found explicitly in Section 11, below.

2. Project Update

The Board received for information a brief summary of the status of the project and was presented with the organizational structures associated with Operations, the Owner's Representatives, Engineering Design and Construction Management.

The Board expressed some concern about the apparent complexity of Quality Control (QC) and Quality Assurance (QA) functions and was pleased to inspect the Project Quality Plan that clarified roles and responsibilities.

In the experience of the Board, it is of value to have a direct report for QA to the VP, Project Director, as well as that currently indicated to the Project Manager and Director of Operations. This is particularly helpful when conflicts develop between compliance with QA on one hand and potential conflicts with Budget and Schedule, on the other.

3. Tracking Log

The Board received a status report on the Tracking Log. It is all in order. There are a few items carried over from the Definition Design Stage that require resolution. The format of the Tracking Log is being carried forward into the Implementation Stage.

The Board recommends that the Log be modified to indicate accountability to resolve issues identified and a projected completion date.

4. Site Visit

The Board, together with several Project staff, flew from Vancouver to Ft. St. John and visited the site during the day of April 26th. Following a construction activity overview in the field offices a trip was made to the North Bank. This area facilitated viewing of several areas such as: the Worker Accommodation (Camp) area, the Left Bank Stabilization Excavation, the North Bank Road, the L3 Backfilling, River Road and the recently completed Peace River Construction Bridge. Upon crossing the river, the South Bank Initial Access Road was used to get to the Adit 5 area. A “Brown Bag” lunch was held near the Adit 5 portal followed by a visit into the adit to observe the character of the rocks and weathering profiles subjected to long term deterioration.

Following the Adit 5 visit the group proceeded to the South Bank Plateau along Septimus Road and up to the rail siding area. With the recent Project and borrow area clearing, it provided an excellent overview of the entire Project Area. The group then proceeded back through the Project Area and to the field offices for final discussions.

It was evident throughout the day that this project is expansive and just the earthworks alone are a tremendous undertaking. There were several Early Works Contractors working on site developing roads, bridges and building offices and work facilities. The Main Civil Works Contractor is in the process of receiving earthmoving equipment, setting up facilities and developing equipment yards and offices.

The Board was impressed with the amount of work accomplished and the present activity. It did not identify any areas for concern. Within a few weeks, with the completion of the camp facilities and equipment available, the Civil Works Contractor should be in full operation along the Left Bank as well as other areas of the site.

The site visit ended with dinner in Ft. St. John and returning to Vancouver by 9 PM.

5. Project Schedule

There are several Early Works Contracts underway preparing the site for the Major Civil Works. The North (Left) Bank Site preparations entail: 1) Clearing, 2) Left Bank stabilization, and excavation and hauling to Area L3, 3) Temporary worker camp, 4)

Subgrade construction along the North Bank Road and River Road, 5) Completion of the Temporary Peace River Bridge and 6) paving along 269 Road. The South (Right) Bank preparations entail: 1) Clearing, 2) Granular aggregate production for roads, and 3) Upgrades to various access roads.

At present the project is approximately one month late. It is not unusual to have difficulty getting started, especially with a new site (Greenfield Site), where the entire infrastructure has to be established in order to begin work. In addition, there are regulatory and environmental restraints and requirements to be followed and procedures to be written and approved before construction can start. Thus, it is most important at this time to get all environmental requirements and submittals developed in time and on schedule in order to start and maintain the Major Civil Works schedule.

6. Main Civil Works (MCW)

6.1 Overview

The Board received for information a summary of the major components embraced by the MCW contract. The structure of Liquidated Damages and Early Completion Bonuses was described. The evolution of the procurement process for the MCW contract was presented and the scope of work assigned to the members of the Peace River Hydro Partners (PRHP) joint venture and their subcontractors was outlined.

Arising from a discussion on schedule, the Board was advised that early instrumentation of the right bank tunnel will not proceed as planned and the Contractor has put forward an alternative to get performance data after tunneling begins. This is discussed in more detail in Section 7.2 below. In this case, the Board would agree with the view that the schedule requirements dominate, since the design already accommodates worst anticipated rock conditions. Increased uncertainty associated with reduced data on rock behaviour will simply affect the confidence in deciding to eliminate certain joints in the RCC buttress intended to accommodate movements.

6.2 Independent Engineer

The Board welcomed a presentation from the Independent Engineer (IE) on his role as well as the role of the Independent Environmental Monitor (IEM). The schedule of the proposed works is much influenced by the timely submission to obtain Leaves to Commence Construction (LCC). This process is not uncommon, but the complexity of the project will require a dedicated effort to obtain the LCC's and associated Leave to Construct (LTC) in an efficient manner. It is fortunate that the IE has an intimate understanding of the project.

However, the expansion of environmental monitoring and empowerment through the IEM adds a new dimension of monitoring for the project, not so much in environmental

monitoring, itself, but in degrees of scrutiny, high expectations and transparency. As will be discussed later in this report, compliance consistent with public expectation will have to be at the highest level. Potential threats to the project may arise from less than meticulous compliance.

6.3 Construction Plan

The construction scope for 2016/2017 was outlined. Procurement needs have been identified. Careful attention is being paid to interfaces. The Board received example field inspection guides and found them generally comprehensive. The Board anticipates that they will be living documents, subject to periodic revision after various field trials and experience. The organization of the Quality Management System was presented and the Board looks forward to inspecting specific deliverables at its next site visit.

7. Site Performance and Monitoring

7.1 Left Bank Update

As part of the Early Works contract, a portion of the Left Bank excavation was undertaken. No significant deformation was detected and the sequence of strata uncovered was in accordance with expectations.

The design anticipated displacement along BP25 during the Left Bank excavation. This was a consideration in tunnel liner design. So far, none has been detected. However, considerably more excavation is still to be completed. Monitoring will continue, but it is possible that the displacement in the designs are over-predicted.

7.2 Right Bank Movements

The response of the rock in the right bank to the excavation has a high degree of uncertainty. This has been accommodated in the design of the RCC buttress but monitoring during excavation will reduce this uncertainty. The design anticipated to start monitoring bedrock deformation behaviour prior to the initial excavations in the Approach Channel. This would be undertaken by early construction of the Right Bank Drainage Tunnel. This does not appear to be likely and alternative monitoring starting at a somewhat later time has been proposed by the Contractor. The details are under review.

The Board agrees that a revised plan will likely have to be accepted provided the alternative instrumentation configuration is judged to function in a reliable manner.

7.3 Timber Shear Stability Review

The Timber Shear is a shear zone that will outcrop in the face of the right bank excavation. It's geometrical and geomechanical characteristics have been summarized in detail. Its characteristics are such that significant instability appears unlikely.

A monitoring plan has been put forward and, if found troublesome, mitigation measures based on drainage and/or anchors have been formulated. From a kinematic perspective, the attitude of the structure is favourable.

7.4 Instrumentation

The Project presented:

- Recent records taken at existing instrumentation
- Plans for future instrumentation of foundations and structures.

Currently, interest focusses on the left abutment instrument data because unloading of the upper slope has started and about 1.7 million m^3 have been removed. Historically, very slow creep was observed near the toe of the slope, at a rate of less than 0.5 mm/year. Reduction of normal stresses, resulting from unloading, would conceivably affect the displacements on BP 25. Recent data appear to indicate a reversal of the movements in the lower slope but a clear trend is not seen. Slope indicators in the upper ranges of the slope do not show lateral displacement but there are indications of settlements near the base of the soil deposits. Multi-port piezometers and Westbay instruments picked up piezometric total heads of less than El. 450 m, with a pronounced downward gradient. The recent excavation shows perched water at higher elevations.

No movements are reported from the right abutment.

The Project advised on the instrumentation to be installed at the cofferdams, the RCC buttress, the tunnel portals and the main dam. The instrumentation is well conceived and properly arranged. The Board appreciates the provision of assignment of an instrumentation engineer and supervisor, to take charge of the installation, being financed by a provisional sum. Preferably, these specialists should be representatives from the manufacturer of the instruments to ensure their correct installation and functioning.

The instrumentation has multiple purposes

1. Verification of design assumptions

2. Monitoring of the performance of slopes, foundations and structures during construction

3. Sustained performance and safety monitoring of the dam and its appurtenant structures.

With respect to the first item, the instrumentation to be installed from the drainage gallery in the right abutment was of particular interest, for instance in the incorporation of joints in the RCC buttress. With the presently imposed time schedule for the gallery, the MCW contractor has proposed alternative instruments to be installed from the ground surface. The Board agrees with this alternative, provided the adequate instruments can be provided and installed in time adjusted to the modified schedule. As determined in a special study of the Project, the time interval in which useful data can be obtained is short and efforts must be made not to lose this opportunity.

On the left bank, the displacements on BP25 are of particular interest because of the potential consequences for the lining of the diversion tunnels. The Project updated the analysis of the situation in this place, giving the conceivable range of deformations which may develop.

The Board has the following additional comments on the instrumentation:

- Installation of piezometers under the RESMs in the valley floor to obtain early information on the response of the shale to the added loads is beneficial.
- Continuous monitoring of seepage flow underpassing the cofferdams. Increase of seepage flows (and sediments carried with the flow) will give an early warning of developing problems in the dams and their foundation is useful.
- Software required for reading and reducing instrument data should be supplied by the manufacturer of the instruments.
- The Project should install a data base for storage, retrieval and presentation of the large volume of data that has to be collected. Advances in recent proprietary systems should be evaluated.
- Damage to instrumentation caused by electric loads is a notorious problem. The Project may investigate the possibility of mitigating this risk by use of fibre optics for data collection and transmission.

7.5 Reservoir Shoreline and Slopes

The Board was informed on the present status of instrumentation along the reservoir shoreline, updates on recently performed surveys and present plans for continuing works.

Existing instrumentation is quite comprehensive: 101 piezometers, 15 borehole inclinometers, 7 meteorological stations. Some additional borehole inclinometers are

planned for installation in the course of the current year and telemetry stations are being placed.

A LiDAR survey produced a large volume of information, confirming ongoing deformations of previously identified sections of reservoir slopes. The data do not permit quantitative evaluation. Another survey, to be run in the course of the year, is expected to improve the evaluation technique.

The Board appreciates the quality of the performed work and endorses the envisaged complements to the monitoring installation and the programmed field surveys.

The Board suggests the investigation of the potential of INSAR to assist in the shoreline monitoring, considering also the installation of specific reflectors.

8. Design Updates

8.1 Earthfill Dam

Crest Details - The Board was presented with a revision to the top of dam details during Board Meeting No. 14 which indicated a reduction of the core zone width from 8.0 m to 3.8 m. This was further clarified during this meeting as simply an extension of the core to El 467.9 m which reduced the top width to 3.8 m. The Board concurs with this change.

There were two small changes presented; 1) the inclusion of a fine granular Zone 3a in the U/S shell, U/S of Zone 2a which terminates at El 457.0 m; which is 3 m below Minimum Normal Reservoir Level, and 2) the addition of a coarse Granular Zone 3b to be provided as D/S slope erosion protection from the crest down to El. 440.0 m. The Board concurs with both of these changes.

Core Contact Zone – It is noted that the present core-rock contact material, designated 1b, has been increased to 600 mm in thickness. The Board concurs with this change.

Frost Susceptibility Design – The present design incorporates the following features; 1) a minimum granular cover of 1.5 m, 2) draining of the core surface by shaping and 3) a Zone 1c, which is a coarse impervious fill with 15 to 20% fines, in the top 2.0 m of the core. The Board concurs with these changes and details.

8.2 RCC Buttress

The Main Civil Works Contractor met all technical requirements for the RCC Buttress construction and there were no alternate proposals by any of the proposers. The present schedule is to construct the Powerhouse Buttress, downstream portion of the spillway stilling basin and service bay RCC pad in 2017; to construct the Spillway and transition buttresses in 2018 and the Dam and Core Buttress in 2019.

There are no design changes in the Spillway, Dam or Core Buttresses. There are only minor changes in the Powerhouse Buttress that are now in progress that will not affect the design or construction. It appears that the contractor will not have the Right Abutment drainage tunnel in time to establish the instruments that were to measure the foundation rock displacements beneath the RCC Buttresses due to the Approach Channel excavations. The only present concern is that the proposed construction and gap joints designed in the various RCC Buttress sections may therefore require installation given the absence of movement information from the proposed tunnel instrumentation.

8.3 RCC Trial Mixes

There have been no RCC Mix submittals received from the Contractor, only sources of cement and flyash submittals have been received. No submittals for the RCC trial placements have been received. This no-response on the trial mixes could become a problem since the trial mixes are necessary to confirm the RCC to be used and they take time since the 365 day strength is normally required to confirm the final mix. This requires urgent attention.

9. MCW Contractor Design Updates

9.1 Cofferdams

The Main Civil Works Contractor has in general terms adopted the conceptual design for the cofferdams, as developed by the Project. The Stage 2 cofferdams are to be provided with a slurry trench excavated through the overburden into sound shale. The subcontractor for construction of the diaphragm wall remains to be determined.

The MCW contractor has submitted method statements and design reports for review and approval. The Contractor plans or contemplates certain adjustments to the conceptual design:

- Crest width 16 m instead of 10 m to accommodate traffic
- Sheet piles for construction of the tailrace wall
- Local diaphragm of interlocking steel piles
- For Stage 2 cofferdam vertical instead of sloping central core and elimination of the upstream blanket.

Elimination of the blanket will increase the hydraulic gradient at the toe of the diaphragm. In compensation it may be required to deepen the diaphragm in order to prevent hydraulic overloading and erosion at the toe of the cofferdam.

Concerning the core, to the understanding of the Board, the respective material has not yet been definitely selected. The design of the dam will have to consider the properties of

this material. The Board points out that the need for providing filters will also have to be evaluated in this context. In addition, the Board recommends that the vertical core also have a transition zone in the upstream direction to minimize extensive straining.

9.2 RSEMS

As the Board understands, the leaching tests in barrels and waste piles have been completed. Final results were not available for review in the course of the meeting. It is of particular interest to determine the proportions of hazardous components – if any – in the leachate. As mentioned in earlier reports, the Board recommends collecting the leachate. A corresponding methodology and design are to be developed. If the presence of hazardous components should result and cannot be managed locally, the collected leachate can be removed and treated elsewhere in order to facilitate permitting.

10. Debris Management

The Board received comprehensive presentations on studies underway by the Project on debris handling during construction (diversion and impounding) and also for the completed project. This is being done in conjunction with characterization of the catchment which feeds into a comprehensive Catchment Management Plan. The Board was impressed by the thoroughness with which this work is being undertaken and which includes; LIDAR monitoring for change detection, the identification and monitoring of unstable areas and the characterization of debris.

No debris clearance has started to date. However the Project is aware that this issue will become more important once flows start to pass through the diversion tunnels with the risk of intake blockage by overlong timber. An especially crucial stage will be during impoundment up to a reservoir level of El +440 m when flows will be passing through just one tunnel, converted to include internal orifices. The Project has correctly identified the inability to shut the intake closure gate when the time comes as the key and unacceptable risk. This could occur if neutrally buoyant timbers are carried in and jam the gate area.

- The Board concurs with the decision not to adopt coarse screening at the intake lest it traps timber which could then affect the gate area. The Board also notes the concern about the risk of upstream debris piers collapsing and releasing “slugs” of debris.
- The Board concurs with the provision of the proposed debris trap upstream of the tunnel intake however it doubts that it would be effective against neutrally buoyant material, especially if the trap partially fills with sands and gravels. The Board therefore recommends the Project consider the possible use of low (say 2m high) anchored posts or similar barrier elements with, say 4m gaps placed immediately downstream of the debris trap.

- The Board fully supports the proposed change to the RFP for reservoir clearance to require zero debris more than 5.0m in length (as much as reasonably practical) below El. +440 m.
- The Board recommends that the Project considers the provision of sonar monitoring of the intake and also the area just upstream, to give assurance, when the time comes, that there is no impediment to successful gate closure.
- Lastly the Board recommends that debris clearance is not delayed until the last minute to ensure there is sufficient time for any proposed debris clearance or management practices to be properly implemented.

The proposals for permanent shear and debris entrapment booms were presented and the Board was content that these aspects also are being properly researched and developed by the Project.

11. Generating Station and Spillways

Presentations were received by the Board on the developing designs of the Generating Station and Spillways (GSS). These aspects have been the subject of overview by specially constituted “Independent Senior Review” groups dealing with such aspects as; design, constructability, equipment layouts and operations. The currently proposed arrangements have clearly benefited from this scrutiny. For example it proved necessary to slightly raise the upstream deck to better accommodate equipment at the spillway. The Project outlined a number of other areas which have benefited from these detailed reviews.

It was noted that the civil works drawings for the GSS are currently approximately 80% complete. This is being followed by associated drawings for hydro and electro-mechanical equipment.

The final layouts for both the Generating Station and Spillways are being developed using REVIT, Building Information Modelling (BIM) software system. This will later incorporate inputs from all other equipment suppliers and so be valuable in highlighting and avoiding potential interferences. This will be especially useful in the development of later contracts when it comes to specifying available space allowances for balance-of-plant equipment and electro and hydro-mechanical (e.g., gate) equipment. These contracts are being developed and it was noted that the spillway gates will require some additional hydraulic model tests to be carried out by the gate manufacturer.

The low level gates have now been confirmed as vertical lift gates. This decision was reached after widespread consultation and advice from a number of engineering companies and operators. The Board concurs with this decision.

Similar consultation has resulted in wire ropes being adopted for operating the radial crest gates. The Board notes that one operating condition for these gates, and on which the design of the main stilling basin was largely developed, would be prolonged discharge by all gates operating at quite low gate openings. Gates can be prone to excitation and oscillation under such small openings and the Board recommends that re-checks be made to ensure the Project is satisfied that wire ropes would still be the most appropriate option given these requirements.

12. Additional Matters

12.1 Induced Seismicity Update

At its last meeting, the Board made some recommendations to advance the Project's assessment as to whether the current precautions against fracking-induced seismicity are sufficient for Site C. The area sterilized has been based primarily on judgement. Recent technical developments in both BC and Alberta indicate that there is merit in supporting these judgements by calculations based on current knowledge, particularly since earthquake magnitudes of around 4.5, attributed to hydro-fracking, have been generated in both BC and Alberta.

To this end, the Board recommends that Dr. Gail Atkinson be asked to provide BC Hydro with ground motions reflective of a magnitude range of 4.5 – 5.0 and scaled to different distances from the dam. This would allow BC Hydro to calculate, using simple Newmark type calculations, the potential slip of the concrete structures at Site C along weak bedding planes and thereby assess potential cracking of the structures.

12.2 Discussion on Threats to the Project

The successful construction of the Site C Project will involve a number of organisational challenges which if not handled well and comprehensively could pose threats to the project. The Board was satisfied that these had been identified by the Project but are listed below with relevant comments and suggestions:

The Water Licenses require the Project to retain an Independent Environmental Monitor (IEM) during the construction and commissioning phases of the works. Furthermore it is noted that the IEM has delegated Stop-Work Order authority if the IEM is not satisfied that environmental requirements are being met. The Project is adopting a pro-active approach to deal with this matter which the Board fully supports. The Board considers the biggest challenge will come from ensuring that all operational staff on the project and at all levels are sufficiently instilled with the culture needed to maintain consistent compliance. To assist with developing this, the Board would recommend that the Project considers the use of a facilitator to lead regular high level coordination meetings with all parties on the project and dedicated to ensuring this is understood and maintained at the

highest level by each site Contractor. Each Contractor would then be responsible for roll-down within their organisations.

The Board is also sensitive to the need for extensive "Leaves to Commence Construction" to be issued by the Independent Engineer ahead of construction milestones as the work proceeds. The Board notes that the Project is aware of the documentation schedule needed to support that activity. The Board recommends that the Project considers appointing a dedicated person to coordinate and supply all the necessary documentation to the Independent Engineer in a timely manner as the work progresses.

The Board is pleased to note that the Project appreciates the complexity of interfaces between the multi-faceted contracts on a project as large as Site C.

12.3 The Future Role of the Board

The role of the Board is outlined in the "*Site C (Project) Reporting and Accountability Framework*". In the short term the Board interprets this as:

- Confirming that site conditions are as expected as construction proceeds
- Assessing the effects of foundation conditions as construction proceeds
- Reviewing project milestones and advising as required as these are being reached

To accomplish the Board's short term objectives, the Board meeting schedules should be developed according to project milestones.

In addition to this, the Board will be available for advising on any emerging aspects arising from site-driven and/or contractor-driven changes that may arise, including the GSS works. For example it is noted that further hydraulic model testing is envisaged as part of developing the final designs of the spillway gates.

13. Summary of Recommendations

1. In the experience of the Board, it is of value to have a direct report for QA to the VP, Project Director, as well as that currently indicated to the Project Manager and Director of Operations. This is particularly helpful when conflicts develop between compliance with QA on one hand and potential conflicts with Budget and Schedule, on the other (Section 2).

2. The Board recommends that the Log be modified to indicate accountability to resolve issues identified and a projected completion date (Section 3).

3. It is most important at this time to get all environmental requirements and submittals developed in time and on schedule in order to start and maintain the Major Civil Works schedule (Section 5).

4. The complexity of the project will require a dedicated effort to obtain the LCC's and associated Leave to Construct (LTC) in an efficient manner (Section 6.2).

5. Compliance consistent with public expectation will have to be at the highest level. Potential threats to the project may arise from less than meticulous compliance (Section 6.2).

6. The Board anticipates that they will be living documents, subject to periodic revision after various field trials and experience. The organization of the Quality Management System was presented and the Board looks forward to inspecting specific deliverables at its next site visit (Section 6.3).

7. The Board agrees that a revised plan will likely have to be accepted provided the alternative instrumentation configuration is judged to function in a reliable manner (Section 7.2).

8. Preferably, these specialists should be representatives from the manufacturer of the instruments to ensure their correct installation and functioning (Section 7.4).

9. The Board has the following additional comments on the instrumentation:
    - Installation of piezometers under the RESMs in the valley floor to obtain early information on the response of the shale to the added loads is beneficial.
    - Continuous monitoring of seepage flow underpassing the cofferdams. Increase of seepage flows (and sediments carried with the flow) will give an early warning of developing problems in the dams and their foundation is useful.
    - Software required for reading and reducing instrument data should be supplied by the manufacturer of the instruments.
    - The Project should install a data base for storage, retrieval and presentation of the large volume of data that has to be collected. Advances in recent proprietary systems should be evaluated.
    - Damage to instrumentation caused by electric loads is a notorious problem. The Project may investigate the possibility of mitigating this risk by use of fibre optics for data collection and transmission. (Section 7.4.)

10. The Board suggests the investigation of the potential of INSAR to assist in the shoreline monitoring, considering also the installation of specific reflectors (Section 7.5).

11. This no-response on the trial mixes could become a problem since the trial mixes are necessary to confirm the RCC to be used and they take time since the 365 day strength is normally required to confirm the final mix. This requires urgent attention (Section 8.3).

12. The Board points out that the need for providing filters will also have to be evaluated in this context. In addition, the Board recommends that the vertical core also have a transition zone in the upstream direction to minimize extensive straining (Section 9.1).

13. As mentioned in earlier reports, the Board recommends collecting the leachate. A corresponding methodology and design are to be developed. If the presence of hazardous components should result and cannot be managed locally, the collected leachate can be removed and treated elsewhere in order to facilitate permitting (Section 9.2).

14. The Board recommends the Project consider the possible use of low (say 2m high) anchored posts or similar barrier elements with, say 4m gaps placed immediately downstream of the debris trap (Section 10).

15. The Board recommends that the Project considers the provision of sonar monitoring of the intake and also the area just upstream, to give assurance, when the time comes, that there is no impediment to successful gate closure (Section 10).

16. The Board recommends that debris clearance is not delayed until the last minute to ensure there is sufficient time for any proposed debris clearance or management practices to be properly implemented (Section 10).

17. Gates can be prone to excitation and oscillation under such small openings and the Board recommends that re-checks be made to ensure they are satisfied that wire ropes would still be the most appropriate option given these requirements (Section 11).

18. The Board recommends that Dr. Gail Atkinson be asked to provide BC Hydro with ground motions reflective of a magnitude range of 4.5 – 5.0 and scaled to different distances from the dam. This would allow BC Hydro to calculate, using simple Newmark type calculations, the potential slip of the concrete structures at Site C along weak bedding planes and thereby assess potential cracking of the structures (Section 12.1).

19. To assist with developing this, the Board would recommend that the Project considers the use of a facilitator to lead regular high level coordination meetings with all parties on the project and dedicated to ensuring this is understood and maintained at the highest level by each site Contractor. Each Contractor would then be responsible for roll-down within their organisations (Section 12.2).

20. The Board recommends that the Project considers appointing a dedicated person to coordinate and supply all the necessary documentation to the Independent Engineer in a timely manner as the work progresses (Section 12.2).

21. To accomplish the Board's short term objectives, the Board meeting schedules should be developed according to project milestones (Section 12.3).

Respectfully submitted,

Dr. Norbert R. Morgenstern

Dr. Wynfrith Riemer

Mr. Joseph L. Ehasz, P.E.

Dr. Peter J. Mason

Attachment A – Meeting Agenda

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Site C Clean Energy Project
Technical Advisory Board Meeting No. 15
April 2016

Location: Vancouver, BC

Detailed Agenda
Part 1 – Project Update and Main Civil Works

Day 1 (Monday, April 25, 2016) Meeting Room #2, 600 – 1055 Dunsmuir St., Vancouver, BC

Time	Title
08:30 to 08:35	Safety Moment
08:35 to 09:00	Introduction and Project Update
09:00 to 09:15	Update on TAB Tracking Log
09:15 to 09:35	Overview of Project Schedule and Site Preparations

09:35 to 10:15	Main Civil Works
	• Scope Review
	• MCW Bid Evaluation and Award
	• Construction schedule
	  ○ Milestones, Incentives and Liquidated Damages
	  ○ Diversion
	  ○ RCC
	• Independent Engineer and Leaves to Commence Construction

10:15 to 10:30	Break
10:30 to 12:00	Main Civil Works • 2016/2017 Construction Scope • Interfaces • Construction Supervision and Management • Field Engineer Guides • Quality Management During Construction • Instrumentation data collection and interpretation
12:00 to 12:45	Lunch
12:45 to 13:40	Review of excavation modelling during construction • Left Bank Excavations ○ Initial movement data • Right Bank Excavation
13:40 to 14:00	Timber Shear Analysis
14:00 to 14:30	Update on Instrumentation
14:30 to 14:45	Break
14:45 to 16:00	Technical Discussions
16:00 to 16:30	Reservoir Shorelines

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Site C Clean Energy Project
Technical Advisory Board Meeting No. 15
April 2016

Location: Vancouver, BC

Detailed Agenda

Part 2 – Field Visit

Site C Construction Site near Fort St John, BC

Time	Title
06:45	Arrive at YVR (Vancouver Airport)
08:00 to 09:39	Air Canada Flight AC8181 from YVR to YXJ
09:39 to 10:15	Travel from FSJ Airport to Site Office
10:15 to 10:30	Coffee/Bathroom Break at Site Office
10:45 to 11:15	Construction activity overview and tailboard
11:15 to 12:15	North Bank • Worker Accommodation • Left Bank Stabilization Excavation • North Bank Road • L3 Backfilling • River Road • North Bridge Approach
12:15 to 12:45	South Bank River Level • Temporary Construction Bridge • South Bank Initial Access Road • RSEM R6/R5b
12:45 to 13:15	Lunch at South Bank Construction Trailer
13:15 to 14:30	South Bank Terrace • Adit 5 • 2016 Approach Channel Excavation • 2016 Power Buttress Excavation
14:30 to 15:30	South Bank Plateau • Septimus Road • Septimus Rail Siding
15:30 to 16:00	Travel to North Bank Construction Office
16:00 to 16:30	Travel to Fort St. John for Dinner
16:30 to 17:45	Dinner
17:45 to 18:15	Travel to Fort St. John Airport
19:05 to 20:50	West Jet Flight WS3203 from YXJ to YVR

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Site C Clean Energy Project
Technical Advisory Board Meeting No. 15
April 2016

Location: Vancouver, BC

Detailed Agenda

Day 3 (Wednesday April 27) Meeting Room #2, 600 – 1055 Dunsmuir St., Vancouver, BC

Time	Title
9:00 to 9:45	Design Updates: • Earthfill Dam • RCC mix design and trial placement
9:45 to 10:30	MCW Contractor Design Update • Contractor Cofferdam Designs • Contractor RSEM Areas Design
10:30 to 10:45	Break
10:45 to 11:30	Debris Management during Construction
11:30 to 12:00	Technical Discussions
12:00 to 12:45	Lunch
12:45 to 2:30	Generating Station and Spillways • Design and Procurement Schedule • Constructability Review and Independent Sr. Review • Spillways • Power Intakes • Powerhouse
14:30 to 14:45	Break
14:45 to 16:00	Technical Discussions
16:00 to 17:00	Discuss Role of Technical Advisory Board During Construction

Day 3 (Wednesday April 27) – The Keg

17:30 to 19:30	Board Dinner	The Keg - 688 Dunsmuir Street TAB Members

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Technical Advisory Board Meeting No. 15
April 2016

Location: Vancouver, BC

Detailed Agenda

Day 4 (Thursday April 28) Meeting Room #2, 600 – 1055 Dunsmuir St., Vancouver, BC

Time	Title	Attendees
09:00 to 11:45	Technical Discussions	TAB Members
11:45 to 12:30	Lunch	TAB Members
12:30 to 17:00	TAB prepare report	TAB Members

Day 5 (Friday April 29) Meeting Room #1, 600 – 1055 Dunsmuir St., Vancouver, BC

Time	Title	Attendees
09:00 to 11:00	Board Discussion and Report Preparation	TAB Members

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Site C Clean Energy Project

Annual Progress Report No. 1

Appendix D

Site C Clean Energy Project Environmental Management Plans and Reports

As a result of the Environmental Assessment Certificate and the Federal Decision Statement conditions, the Site C Clean Energy Project is required to submit a number of plans and reports to various agencies. These plans and reports are posted on the Site C Project website at **www.sitecproject.com** as they are issued. This appendix contains a list of all issued documents as at October 31, 2016.

Mitigation, Management and Monitoring Plans	
Aboriginal Plant Use Mitigation Plan	https://www.sitecproject.com/sites/default/files/Aboriginal_Plant_Use_Mitigation_Plan.pdf
Aboriginal Training and Inclusion Plan	https://www.sitecproject.com/sites/default/files/Aboriginal_Training_and_Inclusion_Plan.pdf
Accidents and Malfunctions Plan	https://www.sitecproject.com/sites/default/files/Accidents_and_Malfunctions_Plan.pdf
Agricultural Mitigation and Compensation Plan Framework	https://www.sitecproject.com/sites/default/files/SiteC-Agriculture-Mitigation-Compensation-Framework.pdf
Agricultural Monitoring and Follow-up Program	https://www.sitecproject.com/sites/default/files/Agricultural%20Monitoring%20and%20Follow-up%20Program.pdf
Business Participation Plan	https://www.sitecproject.com/sites/default/files/BPP-20150605.pdf
Construction Environmental Management Plan	https://www.sitecproject.com/sites/default/files/construction-environmental-management-plan-aug-2.pdf
Construction Environmental Management Plan Appendices - Part 1	https://www.sitecproject.com/sites/default/files/CEMP-Appendices-1-20160726.pdf
Construction Environmental Management Plan Appendices - Part 2	https://www.sitecproject.com/sites/default/files/CEMP-Appendices-2-20160708.pdf
Construction Safety Management Plan	https://www.sitecproject.com/sites/default/files/Construction%20Safety%20Management%20Plan.pdf
Cultural Resources Mitigation Plan	https://www.sitecproject.com/sites/default/files/Cultural_Resources_Mitigation_Plan.pdf
Del Rio Pit Development Plan	https://www.sitecproject.com/sites/default/files/Del%20Rio%20Pit%20Development%20Plan.pdf
Emergency Services Plan	https://www.sitecproject.com/sites/default/files/Emergency_Services_Plan.pdf
Fisheries and Aquatic Habitat Management Plan	https://www.sitecproject.com/sites/default/files/Fisheries_and_Aquatic_Habitat_Management_Plan.pdf

Mitigation, Management and Monitoring Plans	
Fisheries and Aquatic Habitat Monitoring and Follow-up Program	https://www.sitecproject.com/sites/default/files/Fisheries%20and%20Aquatic%20Habitat%20Monitoring%20and%20Follow-up%20Program.pdf
Health Care Services Plan	https://www.sitecproject.com/sites/default/files/Health_Care_Services_Plan.pdf
Heritage Resources Management Plan	https://www.sitecproject.com/sites/default/files/Heritage_Resources_Management_Plan.pdf
Housing Plan and Housing Monitoring and Follow-up Program	https://www.sitecproject.com/sites/default/files/Housing_Plan_Housing_Mon_Prog.pdf
Labour and Training Plan	https://www.sitecproject.com/sites/default/files/Labour_and_Training_Plan.pdf
Outdoor Recreation Mitigation Plan Draft	https://www.sitecproject.com/sites/default/files/Outdoor%20Recreation%20Mitigation%20Plan_Draft.pdf
Recreation Program	https://www.sitecproject.com/sites/default/files/Recreation%20Program.pdf
Vegetation and Wildlife Mitigation and Monitoring Plan	https://www.sitecproject.com/sites/default/files/Veg_and_Wildlife_Mit_and_Mon_Plan.pdf
Vegetation Clearing and Debris Management Plan	https://www.sitecproject.com/sites/default/files/Veg_Clearing_and_Debris_Mgmt_Plan.pdf
West Pine Quarry Development Plan	https://www.sitecproject.com/sites/default/files/West_Pine_Quarry_Development_Plan.pdf
Wuthrich Quarry Development Plan	https://www.sitecproject.com/sites/default/files/Wuthrich_Quarry_Development_Plan.pdf

Site C Project Reports	
Aboriginal Group Communication Plan 2015-2016 Annual Report	https://www.sitecproject.com/sites/default/files/Report-annual-Aboriginal-Group-Communication-Plan-2015-2016-20160705.pdf
Aboriginal Plant Use Mitigation Plan 2015-2016 Annual Report	https://www.sitecproject.com/sites/default/files/Report-annual-Aboriginal-Plant-Use-Mitigation-Plan-2015-2016-20160705.pdf

Site C Project Reports	
Aboriginal Training and Inclusion Plan 2015-2016 Annual Report	https://www.sitecproject.com/sites/default/files/Report-annual-Aboriginal-Training-Inclusion-Plan-2015-2016-20160705.pdf
Agricultural Monitoring and Follow-up Program 2016 Annual Report	https://www.sitecproject.com/sites/default/files/Annual-Update-Accidents-and-Malfunctions-Plan-2015.pdf
Air Quality Management Plan 2015 Annual Report	https://www.sitecproject.com/sites/default/files/Appendix-A-RWDI-Site-C-Climate-and-Air-Quality-Monitoring-Annual-Report-2015.pdf
Business Participation Plan 2015-2016 Annual Report	https://www.sitecproject.com/sites/default/files/business-participation-plan-annual-report-july-29-2016.pdf
Construction Communications 2015-2016 Annual Report	https://www.sitecproject.com/sites/default/files/Site-C-Construction-Communications-Annual-Report-2016.pdf
Cultural Resources Mitigation Plan 2015 Annual Report	https://www.sitecproject.com/sites/default/files/Report-annual-Cultural-Resources-Mitigation-Plan-2015-2016-20160705.pdf
Fisheries and Aquatic Habitat Mgmt Plan 2015-2016 Annual Report	https://www.sitecproject.com/sites/default/files/Annual-Report-Fisheries-Aquatic-Habitait-Managment-Plan-2015-2016.pdf
Heritage Resources Management Plan 2015 Annual Report	https://www.sitecproject.com/sites/default/files/Report-annual-BCH-to-CEAA-Heritage-Rsrcs-Mgt-Plan-20160705.pdf
Vegetation and Wildlife Mitigation and Monitoring Plan 2015 Annual Report	https://www.sitecproject.com/sites/default/files/vegetation-and-wildlife-mitigation-and-monitoring-plan-annual-report-2015.pdf

Site C Project Reports	
Vegetation and Wildlife Mitigation and Monitoring Plan 2015 Annual Report Appendices Part 1	https://www.sitecproject.com/sites/default/files/vegetation-and-wildlife-mitigation-and-monitoring-plan-annual-report-2015-appendices-part-1.pdf
Vegetation and Wildlife Mitigation and Monitoring Plan 2015 Annual Report Appendices Part 2	https://www.sitecproject.com/sites/default/files/vegetation-and-wildlife-mitigation-and-monitoring-plan-annual-report-2015-appendices-part-2.pdf
Water Quality Management Plan 2015 Annual Report	https://www.sitecproject.com/sites/default/files/Annual-Update-Water-Quality-2015-FDS-Condtion-7-5_0.pdf

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Site C Clean Energy Project

Annual Progress Report No. 1

Appendix E

Annual Compliance Report

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Site C Clean Energy Project
Environmental Assessment Certificate #14-02
Annual Compliance Report

March 31, 2016

Site C Clean Energy Project
Status of Compliance with the Conditions of the EAC #14-02
March 31, 2016

This report has been prepared to fulfill the Compliance Reporting requirement of the Site C Clean Energy Project's Environmental Assessment Certificate #E14-02 (October 2014), which states:

"The Holder must submit a report to EAO Compliance and Enforcement staff on the status of compliance with the Conditions of this Certificate, and the conditions in Schedule B, at the following times:

a. at least 30 days before the start of construction; and
b. on or before March 31 in each year during construction and operation phases of the Project."

This report has been prepared to meet the requirements of (b). It includes Table 1 which specifies the current status of compliance with each of the conditions of the EAC and conditions described in Schedule B of the EAC.

The Project would be a third dam and generating station on the Peace River that would provide up to 1,100 megawatts (MW) of capacity and about 5,100 gigawatt hours (GWh) of energy each year to the province's integrated electricity system. The Project is as described in the Site C Clean Energy Project Environmental Assessment Certificate (#E14-02), Schedule A.

Construction of the Site C Clean Energy Project has been underway for approximately eight months, since July 2015. During this period, construction crews have been busy undertaking site preparation activities, including: clearing trees and vegetation at the dam site, upgrading public roads, building access roads at the dam site, constructing a 1,600-person worker accommodation facility, excavation and slope stabilization, and work on a temporary construction bridge across the Peace River. The dam site is currently being prepared for the commencement of the main civil works (i.e., building of the dam).

Table 1. Status of Compliance with the Conditions of the EAC #14-02

March 31, 2016

No	Condition	Timing	Status
	AQUATIC ENVIRONMENT		
	Hydrology		
1	The EAC Holder must address potential risks to infrastructure downstream of the Site C dam as far as Peace River, Alberta caused by low flows, caused by the Project, during reservoir filling and operation by implementing the following measures: • The Holder must maintain a minimum release of 390 cubic metres per second from the Site C dam • The Holder must estimate downstream flows at minimum, average and maximum rates of reservoir filling in order to identify the approach that would minimize impacts on downstream flows and water level conditions. • The Holder must work with the Government of Alberta to jointly develop an Adaptive Management Plan to manage potential risks to infrastructure downstream of the Site C dam to the Town of Peace River, Alberta caused by low water flows during reservoir filling and operation of the Project. For the purposes of the Plan infrastructure must include water intakes, ferry crossings and any other activities identified by the Proponent and the Government of Alberta. The Plan must include at least the following: ○ Provisions for assessing potential risks to infrastructure caused by low water flows as a result of the Project; ○ Provisions for obtaining baseline and operational flow information; ○ Provisions for obtaining information on any current impacts to infrastructure attributable to low water flows caused by the Project; ○ Identification of any impacts to infrastructure attributable to low water flows caused by the Project; and ○ Mitigation measures such as additional flow regulation, adjustment to Alberta infrastructure and notifying the Government of Alberta of prolonged low water flow conditions, necessary to avoid or minimize impacts attributable to low water flows caused by the Project. The EAC Holder must submit the plan to EAO a minimum of 30 days prior to reservoir filling. The EAC Holder must implement the Plan and report on the results annually to EAO commencing from reservoir filling to the end of year 5 of operations.	Construction Operations	BC Hydro understands and acknowledges this condition. BC Hydro will work with the Government of Alberta to jointly develop an Adaptive Management Plan, and will submit this Plan to EAO a minimum of 30 days prior to reservoir filling. Reservoir filling will commence in 2022.

No	Condition	Timing	Status
	Fluvial Geomorphology and Sediment Transport		
2	The EAC Holder must manage adverse Project effects on water quality by managing erosion and sediment transport, as detailed in an Erosion Prevention and Sediment Control Plan. The Erosion Prevention and Sediment Control Plan must be developed by a Qualified Environmental Professional (QEP). The Plan must identify areas of high erosion and sediment potential. The Erosion Prevention and Sediment Control Plan must include at least the following: • Manage water (e.g. rainfall, snowmelt,) to control runoff and direct it away from work areas where excavation, spoil placement, and staging activities occur. • Adjust the timing of construction activities to coincide with periods of high background sediment levels. • Use clean rock materials for riprap construction. • Manage equipment production rates during construction to reduce sediment generation. • Identify and isolate work areas to prevent sediment from entering the downstream environment. • Leave stumps in place to reduce soil disturbance, erosion and sediment transport in the headpond during reservoir clearing to reduce soil disturbance and potential sedimentation issues. • Manage vegetation and soil stripping, taking into consideration proximity to sensitive habitats as determined by a QEP (e.g. wetlands) and slope stability. • Salvage and stockpile clean surface soils for site restoration. • Establish vegetative cover on the soils stockpiled to prevent erosion. • Develop construction schedules such that reservoir clearing in the winter is maximized. • Isolate in-stream work areas from flowing water except as permitted by the on-site environmental monitor. The EAC Holder must provide this draft Erosion Prevention and Sediment Control Plan to BC Ministry of Forests, Lands and Natural Resource Operations (FLNR), BC Ministry of Environment (MOE), Aboriginal Groups, Peace River Regional District, City of Fort St. John, and District of Hudson's Hope for review a minimum of 90 days prior to commencement of construction activities. The EAC Holder must file the final Erosion Prevention and Sediment Control Plan with EAO, FLNR, MOE, Aboriginal Groups, Peace River Regional District, City of Fort St. John	Pre-Construction	BC Hydro is meeting this condition. The Erosion Prevention and Sediment Control Plan is described in Section 4.4 of the Construction Environmental Management Plan (CEMP) for the Project. As required by Condition 2, the Draft and Final CEMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. Revision 2 of the CEMP was submitted to these same recipients on February 4, 2016. Revision 3 of the CEMP was submitted to the Comptroller of Water Rights on March 31, 2016 and will be distributed to other regulatory agencies, governments and Aboriginal Groups in early April 2016. BC Hydro is auditing implementation of the Erosion Prevention and Sediment Control Plan through: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Plan are being considered and implemented as required BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance. Nineteen occurrences of insufficient erosion and sediment control were recorded between August 2015 and March 2016. These occurrences included: incorrect sediment fence installation or insufficient maintenance; incorrect slope tracking; sump reaching capacity; increased turbidity in the Peace River due to unauthorized machine operation within the high water mark; storm water management system not fully installed; and stockpiling material too close to watercourses and wetlands. Actions to address these occurrences included:

No	Condition	Timing	Status
	and District of Hudson's Hope a minimum of 30 days prior to commencement of construction activities. The EAC Holder must develop, implement and adhere to the final Erosion Prevention and Sediment Control Plan, and any amendments to the final Erosion Prevention and Sediment Control Plan, to the satisfaction of Environmental Assessment Office (EAO).		reinstallation of sediment controls measures, such as sediment fencing and diaper netting; ensuring workers are aware of appropriate installation techniques, application of materials, and tracking direction of slope; consideration of maintenance and/or contingency measures in the event of excessive precipitation and/or containment failure; and ensuring stockpiles are at least 15 m from the ordinary high water mark of any watercourse or wetland, unless otherwise authorized. BC Hydro and its Contractors are also actively managing a complex engineering and erosion and sediment control at the L3 RSEM area of the Project. The issues at this site are complex and require a coordinated engineering, water management and erosion and sediment control solution that BC Hydro will devise by March 31 and implement over the coming months at this site.
	Water Quality		
3	To address potential environmental effects of acid generation and metal leaching from construction activities and reservoir creation, EAC Holder must develop a water quality monitoring program. The water quality monitoring program must include: • Identification of water quality parameters to be monitored; • Identification of the geographic extent and duration of the monitoring; • Baseline sampling of parameters; • Monitoring of parameters; • Identification of potential mitigation measures if water quality impacts observed; and • Process for implementing mitigation measures to address water quality impacts. The EAC Holder must provide this draft water quality monitoring program to Environment Canada, Natural Resources Canada, MOE, FLNR, Aboriginal Groups, Peace River Regional District and the City of Fort St. John for review a minimum of 90 days prior to commencement of construction. The EAC Holder must file the final water quality monitoring program with EAO, Environment Canada, Natural Resources Canada, MOE, FLNR, Aboriginal Groups, Peace	Construction	BC Hydro is meeting this condition. The Water Quality Monitoring Program is described in Section 4.0 and Appendix E - Section 7.3 of the CEMP. As required by Condition 3, the Draft and Final CEMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. Revision 2 of the CEMP was submitted to these same recipients on February 4, 2016. Revision 3 of the CEMP was submitted to the Comptroller of Water Rights on March 31, 2016 and will be distributed to other regulatory agencies, governments and Aboriginal Groups in early April 2016. BC Hydro is auditing implementation of the Water Quality Monitoring Program through: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the

No	Condition	Timing	Status
	River Regional District and City of Fort St. John a minimum of 30 days prior to commencement of construction. The EAC Holder must report on the results annually to the EAO every June 1. The final water quality monitoring program must be detailed in the Acid Rock Drainage and Metal Leachate Management Plan, and the EAC Holder must develop, implement and adhere to the final water quality monitoring program, and any amendments, to the satisfaction of EAO.		Program are being considered and implemented as required BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance. BC Hydro will also submit a report describing the results of the previous year's monitoring to the EAO every June 1.
	FISH AND FISH HABITAT		
4	The EAC Holder must manage harmful Project effects on fish and fish habitats during the construction and operation phases by implementing mitigation measures detailed in a Fisheries and Aquatic Habitat Management Plan. The Fisheries and Aquatic Habitat Management Plan must be developed by a QEP. The Fisheries and Aquatic Habitat Management Plan must include at least the following: • Remove temporary structures as soon as they are no longer required. • Maintain a 15 m machine free zone adjacent to watercourses during reservoir clearing (as measured from the Ordinary High Water Mark). • Place material relocation sites (R5a, R5b, and R6) 15 m back from the mainstem to avoid affecting Peace River fish habitat. • Contour mainstream bars to reduce potential for fish stranding, as advised by FLNR. • Incorporate fish habitat features into the final capping of material relocation sites upstream of the dam. • Contour and cap with gravels and cobble substrate the spoil area between elevations 455 m and 461 m to provide a productive fish habitat that will be available to fish during the operation phase. • Include fish habitat features (e.g., shears, large riprap point bars, etc.) in the final design of the north bank haul road bed material that would be placed in the Peace River. Incorporate fish habitat features into the final design of the Highway 29 roadway that would border the reservoir, east of Lynx Creek. • Construct the Hudson's Hope shoreline protection with large material that will provide replacement fish habitat. Incorporate additional fish habitat features (e.g., shear zones and point bars) into the final design of the Hudson's Hope shoreline protection. • Contour Highway 29 borrow sites prior to decommissioning to provide littoral fish habitat in the reservoir.	Pre-Construction Construction Operations	BC Hydro is meeting this condition. The Draft and Final Fisheries and Aquatic Habitat Management Plans (FAHMP) were developed by a QEP and submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 1, 2015, respectively. Section 2.0 of the FAHMP provides a concordance table which shows how each of the requirements of Condition 4 is addressed in the Plan, or, in some cases, the CEMP (namely: the removal of temporary structures as soon as they are no longer required; maintenance of a 15 m machine free zone adjacent to watercourses during reservoir clearing; placement of RSEMs 15 m back from mainstem, and development of a feasible strategy for the salvage and relocation of stranded fish in habitats at risk of dewatering). Initial stages of mainstem channel contouring are underway with completion expected by 2021. Fish habitat features have also been incorporated into the design of the north bank haul road bed material placed in the Peace River; this work is expected to be complete in the Spring of 2016. Other mitigation measures required by Condition 4 will be implemented between 2017 and 2021, except for the planting of a 15 m wide riparian area along the reservoir shoreline adjacent to BC Hydro-owned farmland. This measure is expected to be

No	Condition	Timing	Status
	• Cap material repositioning areas with gravel and cobble, and contour to enhance fish habitat conditions. • Plant a 15 m wide riparian area along the reservoir shoreline adjacent to BC Hydro-owned farmland where necessary to provide riparian habitat and bank stabilization except as approved by the onsite environmental monitor. • Increase wetted habitat by creating new wetted channels and restoring back channels on the south bank island downstream of the dam. • Enhance side channel complexes between the dam site and the confluence of the Peace and Pine rivers during low flows. • Manage reservoir fluctuation within a 1.8 m maximum normal operating range from the maximum operating level of 461.8 m. • If the reservoir deviates from the normal operating range, the EAC Holder must report the event in accordance with water licence requirements. • Develop a feasible strategy for the salvage and relocation of stranded fish in habitats that are at risk of dewatering. The EAC Holder must manage construction footprints to reduce the harmful Project effects on fish and fish habitat, in accordance with the conditions of the applicable *Fisheries Act* authorization(s) and direction provided by FLNR. This draft Plan must be provided to FLNR, MOE and Aboriginal Groups for review a minimum of 90 days prior to commencement of construction. The EAC Holder must file the Final Plan with EAO, FLNR, MOE and Aboriginal Groups a minimum of 30 days prior to commencement of construction. The EAC Holder must develop, implement and adhere to the Final Plan, and any amendments, to the satisfaction of EAO.		implemented in 2024, after reservoir filling. BC Hydro is auditing those measures of the FAHMP that are currently under construction by: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Plan are being considered and implemented as required BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance. Fisheries and Oceans Canada issued a Warning Letter to BC Hydro on December 15, 2015 regarding the incorrect placement of a temporary causeway affecting Peace River fish habitat within the dam site area. In response to the incident, and prior to receipt of the Warning Letter, BC Hydro stopped work at that site and relocated the temporary causeway to the location described in Fisheries Act Authorization application. Fish habitat effects from the initial works were determined to be limited.
5	EAC Holder must manage harmful Project effects on fish during reservoir filling, turbine commissioning and operations by developing and implementing mitigation measures detailed in operational procedures developed by a QEP to: • Minimize levels of total dissolved oxygen gas in the tailwater; and, • Minimize levels of dissolved gas super-saturation These operational procedures must be developed in consultation with FLNR and MOE prior to reservoir filling, and include monitoring activities.	Construction Operations	BC Hydro understands and acknowledges this condition. Measures to manage harmful Project effects on fish during reservoir filling, turbine commissioning and operations are described in Sections 6.2.2.3 and 8.0 of the FAHMP. Development and implementation of these mitigation measures will be conducted by a QEP prior to the start of these construction and operational activities.
6	The EAC Holder must implement mitigation measures, as detailed in a Fish Passage	Construction	BC Hydro understands and acknowledges this condition.

No	Condition	Timing	Status
	Management Plan. The Fish Passage Management Plan must be developed by a QEP. The Fish Passage Management Plan must include at least the following: • Establish a periodic capture data base/protocol/methodology for small-fish species to assess genetic exchange between upstream and downstream fish populations. Data must be provided annually to the relevant federal and provincial agencies. • Address genetic differences exceeding beyond a pre-defined threshold (to be determined through discussion with the agencies) by implementing a translocation program. • Design the installation and use of a trap and haul facility. This draft Fish Passage Management Plan must be provided to FLNR, MOE and Aboriginal Groups for review a minimum of 90 days prior to Project activities that may impact upstream fish passage. The EAC Holder must file the final Fish Passage Management Plan with EAO, FLNR, MOE and Aboriginal Groups a minimum of 30 days prior to Project activities that may impact upstream fish passage. The EAC Holder must develop, implement and adhere to the final Fish Passage Management Plan, and any amendments, to the satisfaction of EAO.	Operations	BC Hydro will submit the draft and final Fish Passage Management Plan to regulatory agencies and Aboriginal Groups a minimum of 90 and 30 days prior to Project activities that may impact upstream fish passage, respectively. Activities that may impact upstream fish passage will occur during river diversion, due to commence in fall 2019. The Plan will be developed by a QEP and will include the requirements set out in Condition 6. BC Hydro will develop, implement and adhere to the Final Fish Passage Management Plan, and any amendments, to the satisfaction of EAO.
7	The EAC Holder must develop a Fisheries and Aquatic Habitat Monitoring and Follow-up Program to assess the effectiveness of measures to mitigate Project effects on healthy fish populations in the Peace River and tributaries, and, if recommended by a QEP or FLNR, to assess the need to adjust those measures to adequately mitigate the Project's effects. The Fisheries and Aquatic Habitat Monitoring and Follow-up Program must be developed by a QEP. The Program must include monitoring during construction for at least the following: • Effectiveness of standard mitigation measures for reducing sedimentation and fish stranding in the construction headpond and proximal reach of the river downstream of the dam. • Accuracy of predictions about physical changes to habitat in the reservoir area during the development and operation of the construction headpond during the diversion stage of the Project. • Documenting, at an appropriate scale, spatial and temporal changes occurring in physical environmental conditions resulting from headpond hydrology, and in localized areas in relation to the effects of construction activities and mitigation	Construction Operations	BC Hydro is meeting this condition. The draft and final Fisheries and Aquatic Habitat Monitoring and Follow-up Programs (FAHMFP) were submitted to regulatory agencies and Aboriginal Groups on June 1, 2015 and December 22, 2015, respectively. Section 3.0 of the FAHMFP provides a concordance table which shows how each of the requirements of Condition 7 is addressed in the Program. Implementation of the FAHMFP will commence in 2016 and continue into Operations. No monitoring programs in the FAHMFP have been implemented to date. BC Hydro will submit the first Annual Report on the Fisheries and Aquatic Habitat Monitoring and Follow-up Program in 2017.

No	Condition	Timing	Status
	procedures. • Effectiveness of mitigation measures for management of predicted effects of sediment and fish stranding, and provide information required to adjust the mitigation program to reduce unforeseen adverse effects, as required. • Total dissolved gas. • Fish habitat areas where periodic exposure of side channel and mainstream margins occurs as a result of water fluctuations. The Fisheries and Aquatic Habitat Monitoring and Follow-up Program must include monitoring during operations for a period of twenty years for at least the following: • Continued effectiveness of environmental protection measures undertaken during construction to mitigate effects on fish and fish habitat. • Total dissolved gas. • Meeting monitoring commitments as per the Fish Passage Management Plan. • Implement on-site monitoring of fish habitat areas in the side channel and mainstream margins, resulting from water fluctuations. • Fish and fish habitat productivity, for reservoir, reservoir tributaries, and for downstream Peace River. The Fisheries and Aquatic Habitat Monitoring and Follow-up Program must outline a procedure for evaluating future mitigation and compensation options after reservoir development and follow-up monitoring, as well as procedures for how compensation options that are technically and economically feasible will be implemented. The Fisheries and Aquatic Habitat Monitoring and Follow-up Program reporting must occur at least annually during construction and operations beginning 180 days following commencement of construction and operations phases, or in accordance with the applicable *Fisheries Act* authorization(s). The EAC Holder must provide this draft Fisheries and Aquatic Habitat Monitoring and Follow-up Program to FLNR, MOE and Aboriginal Groups for review within 90 days following the commencement of the construction and operations phases. The EAC Holder must file the final Fisheries and Aquatic Habitat Monitoring and Follow-up Program with EAO, FLN, MOE and Aboriginal Groups within 150 days following the commencement of the construction and operations phases. The EAC Holder must develop, implement and adhere to the final Fisheries and Aquatic		In support of meeting Fish and Fish Habitat conditions a Fisheries and Aquatic Habitat Mitigation and Monitoring Technical Committee has been established with MOE, FLNR and DFO staff to: • Review the approach and outcome of mitigation and monitoring plans, provide technical recommendations to BC Hydro and regulatory agencies, and endorse relevant plans. • Provide technical advice during plan implementation. • Provide recommendations for adaptive management where needed. • Provide a mechanism to resolve areas of disagreement on technical or policy matters.

No	Condition	Timing	Status
	Habitat Monitoring and Follow-up Program, and any amendments, to the satisfaction of EAO.		
	VEGETATION AND ECOLOGICAL COMMUNITIES		
8	The EAC Holder must develop a Soil Management, Site Restoration, and Re-vegetation Plan to effectively manage disturbed soils, and to reclaim and revegetate disturbed construction areas to a safe and environmentally acceptable condition. The Soil Management, Site Restoration, and Re-vegetation Plan must be developed by a QEP. The Soil Management, Site Restoration, and Re-vegetation Plan must include at least the following: • Soil storage and handling measures that will maximize native soil use in restoration efforts, and manage incidental introduction and spread of invasive species. • Manage run-off so that it is directed around soil stockpiles and areas where excavation, spoil placement, and staging activities occur. • Progressive closure and reclamation of any temporary disturbance. Disturbed sites are replanted within one year with ground cover, shrubs, or trees that are regionally appropriate once erosion concerns have been addressed. • Identify native seed mixes used for site restoration and revegetation purposes. • Identify traditional use plants for revegetation purposes, in consultation with Aboriginal Groups. The EAC Holder must provide this draft Plan to FLNR, MOE, Aboriginal Groups, Peace River Regional District, City of Fort St. John and the District of Hudson's Hope for review a minimum of 90 days prior to the commencement of construction. The EAC Holder must file the final Soil Management, Site Restoration, and Re-vegetation Plan with EAO, FLNR, MOE, Aboriginal Groups, Peace River Regional District, City of Fort St. John and the District of Hudson's Hope a minimum of 30 days prior to the commencement of construction. The EAC Holder must develop, implement and adhere to the final Soil Management, Site Restoration, and Re- vegetation Plan, and any amendments, to the satisfaction of EAO.	Pre-Construction Construction	BC Hydro is meeting this condition. The Soil Management, Site Restoration and Re-vegetation Plan was developed by a QEP and is described in Section 6 of the CEMP. As required by Condition 8, the Draft and Final CEMP were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. Revision 2 of the CEMP was submitted to these same recipients on February 4, 2016. Revision 3 of the CEMP was submitted to the Comptroller of Water Rights on March 31, 2016 and will be distributed to other regulatory agencies, governments and Aboriginal Groups in early April 2016. Additional comments on this section were received March 24, 2016 through the BC – BC Hydro Vegetation and Wildlife Technical Committee. The Committee is scheduled to review these comments in mid-April. Any proposed revisions to this section would be addressed as a CEMP revision and provided to the specified agencies. Summary of actions to date: **Contractor EPPs:** BC Hydro is auditing implementation of the Soil Management, Site Restoration and Re-vegetation Plan through: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Plan are being considered and implemented as required BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance.

No	Condition	Timing	Status
			Revegetation work: In 2015 BC Hydro specified and acquired a native seed mix for application on recently exposed slopes and other areas within the dam site. BC Hydro will provide site-specific specifications for seed or plant materials for revegetation to meet site management objectives, such as establishing vegetation for dust control and erosion control, and in consideration of topographical features and long-term revegetation objectives described in the revegetation framework of the CEMP. **Identification of Traditional Plants:** No restoration or reclamation work has taken place yet. To prepare for restoration and reclamation in the future, the results to date of ground truthing with Aboriginal groups have been reviewed and a list of plant species of traditional Aboriginal value was compiled and shared with the Culture and Heritage Resources Committee for discussion and to seek input on additional plants of high traditional Aboriginal value. Through this process, as well as through new information provided through future ground truthing, plants of high traditional Aboriginal value will be identified and included in the mix of species considered for re-vegetation activities.
9	The EAC Holder must develop a Vegetation and Invasive Plant Management Plan to protect ecosystems, plant habitats, plant communities, and vegetation with components applicable to the construction phase. The Vegetation and Invasive Plant Management Plan must be developed by a QEP. The Vegetation and Invasive Plant Management Plan must include at least the following: **Invasive Species** • Surveys of existing invasive species populations prior to construction.	Pre-Construction Construction	BC Hydro is meeting this condition. The Vegetation and Invasive Plant Management Plan is described in Section 8.1 of the Vegetation and Wildlife Mitigation and Monitoring Plan (VWMMP). The draft and first revision of the VWMMP was submitted to regulatory agencies and Aboriginal Groups on October 17, 2014, and April 7, 2015, respectively. The final VWMMP was submitted to the same recipients on June 5, 2015.

No	Condition	Timing	Status
	• Invasive plant control measures to manage established invasive species populations and to prevent invasive species establishment. **Rare Plants and Sensitive Ecosystems** • The EAC Holder must expand its modelling, including completing field work, to improve identification of rare and sensitive plant communities and aid in delineation of habitats that may require extra care, 90 days prior to any Project activities that may affect these rare or sensitive plant communities • The EAC Holder must, with the use of a QEP, complete an inventory in areas not already surveyed and use rare plant location information as inputs to final design of access roads and transmission lines. These pre- construction surveys must target rare plants as defined in Section 13.2.2 of the EIS —including vascular plants, mosses, and lichens. • The EAC Holder must create and maintain a spatial database of known rare plant occurrences in the vicinity of Project components that must be searched to avoid effects to rare plants during construction activities. The database must be updated as new information becomes available and any findings of new rare plant species occurrences must be submitted to Environment Canada and MOE using provincial data collection standards. • The EAC Holder must implement construction methods to reduce the impact to rare plants, maximize use of existing access corridors, and construct transmission towers and temporary roads away from wetlands and known rare plant occurrences. • Protect known occurrences of Tufa seeps, wetlands and rare plants located adjacent to construction areas. Install signage and flagging where necessary, as determined by the QEP, to indicate the boundaries of the exclusion area. • The EAC Holder will engage the services of a Rare Plant Botanist during construction to design and implement an experimental rare plant translocation program in consultation with MOE using the BC MOE's Guidelines for Translocation of Plant Species at Risk in BC (Maslovat, 2009). The EAC Holder must provide this draft Vegetation and Invasive Plant Management Plan to Environment Canada, FLNR, MOE, and Aboriginal Groups for review a minimum of 90 days prior to construction and operation phases. The EAC Holder must file the final Vegetation and Invasive Plant Management Plan with EAO, Environment Canada, FLNR, MOE, and Aboriginal Groups, a minimum of 30 days		Section 2.0 of the VWMMP provides a concordance table which shows how each of the requirements of Condition 9 is addressed in the Plan. Surveys of existing invasive species populations were conducted at 85th Avenue Industrial Lands, Howe Pit, and on the north bank of the Dam site in May 2015 prior to the start of construction. Site specific treatment to control invasive plants were applied between June and September 2015 at each of the 3 sites. Field surveys were conducted in 2015 in support of expanding modelling to improve the identification of rare and sensitive plant communities. Field surveys focused on forested at-risk ecological communities located in the Project Activity Zone. Mapped ecosystem units associated with these communities was refined based on these field surveys. The Environmental features map was updated with 2015 rare plant survey results in October 2015 and the revised maps were provided to contractors for use in avoidance of rare plants during construction. The 2015 rare plant data were submitted to Jenifer Penny, Program Botanist at the BC Conservation Data Center, MOE on December 18, 2015 and to Jennifer Tennant, Environment Stewardship Branch, Environment Canada on December 29, 2015. Results of the surveys (see Section 7.1) and other programs are described in the annual report that was submitted to regulatory agencies and Aboriginal Groups on January 22, 2016.

No	Condition	Timing	Status
	prior to construction and operation phases. The EAC Holder must develop, implement and adhere to the final Vegetation and Invasive Plant Management Plan, and any amendments, to the satisfaction of EAO.		
10	The EAC Holder must fund or undertake directly with the use of a Rare Plant Botanist the following, during construction: • Targeted surveys in the RAA (as defined in the amended EIS) to identify occurrences of the 18 directly affected rare plant species (as defined in the amended EIS), and rare plant species identified by the MOEs Conservation Framework requiring additional inventories. • A study focused on clarifying the taxonomy of Ochroleucus bladderwort (Utricularia ochroleuca), including field, herbaria, and genetic work in consultation with FLNR and the MOE (BC Conservation Data Centre). The EAC Holder must provide FLNR and MOE (BC Conservation Data Centre) with the findings and analysis of results from the surveys and taxonomic study.	Construction	BC Hydro is meeting this condition. The requirement for targeted surveys in the RAA is addressed in Section 7.4.7 Part B Supplemental Regional Rare Plant Surveys (see also S. 8.2.2) of the Vegetation and Wildlife Mitigation and Monitoring Plan (VWMMP). Targeted surveys in the RAA: As stated in the plan these surveys will begin in the first year of construction (prior to July 2016) and will take place over 2 survey years. BC Hydro is currently retaining consultants to undertake targeted surveys in the RAA to identify occurrences of directly affected rare plant species, per Condition 10. Taxonomy Study: On March 22, 2016, BC Hydro submitted a letter to the Conservation Data Centre indicating that the taxonomy of Ochroleucus bladderwort had been completed by the BC MOE and therefore no further work was required by BC Hydro. On March 24, 2016, the Conservation Data Centre confirmed the same understanding. Based on this information no further work is planned.
11	EAC Holder must compensate for the loss of rare and sensitive habitats and protect occurrences of rare plants by developing, or funding the development and implementation of a compensation program, during construction, that includes: • Assistance (financial or in-kind) to the managing organization of suitable habitat enhancement projects in the RAA (RAA as defined in the amended EIS). • Direct purchase of lands in the RAA and manage these lands and suitable existing properties owned by the EAC Holder to enhance or retain rare plant values where opportunities exist. The EAC Holder must engage with FLNR, MOE and Aboriginal Groups with regard to the development of the compensation program.	Construction	BC Hydro is meeting this condition. This condition is addressed in the Vegetation and Wildlife Mitigation and Monitoring Plan, Section 7.4.4 Part D. As stated in the Plan identification of potential projects is scheduled to being in Construction Year 2, and funds are intended to be dispersed by the end of Construction Year 3 (July 2018). To date BC Hydro has begun to engage with regional stakeholders to identify potential projects through

No	Condition	Timing	Status
			participation in a regional Ecosystem Restoration workshop.

12	The EAC Holder must develop a Wetland Mitigation and Compensation Plan. The Wetland Mitigation and Compensation Plan must include an assessment of wetland function lost as a result of the Project that is important to migratory birds and species at risk (wildlife and plants). The Wetland Mitigation and Compensation Plan must be developed by a QEP with experience in wetland enhancement, maintenance and development.
	
	The Wetland Mitigation and Compensation Plan must include at least the following:
	• Information on location, size and type of wetlands affected by the Project;
	• If roads cannot avoid wetlands, culverts will be installed under access roads to maintain hydrological balance, and sedimentation barriers will be installed;
	• Stormwater management will be designed to control runoff and direct it away from work areas where excavation, spoil placement, and staging activities occur.
	• Develop, with the assistance of a hydrologist, site-specific measures prior to construction to reduce changes to the existing hydrologic balance and wetland function during construction of the Jackfish Lake Road and Project access roads and transmission line.
	• All activities that involve potentially harmful or toxic substances, such as oil, fuel, antifreeze, and concrete, must follow approved work practices and consider the provincial BMP guidebook Develop with Care (BC Ministry of Environment 2012 or as amended from time to time).
	• A defined mitigation hierarchy that prioritizes mitigation actions to be undertaken, including but not limited to:
	  ○ Avoid direct effects where feasible;
	  ○ Minimize direct effects where avoidance is not feasible;
	  ○ Maintain or improve hydrology where avoidance is not feasible;
	  ○ Replace like for like where wetlands will be lost, in terms of functions and compensation in terms of area;
	  ○ Improve the function of existing wetland habitats; and
	  ○ Create new wetland habitat
	
	The EAC Holder must monitor construction and operation activities that could cause changes in wetland functions.
	
	The EAC Holder must provide this draft Wetland Mitigation and Compensation Plan to Environment Canada, FLNR, MOE, Aboriginal Groups, Peace River Regional District and
		Construction
		Operations
			BC Hydro is meeting this condition.
			
			The Wetland Mitigation and Compensation Plan is described in Section 7.3 (see also Section 8.4) of the Vegetation and Wildlife Mitigation and Monitoring Plan.
			
			The draft and first revision of the VWMMP was submitted to regulatory agencies and Aboriginal Groups on October 17, 2014, and April 7, 2015, respectively. The final VWMMP was submitted to the same recipients on June 5, 2015.
			
			Section 2.0 of the VWMMP provides a concordance table which shows how each of the requirements of Condition 12 is addressed in the Plan.
			
			BC Hydro prepared a guidance document, Wetland Verification Classification, for contractors to follow to collect information on the location, size and type of wetland affected by construction and to provide BC Hydro with this information to support the Wetland Mitigation and Compensation Plan.
			
			In 2015 BC Hydro and Ducks Unlimited continued the process of identifying wetland mitigation opportunities that could become components of the wetland mitigation plan. Additional wetland mitigation opportunities have been identified in three zones:
			• within 1km of the Site C reservoir
			• within the Peace Region
			• within the remainder of the Province
			
			These sites will undergo further investigations in the future to gather additional site-specific data and determine which opportunities are suitable for inclusion in the wetland mitigation plan.

No	Condition	Timing	Status
	District of Hudson's Hope for review a minimum of 90 days prior to any activity affecting the wetlands. The EAC Holder must file the final Wetland Mitigation and Compensation Plan with EAO, Environment Canada, FLNR, MOE, Peace River Regional District, District of Hudson's Hope and Aboriginal Groups, a minimum of 30 days prior to any activity affecting the wetlands. The EAC Holder must develop, implement and adhere to the final Wetland Mitigation and Compensation Plan, and any amendments, to the satisfaction of EAO.		The construction guidelines for Area A, a new wetland area to be completed as part of the dam site reclamation area, were submitted with the June 5, 2015 VWMMP, and have been incorporated as requirements in the Main Civil Works contract covering this area. Creation of this new wetland will occur toward the end of 8 year construction period, and will contribute toward wetland compensation requirements. Installation of culverts to maintain hydrological balance at wetlands affected by roads was guided by Section 4.4 of the CEMP. In 2015 temporary drainage culverts 12m in length and 150mm in diameter were installed as follows: • Septimus Access Road: 2 culverts • Repeater Site Access Road: 2 culverts • South bank access road: 1 culvert • Septimus Substation Access Road: 1 culvert Permanent culverts will replace these temporary structures. In addition, temporary drainage ditches were installed through the existing rail grade along the Septimus Rail Siding. Measures to control runoff and manage stormwater (for example rainfall or snow melt) and direct it away from construction areas where excavation, spoil placement, and staging activities occur were developed and implemented as per section 4.4 of the CEMP. In 2015, a settling pond was installed in the L3 ravine at the dam site and surface water diversion ditches were constructed to divert water away from excavations at the worker accommodation camp and north bank excavation. No construction on Jackfish Lake Road or the

No	Condition	Timing	Status
			transmission line occurred in 2015. The access road constructed on the south bank followed the route of existing roads. One culvert, 12m in length and 150mm in diameter was installed along the south bank access road. Approved work practices and Develop with Care were implemented in accordance with Section 4.13 of the CEMP. As per these work practices, equipment is serviced and refuelled at least 30 m from watercourse and wetlands, drip trays are placed under equipment parked for over 24 hours, bulk fuel storage facilities are lined and have containment for at least 110% of the stored volume, equipment is inspected daily, vehicles carry spill kits and workers are trained in spill response procedures. Results of the surveys (see Sections 6.3.2.1 and 7.2) and other programs are described in the annual report that was submitted to regulatory agencies and Aboriginal Groups on January 22, 2016.
13	The EAC Holder must develop the Vegetation Clearing and Debris Management Plan. The Vegetation Clearing and Debris Management Plan must be developed by a QEP. The Vegetation Clearing and Debris Management Plan must ensure that clearing would be conducted in the approved Project Activity Zone only, and construction would be monitored by the QEP to prevent any unnecessary clearing. Specific to the transmission line component of the Project: • The EAC Holder must not grub the right of way with the exception of transmission tower foundation pads, temporary work spaces and access roads. • Where conductor clearance allows, the EAC Holder must not remove riparian vegetation along watercourses or waterbodies crossed by the transmission corridor. To reduce erosion along steep or unstable slopes, the EAC Holder must apply best management practices for reservoir clearing along riparian areas and watercourses.	Pre-Construction Construction	BC Hydro is meeting this condition. The draft and final Vegetation Clearing and Debris Management Plans (VCDMP) were submitted to regulatory agencies, governments, and Aboriginal Groups October 17, 2014 and June 5, 2015, respectively. Section 2.0 of the VCDMP provides a concordance table which shows how each of the requirements of Condition 13 is addressed in the Plan. BC Hydro is auditing implementation of the VCDMP through:

No	Condition	Timing	Status
	Practices must include but not limited to the following: • Retention of all trees on steep, unstable slopes that would be highly susceptible to landslides if the vegetation was removed. • Retention of non-merchantable trees and vegetation in riparian areas within a 15 m buffer from the Ordinary High Water Mark. Merchantable trees and trees that may protrude above 455 m elevation may still be removed using clearing practices to maintain a 15 m machine-free zone from the OHWM. The EAC Holder must provide this draft Vegetation Clearing and Debris Management Plan to Environment Canada, FLNR, MOE, Aboriginal Groups, Peace River Regional District and District of Hudson's Hope for review a minimum of 90 days prior to commencement of construction. The EAC Holder must file the final Vegetation Clearing and Debris Management Plan with EAO, Environment Canada, FLNR, MOE, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Aboriginal Groups, a minimum of 30 days prior to commencement of construction. The EAC Holder must develop, implement and adhere to the final Vegetation Clearing and Debris Management Plan, and any amendments, to the satisfaction of EAO.		• reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Plan are being considered and implemented as required BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance.
14	The EAC Holder must develop a Vegetation and Ecological Communities Monitoring and Follow-up Program for the construction phase and first 10 years of the operations phase. The Vegetation and Ecological Communities Monitoring and Follow-up Program must be developed by a QEP. The Vegetation and Ecological Communities Monitoring and Follow-up Program must include at least the following: • Definition of the study design for the rare plant translocation program (see condition 9). • Plan for following-up monitoring of any translocation sites to assess the survival and health of translocated rare plant species, under the supervision of a Rare Plant Botanist. • Measurement criteria, including vegetation growth, persistence of rare plants and establishment / spread of invasive plant species, and associated monitoring to document the effectiveness of habitat enhancement and possible compensation programs.	Construction Operations	BC Hydro is meeting this condition. T This requirement is addressed in Section 7.4.4, Part C of the Vegetation and Wildlife Mitigation and Monitoring Plan. The draft and first revision of the VWMMP was submitted to regulatory agencies and Aboriginal Groups on October 17, 2014, and April 7, 2015, respectively. The final VWMMP was submitted to the same recipients on June 5, 2015. Section 2.0 of the VWMMP provides a concordance table which shows how each of the requirements of Condition 14 is addressed in the Plan. The VWMMP identifies 12 rare plant taxa targeted for potential translocation – 11 of these were recorded within the reservoir footprint, and 1 was recorded within the 85th Avenue Industrial lands. None of the

No	Condition	Timing	Status
	The Vegetation and Ecological Communities Monitoring and Follow-up Program reporting must occur annually during construction and the first 10 years of operations, beginning 180 days following commencement of construction. The EAC Holder must provide this draft Vegetation and Ecological Communities Monitoring and Follow-up Program to Environment Canada, FLNR, MOE, Peace River Regional District, City of Fort St. John and Aboriginal Groups for review within 90 days after the commencement of construction. The EAC Holder must file the final Vegetation and Ecological Communities Monitoring and Follow-up Program with EAO, Environment Canada, FLNR, MOE, Peace River Regional District, City of Fort St. John, and Aboriginal Groups, within 150 days after commencement of construction. The EAC Holder must develop, implement and adhere to the final Vegetation and Ecological Communities Monitoring and Follow-up Program, and any amendments, to the satisfaction of EAO.		target taxa were recorded within the areas affected by project activities in 2015. The Annual Report on activities described in the VWMMP states that the translocation program is scheduled to commence in 2016 following a five step process. The annual report was submitted to regulatory agencies and Aboriginal Groups on January 22, 2016.
	WILDLIFE RESOURCES		
15	The EAC Holder must develop a Wildlife Management Plan. The Wildlife Management Plan must be developed by a QEP. The Wildlife Management Plan must include at least the following: • Field work, conducted by a QEP, to verify the modelled results for surveyed species at risk and determine, with specificity and by ecosystem, the habitat lost or fragmented for those species. The EAC Holder must use these resulting data to inform final Project design and to develop additional mitigation measures, as needed, as part of the Wildlife Management Plan, in consultation with Environment Canada and FLNR. • Measures to avoid, if feasible, constructing in sensitive wildlife habitats. If avoiding sensitive wildlife habitats is not feasible, condition 16 applies. • If sensitive habitats, such as wetlands, are located immediately adjacent to any work site, buffer zones must be established by a QEP to avoid direct disturbance to these sites. • Protocol for the application of construction methods, equipment, material and timing of activities to mitigate adverse effects to wildlife and wildlife habitat. • Protocol to ensure that lighting is focused on work sites and away from surrounding areas to manage light pollution and disturbance to wildlife. If lighting cannot be directed away from surrounding areas, the EAC Holder must ensure additional mitigation measures are implemented to reduce light pollution, including light shielding.	Pre-Construction Construction	BC Hydro is meeting this condition. The Wildlife Management Plan is described in Sections 3.0 and 4.17 of the CEMP and Section 8.6.2 of the Vegetation and Wildlife Mitigation and Monitoring Plan. The Draft and Final CEMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. Revision 2 of the CEMP was submitted to these same recipients on February 4, 2016. Revision 3 of the CEMP was submitted to the Comptroller of Water Rights on March 31, 2016 and will be distributed to other regulatory agencies, governments and Aboriginal Groups in early April 2016. The draft and first revision of the VWMMP was submitted to regulatory agencies and Aboriginal Groups on October 17, 2014, and April 7, 2015, respectively. The final VWMMP was submitted to the same recipients on June 5, 2015. Section 2.0 of the VWMMP provides a concordance table which shows how each of the requirements of Condition 15 is addressed in the

No	Condition	Timing	Status
	• A mandatory environmental training program for all workers so that they are informed that hunting in the vicinity of any work site/Project housing site is strictly prohibited for all workers. The EAC Holder must ensure that all workers are familiar with the Wildlife Management Plan. The EAC Holder must submit this draft Wildlife Management Plan to Environment Canada, FLNR, MOE and Aboriginal Groups for review a minimum of 90 days prior to the commencement of construction. The EAC Holder must file the final Wildlife Management Plan with EAO, Environment Canada, FLN, MOE and Aboriginal Groups, a minimum of 30 days prior to commencement of construction. The EAC Holder must develop, implement and adhere to the final Wildlife Management Plan, and any amendments, to the satisfaction of EAO.		Plan. Results of the surveys (see Sections 6.4.1 and 7.3) and other programs are described in the annual report that was submitted to regulatory agencies and Aboriginal Groups on January 22, 2016. A summary of each aspect of this requirement is provided below: **Verification of models:** The VWMMP 2015 Annual Report Section 6.4.1 summarises actions take in accordance with this requirement. This work is complete. Field work, conducted by a QEP, to verify modeled results for surveyed species at risk focused on thirteen species whose model accuracy was <80% and had observations of individuals in habitats rated low (L) or nil (N) by the model described in the EIS. A total of 102 polygons and 433 records were field checked in June 2015. The remainder of the polygons and records were verified using aerial photograph interpretation and review of the original wildlife data. Of these, 171 site specific records were adjusted based on field observations and aerial photograph interpretation and 73 were revised through adjusting model buffers. **Avoidance, if feasible, for constructing in sensitive wildlife habitats** Work was suspended to avoid disturbance during a sensitive period for amphibians, and amphibian salvage was conducted in early September 2015 in three wetlands on the north bank within the dam site, under Wildlife Act Permit FJ15-178764. The salvage was conducted using dip nets and minnow traps. Four adult salamanders and one juvenile salamander were relocated to a wetland south of the Peace River. The salvage report was submitted to Front Counter BC in accordance with the Permit conditions.

No	Condition	Timing	Status
			Buffers around sensitive habitats: In accordance with the CEMP Wetland 1 on the north bank of the dam construction site was established as a work avoidance zone, within which no construction activity will be permitted. This zone will be maintained throughout construction. **Protocols for construction to mitigate adverse effects:** Protection and avoid of wildlife and sensitive habitats is conducted in accordance with Section 4.17 of the CEMP. In addition, BCH has obtained *Wildlife Act* permits for the salvage of amphibians, removal of eagle nests and the removal of beaver dams and lodges. **Lighting:** The requirement to focus lighting into work areas is included in the CEMP S. 4.17. Lighting was focused on the work site in construction locations: • worker accommodation • north bank access roads • south bank access roads • Peace River construction bridge **Environmental Training:** The requirement for all workers to receive training is included in S. 3.0 of the CEMP. S. 4.17 of the CEMP requires no hunting or cleaning game while on construction sites, project built roads or worker housing sites, and has been recently updated to state "or in the vicinity" of work sites. All workers are required to attend both a BCH orientation and a contractor specific orientation(s) prior to starting work on-site. A component of these training sessions is environmental training for workers. Completion of these sessions required prior to the issuance of site access cards.

No	Condition	Timing	Status
			BC Hydro audits contractor compliance with implementation of relevant requirements of the Wildlife Management Plan through: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Program are being considered and implemented as required BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance.
16	If loss of sensitive wildlife habitat or important wildlife areas cannot be avoided through Project design or otherwise mitigated, the EAC Holder must implement the following measures, which must be described in the Vegetation and Wildlife Mitigation and Monitoring Plan. The Vegetation and Wildlife Mitigation and Monitoring Plan must include the following compensation measures: • Compensation options for wetlands must include fish-free areas to manage the effects of fish predation on invertebrate and amphibian eggs and larvae and young birds. • Mitigation for the loss of snake hibernacula, artificial dens must be included during habitat compensation. • Management of EAC Holder-owned lands adjacent to the Peace River suitable as breeding habitat for Northern Harrier and Short-eared Owl. • Establishment of nest boxes for cavity-nesting waterfowl developed as part of wetland mitigation and compensation plan, and established within riparian vegetation zones established along the reservoir on BC Hydro-owned properties. • A design for bat roosting habitat in HWY 29 bridges to BC Ministry of Transportation and Infrastructure (MOTI) for consideration into new bridge designs located within the Peace River valley. • Following rock extraction at Portage Mountain, creation of hibernating and roosting sites for bats.	Pre-Construction Construction	BC Hydro is meeting this condition. BC Hydro cannot avoid or mitigate for loss of all sensitive wildlife habitat or important wildlife areas, consistent with BC Hydro's findings in the Environmental Impact Statement, therefore all required measures pf EAC condition 16 were included in the VWMMP. The draft and first revision of the VWMMP was submitted to regulatory agencies and Aboriginal Groups on October 17, 2014, and April 7, 2015, respectively. The final VWMMP was submitted to the same recipients on June 5, 2015. Section 2.0 of the VWMMP provides a concordance table which shows how each of the requirements of Condition 16 is addressed in the Plan, including references to the CEMP as appropriate. The following information is a short summary of the status of these programs: **Fish-free areas in wetland compensation areas:** Specifications for new wetland area (Area A) include requirements for fish-free areas. See VWMMP Section

No	Condition	Timing	Status
	• Creation of natural or artificial piles of coarse woody debris dispersed throughout the disturbed landscape to maintain foraging areas and cold-weather rest sites, and arboreal resting sites, for the fisher population south of the Peace River. The EAC Holder must provide this draft Vegetation and Wildlife Mitigation and Monitoring Plan to Environment Canada, FLNR, MOE, and Aboriginal Groups for review a minimum of 90 days prior to the commencement of construction. The EAC Holder must file the final Vegetation and Wildlife Mitigation and Monitoring Plan with EAO, Environment Canada, FLNR MOE, and Aboriginal Groups, a minimum of 30 days prior to commencement of construction. The EAC Holder must develop, implement and adhere to the final Vegetation and Wildlife Mitigation and Monitoring Plan, and any amendments, to the satisfaction of EAO.		8.7.2. **Snake Hibernacula:** Addressed in VWMMP Section 8.7.3. Schedule identifies that den construction would start in Construction Year 1 (prior to July 2016). Work has not yet begun. **Nest boxes:** Addressed in VWMMP Section 7.3.6 (Wetland compensation). Nest boxes will be included in suitable wetland compensation areas as described. **Management of BC Hydro owned lands:** Model verification (EAC 15) completed in 2015 included Short-eared Owl, with an improvement in model accuracy from 61% to 91%. Section 6.2.1 of the 2015 VWMMP Annual Report identifies three BCH owned properties identified for retention and management to date. All three properties provide suitable habitat for non-wetland birds, including the northern harrier and Short-eared Owl. **Bat roosts in bridge structures:** On June 23, 2014 MOTI indicated it was receptive to accommodation of Oregon Bridge Wedge bat roost structures on new bridges crossing Cache Creek, Farrell Creek, Lynx creek and the Halfway River along Highway 29 in the Peace River valley. Specific measures will be able to be confirmed through MOTI during final design. **Portage Mountain bat habitat** This requirement is included in development of the Portage Mountain quarry. **Fisher coarse woody debris piles:** The provincial fisher specialist, Rich Weir, provided specifications for creation of coarse woody debris piles

No	Condition	Timing	Status
			for fisher. In March 2016, during processing of slash piles, coarse woody debris piles for fisher will be created as per the specifications in areas adjacent to un-cleared edges of Area A (within the dam site construction area) and at Septimus siding. Additional piles will be created along the transmission line right-of-way in 2016/2017. Results of the surveys (see Sections 6.2.1 and 7.4) and other programs are described in the annual report that was submitted to regulatory agencies and Aboriginal Groups on January 22, 2016.
17	As part of the Vegetation Clearing and Debris Management Plan, if the EAC Holder must conduct clearing activities during these specified critical time periods: • Songbirds: May 1 through July 31; • Trumpeter swan, raptors and owls: April 1 through July 31; and • Sharp-tailed grouse: mid-April and mid-July (lek to nesting to hatching). The EAC Holder must first develop and implement a nest and lek search protocol, in consultation with the FLNR and MOE. The EAC Holder must provide FLNR and MOE with all known nest and lek locations. The EAC Holder must flag these sites and require employees and contractors to avoid these sites. The nest and lek search protocol must include specifications for buffers around active nest sites and flagging, as required by FLNR.	Construction	BC Hydro is meeting this condition. Section 3.5 of the Vegetation Clearing and Debris Management Plan and Section 4.17 of the CEMP describe the requirements outlined in Condition 17. A nest search protocol has been developed and is included as Appendix A of the Vegetation and Wildlife Mitigation and Monitoring Plan Annual Report, submitted to regulatory agencies and Aboriginal Groups on January 22, 2016. Sharp-tailed Grouse lek locations were provided in the Environmental Impact Statement for the Project -- Appendix R – Terrestrial Wildlife and Vegetation Effects Assessment, Part 5: Non-Migratory Birds, Map 1.3.5.
18	The EAC Holder must avoid human-wildlife conflicts during the construction phase by implementing measures detailed in a Human-Wildlife Conflict Management Plan. The Human-Wildlife Conflict Management Plan must include at least the following: • Prior to the commencement of work, the EAC Holder must ensure that all crews have participated in Bear Aware or a similar training program. • Prohibit feeding of wildlife at work sites. • Ensure that all construction areas and worker housing sites are kept clean and free of discarded anthropogenic food sources, with garbage securely stored in verified	Pre-Construction Construction	BC Hydro is meeting this condition. The Human Wildlife Conflict Management Plan is described in Section 4.17 of the CEMP. As required by Condition 18, the Draft and Final CEMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. Revision 2 of the CEMP was submitted to these same recipients on February 4, 2016. Revision 3 of the CEMP was submitted to the Comptroller of Water

No	Condition	Timing	Status
	bear-proof containers or removed from site. • Prohibit work crews from hunting while on any work sites, Project built roads and worker housing sites. • Prohibit work crews from cleaning game at construction sites, Project built roads and worker housing sites. • Measures to minimize road mortality, including posted speed limits, provision of alternative transportation options including, for example, carpooling, • Procedures for reporting dangerous human-wildlife incidents and incidents of wildlife mortality. • Prompt notification to the appropriate authorities of incidences of roadkill, or, in the event a wildlife act permit to manage road kill is obtained by the EAC Holder, the EAC Holder must implement management measures as per permit requirements. • Review of effectiveness of measures to manage dangerous human-wildlife interactions. The EAC Holder must provide the draft Human-Wildlife Conflict Management Plan to the MOE Conservation Officer Service for review a minimum of 90 days prior to the commencement of construction. The EAC Holder must file the final Human-Wildlife Conflict Management Plan with EAO and the MOE Conservation Officer Service a minimum of 30 days prior to the commencement of construction. The EAC Holder must develop, implement and adhere to the final Human-Wildlife Conflict Management Plan, and any amendments, to the satisfaction of EAO.		Rights on March 31, 2016 and will be distributed to other regulatory agencies, governments and Aboriginal Groups in early April 2016. BC Hydro is auditing implementation of the Human-Wildlife Conflict Management Plan through: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Program are being considered and implemented as required On March 31, 2016, BC Hydro issued Project wide bulletins to all contactors reminding them of their requirements around managing waste streams and animal attractants. BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance. Twelve occurrences of insufficient measures to avoid human-wildlife conflicts were recorded between August 2015 and March 2016: six uncontained hazardous materials which had the potential to attract wildlife; five speed limit signs not posted; and one occurrence of pile driving with a diesel hammer resulting in sound pressures greater than 30 kPa, which could potential affect fish. Actions to address these occurrences included: erecting speed limit signs; and placing, storing and stockpiling materials in a manner that limits their potential to attract wildlife, such as in secondary containment not accessible by wildlife. ATCO Two Rivers Lodging Group has completed the integration of Bear Awareness into its Orientation package. Their Weekly Safety Sunday meetings topic was on Bear

No	Condition	Timing	Status
			Awareness (source FAM 1016.TRL01.FAM.I.00070# Date: 2015-11-10)
19	The EAC Holder must use reasonable efforts to avoid and reduce injury and mortality to amphibians and snakes on roads adjacent to wetlands and other areas where amphibians or snakes are known to migrate across roads including locations with structures designed for wildlife passage The EAC Holder must consult with Environment Canada, FLNR and MOE with regard to the size and number of the proposed structures prior to construction.	Construction	BC Hydro is meeting this condition. BC Hydro used survey data collected in 2013 and 2014 to identify amphibian and snake migration routes along, specific sections of existing Petroleum Development Roads and the Project Access Road alignment and at Portage Mountain Quarry to develop mitigation options for protection of these species. Exclusion fencing and amphibian underpass locations have been provided for incorporation into road design. Other mitigation measures being considered include installation of passage structures and signage to be implemented at known amphibian migration locations to reduce injury and mortality to amphibians and snakes. Additional detail is provided in Section 8.8 of the final Vegetation and Wildlife Mitigation and Monitoring Plan. Section 4.17 of the CEMP describes how BC Hydro is addressing the requirements of Condition 19. BC Hydro is auditing implementation of the requirements of Condition 19 through: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Program are being considered and implemented as required BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance.
20	The EAC Holder must use reasonable efforts to minimize disturbance to wildlife during the construction phase by scheduling construction activities in accordance with the	Construction	BC Hydro is meeting this condition.

No	Condition	Timing	Status
	Construction Environmental Management Plan.		Section 4.17 of the CEMP describes how requirements for EPPs in minimizing disturbance to wildlife during the construction phase, including conducting works within the least risk timing windows. BC Hydro is auditing implementation of the requirements of Condition 19 through: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Program are being considered and implemented as required On March 31, 2016, BC Hydro issued Project wide bulletins to all contactors reminding them of their requirements around managing waste streams and animal attractants. BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance
21	The EAC Holder must ensure that measures implemented to manage harmful Project effects on wildlife resources are effective by implementing monitoring measures detailed in a Vegetation and Wildlife Mitigation and Monitoring Plan. The Vegetation and Wildlife Mitigation and Monitoring Plan must be developed by a QEP. The Vegetation and Wildlife Mitigation and Monitoring Plan must include at least the following: • Monitor Bald Eagle nesting populations adjacent to the reservoir, including their use of artificial nest structures. • Monitor waterfowl and shorebird populations and their use of natural wetlands, created wetlands, and artificial wetland features. • Monitor amphibian use of migration crossing structures installed along Project roads. • Survey songbird and ground-nesting raptor populations during construction and operations. • Survey the distribution of western toad and garter snake populations downstream of the Site C dam to the Pine River. • Require annual reporting during the construction phase and during the first 10 years of operations to EAO, beginning 180 days following commencement of	Construction Operations	BC Hydro is meeting this condition. The draft and first revision of the VWMMP was submitted to regulatory agencies and Aboriginal Groups on October 17, 2014, and April 7, 2015, respectively. The final VWMMP was submitted to the same recipients on June 5, 2015. Section 2.0 of the VWMMP provides a concordance table which shows how each of the requirements of Condition 21 is addressed in the Plan. Spring waterfowl and shorebird surveys along the Peace River and adjacent large lakes were conducted on March 18, April 2 and 10, 2015. Results are in Appendix C of the annual report. Fall waterfowl and shorebird surveys along the Peace River and adjacent large lakes were conducted on

No	Condition	Timing	Status
	construction. The EAC Holder must provide this draft Vegetation and Wildlife Mitigation and Monitoring Plan to FLNR, MOE, Environment Canada and Aboriginal Groups for review a minimum of 90 days prior to the commencement of construction. The EAC Holder must file the final Vegetation and Wildlife Mitigation and Monitoring Plan must with EAO, FLNR, MOE, Environment Canada and Aboriginal Groups a minimum 30 days prior to the commencement of construction. The EAC Holder must develop, implement and adhere to the final Vegetation and Wildlife Mitigation and Monitoring Plan, and any amendments, to the satisfaction of EAO.		September 1, 15 and 19, 2015. Fall surveys were expanded to survey waterfowl and shorebird use of wetland habitats between the Peace River and the Transmission line between Hudson's Hope and the confluence of the Peace and Moberly Rivers and to link observations to mapped wetland habitat types. The 2015 fall waterfowl and shorebird survey report is provided in Appendix D of the annual report. Results of the surveys (see Sections 6.1.2.1. 6.1.2.2, and 7.5) and other programs are described in the annual report that was submitted to regulatory agencies and Aboriginal Groups on January 22, 2016.
22	The EAC Holder must implement measures that reduce the potential for new or increased public access via roads constructed for the Project, by using pre-existing routes where feasible, decommissioning temporary access roads as soon as practicable after use, and proposing to FLNR Project access roads that should be closed to the public in areas known to be important to Aboriginal groups. The EAC Holder must develop mitigation measures in collaboration with FLNR and the Saulteau, West Moberly, Halfway River, Doig River, Blueberry River and Prophet River First Nations, and McLeod Lake Indian Band.	Construction	BC Hydro is meeting this condition. Appendix A of the Vegetation Clearing and Debris Management Plan describes how the requirements of Condition 22 are being met during construction. The draft and final Vegetation Clearing and Debris Management Plans (VCDMP) were submitted to regulatory agencies, governments, and Aboriginal Groups October 17, 2014 and June 5, 2015, respectively. Section 2.0 of the VCDMP provides a concordance table which shows how Condition 22 is addressed in the Plan. BC Hydro is auditing implementation of the VCDMP through: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Plan are being considered and implemented as required

No	Condition	Timing	Status
			BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance. Specific access routes will be identified in relevant permit applications, such as the OLTC permits. Consultation on these permits is undertaken with the groups identified in the condition, which allows for discussion about the selection of new or pre-existing access routes, and decommissioning requirements.
23	The EAC Holder must maintain current knowledge of Project effects on the status of listed species by tracking updates for species identified by the Province, the Committee on the Status of Endangered Wildlife in Canada, and the *Species at Risk Act*. Should the status of a listed species change for the worse during the course of the construction of the Project due to Project activities, the EAC Holder, must work with Environment Canada FLNR and MOE to determine if any changes to the associated management plans or monitoring programs are required to mitigate effects of the Project on affected listed species.	Construction	BC Hydro is meeting this condition. The draft and first revision of the VWMMP was submitted to regulatory agencies and Aboriginal Groups on October 17, 2014, and April 7, 2015, respectively. The final VWMMP was submitted to the same recipients on June 5, 2015. The provincial ranking of field pussytoes was changed from yellow to blue and the ranking of pretty cinquefoil was changed from yellow to red in anticipation of construction of the Site C Clean Energy Project. BC Hydro will work with FLNR and MOE, through the wildlife technical sub-committee, to quantify effects of the Project on these species and to determine if any changes to the Projects associated management plans or monitoring programs are required to mitigate effects of the Project on these listed species. Results of the surveys (see Sections 7.6) and other programs are described in the annual report that was submitted to regulatory agencies and Aboriginal Groups on January 22, 2016.
24	The EAC Holder must identify suitable lands for ungulate winter range by the end of the first year of construction, on BC Hydro-owned lands, or Crown lands, in the vicinity of the Project in consultation with FLNR. If FLNR determines that identified winter range is	Construction	BC Hydro is meeting this condition.

No	Condition	Timing	Status
	required, the EAC Holder must identify and maintain suitable BC Hydro- owned lands for ungulate winter range to the satisfaction of FLNR and for the length of time determined by FLNR.		Section 8.11 of the VWMMP addresses this condition. Suitable winter range on BC Hydro owned land was identified in Figures 9, 10 and 11 of the VWMMP, and in OLTC permit applications overlapping with provincially designated winter range.
	CURRENT USE OF LANDS AND RESOURCES FOR TRADITIONAL PURPOSES		
25	The EAC Holder must undertake a ground truthing program of traditional plants currently used by Aboriginal Groups in collaboration with Aboriginal Groups prior to construction. Where specific plants are known to be harvested by Aboriginal Groups, the EAC Holder must make reasonable efforts to consult interested Aboriginal Groups using the results of the ground truthing to inform the development and implementation of mitigation and compensation measures to accommodate adverse effects of the Project on plants traditionally used by Aboriginal Groups.	Pre-Construction Construction	BC Hydro is meeting this condition. Invitations to participate in the ground-truthing program described in the APUMP were sent to Aboriginal groups on February 13, 2014, September 24, 2014, October 17, 2014, and May 20, 2015. Ground-truthing with SFN registered trapline holders took place in summer/fall 2014 and August 2015, and ground-truthing with MLIB took place in summer 2015. Additionally, BC Hydro provided funding to support DRFN's independent ground-truthing program in summer 2015. DRFN is currently completing their report, which will be shared with BC Hydro. BC Hydro is also in discussions with HRFN about supporting a ground-truthing program in the Halfway River valley in 2016. Qualified professionals have been retained to accompany BC Hydro and Aboriginal land users in the field to record locations, features, and sites and prepare the summary report. Reports generated to date have been shared with the Aboriginal land users for their review and comment. All finalized ground-truthing reports have and will continue to be used to support and inform mitigation measures and relevant mitigation plans. Based on the ground truthing results to date, a list of plants species of traditional aboriginal value was compiled and shared with the Culture and Heritage Resources Committee for discussion and to seek input on additional plants of high traditional aboriginal

No	Condition	Timing	Status
			value. Through this process as well as new information provided through future ground truthing, plants of high traditional aboriginal value will be identified and included in the mix of species considered for re-vegetation activities conducted under the Vegetation and Wildlife Mitigation and Monitoring Plan. BC Hydro would like to resume the ground-truthing Program for 2016 and sent invitation reminder letters on March 11, 2016 to T8TA (SFN, PRFN, and WMFN), BRFN, HRFN, MLIB, FNFN, KLMSS, MNBC, DTFN, DFN, and HLFN. Each letter was tailored to reflect traditional land use data provided by each of the listed Aboriginal groups for areas as having traditional value or use that may be affected by the Project. The letters expressed our interest to ground-truth these areas of importance or interest. ** See also the June 26, 2015 letter from D. Melchior (Site C) to BC EAO regarding implementation of the Cultural Resource Mitigation Plan and the Aboriginal Plant Use Mitigation Plan.*
26	The EAC Holder must develop an Aboriginal Plant Use Mitigation Plan to describe how the effects of the Project on plants currently harvested by Aboriginal Groups will be mitigated, including through compensation measures. The Aboriginal Plant Use Mitigation Plan must include at least the following: • Identify within the Project footprint including areas being reclaimed potential sites for relocation of medicinal and food plants; relocate when deemed necessary by a QEP. • Identify within the Project footprint including areas being reclaimed opportunities to restore ecological communities that support species of high traditional use value for affected Aboriginal Groups and undertake restoration of those ecological communities where deemed necessary by a QEP. • Identify opportunities and provide financial support for propagation of indigenous plant species for use in reclamation programs, such as that offered through the	Pre-Construction Construction	Plant species of high traditional Aboriginal value will be identified (per EAC 25) and included in the mix of species considered for re-vegetation activities conducted under the Vegetation and Wildlife Mitigation and Monitoring Plan. The annual report for the APUMP will be submitted to the EAC on June 1, 2016. BC Hydro will consider feedback and comments on the APUMP, and will update the plan as required based on new information. Initiatives described in the APUMP will continue to be implemented through project construction.

No	Condition	Timing	Status
	indigenous nursery owned by the West Moberly First Nation and Saulteau First Nation. The EAC Holder must make reasonable commercial efforts to obtain up to $1 million in commercial service contracts with indigenous nurseries for provision of plants. The EAC Holder must make reasonable efforts to develop the Aboriginal Plant Use Mitigation Plan in collaboration with FLNR and Aboriginal Groups, at least 90 days prior to Project activities that may affect traditional plants. The EAC Holder must file the final Aboriginal Plant Use Mitigation Plan with EAO, FLNR and Aboriginal Groups at least 30 days prior to Project activities that may affect traditional plants. The EAC Holder must develop, implement and adhere to the final Aboriginal Plant Use Mitigation Plan, and any amendments, to the satisfaction of EAO.		
27	In order to manage adverse effects on Aboriginal plant, fish and game harvesters during both the construction and operations phases of the Project, the EAC Holder must develop, as part of the Construction Communication Plan, a communications program (Program) for informing Aboriginal harvesters about construction activities that may affect their harvesting opportunities for plants, fish, and game, as well as access to those opportunities. The Program must also include information regarding how fish monitoring programs will be used to inform Aboriginal harvesters about changes in fish community composition during operations. The EAC Holder must make all reasonable efforts to develop the draft Program in collaboration with FLNR and Aboriginal Groups, at least 90 days prior to Project activities that may affect Aboriginal harvesting opportunities. The EAC Holder must file the final Program with EAO, FLNR and Aboriginal Groups at least 30 days prior to any activities that may affect Aboriginal harvesting opportunities. The EAC Holder must develop, implement and adhere to the final Program, and any amendments, to the satisfaction of EAO.	Pre-Construction Construction Operations	BC Hydro is meeting this condition. **Notices of Construction Activities** These quarterly letters describe construction-related activities that are expected to commence, continue or be completed in the three-month period covered by the letter. They are intended to address EAC condition 27 requiring BC Hydro to provide information to Aboriginal harvesters about construction activities that may affect their harvesting opportunities, and serve as the "Aboriginal Harvesters Information Sheet" that is described in the Aboriginal Group Communication Plan. The current schedule seeks to send out the construction notices roughly 30 days prior to the start of the notification period; i.e., the Notice of Construction Activities for April through June, 2016 was sent out on March 1, 2016. The notice letters are sent out to all Aboriginal groups named in the EAC and Federal Decision Statement: Saulteau First Nations, West Moberly First Nations, Prophet River First Nation, Blueberry River First Nations, Doig River First Nation, McLeod Lake Indian

No	Condition	Timing	Status
			Band, Halfway River First Nation, Fort Nelson First Nation, Horse Lake First Nation, Métis Nation British Columbia, Kelly Lake Métis Settlement Society, Duncan's First Nation, and Dene Tha' First Nation. **Communications Forum** As required by Land Act Licences, we are holding bi-annual meetings (i.e., a Communications Forum) with Aboriginal groups to discuss the following: • Updates to construction schedule • Initiation or completion of key phases or activities of construction • Amendments or updates to relevant mitigation, management and monitoring plans • Summaries of Environmental Incidents • Review of key values and concerns identified through implementation of mitigation and management plans and how those issues were addressed (i.e. Environmental Protection Plans). • New or upcoming applications for construction, operation. Or mitigation works related to Site C • Coordination of site visits and ground truthing exercises The first meeting was held on November 26, 2015. Follow-up information including responses to action items stemming from the meeting were sent out to Aboriginal groups on December 17, 2015. This information was also shared with MFLNRO, Transport Canada, and Fisheries and Oceans Canada, all of whom attended the November meeting. The next Communications Forum is scheduled for April 21, 2016. **Saulteau First Nations registered trapline holders** Site C's Aboriginal Relations staff met with Saulteau First Nations registered trapline holders in December 2015 to share construction activity information related

No	Condition	Timing	Status
			to the transmission line. As a result of this meeting, they have been subscribed to receive general project notifications, including those relating to construction activities, as well as the most recent construction notices for the periods of January through March, 2016 as well as April through June, 2016 (described above). A follow-up letter was sent out to Aboriginal groups on January 8, 2016, detailing works planned for the transmission line component of the Project. The letter provided an overview of the transmission line, clearing activities, access roads, substation, the anticipated construction schedule, and an invitation for further discussion, ground truthing, and site visits. Site C's Properties group continues to work with registered trapline holders respecting compensation for any impacts to their tenure. **Annual Report** The annual report for the Aboriginal Group Communication Plan will be submitted to the EAO and shared with Aboriginal Groups on June 1, 2016. **Site C Information for Aboriginal Groups Sharepoint Site** BC Hydro is using a Sharepoint site for purposes of sharing Project information with Aboriginal groups as construction proceeds. BC Hydro adds documents periodically as they are finalized and made available, or as required by conditions attached to permits & authorizations, the EAC, or the federal Decision Statement. Information on the following topics is included on the Sharepoint site: • Notices of Construction Activities • Communications Forum materials (agendas, presentations, and follow-up information) • Cultural and Heritage Resources Committee Materials • Environmental Protection Plans

No	Condition	Timing	Status
			• Environmental Reporting: Environmental Incidents, and Monitoring Reports • Heritage Reports • Mitigation and Monitoring Plans, including finalized plans and draft plans available for consultation
28	In order to mitigate the loss of use and access to structures used in Aboriginal traditional and current harvesting (e.g. cabins associated with tenured trap lines) as a result of Project reservoir flooding, the EAC Holder must make all reasonable efforts to consult with Aboriginal Groups and FLNR to identify the locations of such structures, including permanent, untenured structures. Where the loss of such structures are identified and confirmed through ground-truthing, the EAC Holder must make reasonable efforts to consult with Aboriginal groups and FLNR to establish measures to compensate for the loss of such structures prior to the loss of the structures. The EAC Holder must implement a process for the identification of, and compensation for untenured structures that are culturally important to Aboriginal Groups at least 30 days prior to the commencement of construction activities.	Pre-Construction Construction	BC Hydro is meeting this condition. BC Hydro has a standing invitation to Aboriginal groups to meet and discuss any issues or concerns regarding the project as construction proceeds, and remain committed to conducting ground truthing with any interested Aboriginal groups in the project activity zone. Site C's Aboriginal Relations staff has conducted site visits and ground truthing activities with interested Aboriginal groups in the dam site area, along the transmission line, and on the Peace River between Halfway River and Taylor. The Cultural and Heritage Resources Committee (described in the Cultural Resources Mitigation Plan) has met on four occasions to discuss construction plans and mitigation measures related to cultural and heritage resources. The Committee will meet again in April, 2016.
	LAND AND RESOURCE USE		
	Harvest of Fish and Wildlife Resources		
29	In order to appropriately manage effects on disruption of access to registered trapline holders and Guide Outfitters during construction, the EAC Holder must make reasonable efforts to conclude access agreements with these affected registered third parties, unless there are safety concerns involved. Efforts undertaken by the EAC Holder to reach access agreements must be made to the satisfaction of EAO prior to the disruption of access to trapline holders and Guide Outfitters.	Pre-Construction Construction	BC Hydro is meeting this condition. BC Hydro is in discussions with all trapline holders (two) and guide outfitters (one) within whose territory construction activities are taking place. An agreement has been reached with one of the two trapline holders and an offer has been made to the second trapline holder. An offer has also been made to and verbally accepted by the one guide outfitter for impacts at the Dam site.

No	Condition	Timing	Status
			BC Hydro is in discussions with regard to reaching access agreements with all trapline holders and guide outfitters within whose territory construction activities are planned for 2016 and beyond.
	Agriculture		

30	In order to avoid or manage the effects of the project on agricultural land owners and tenure holders, the EAC Holder must develop an Agricultural Mitigation and Compensation Plan.
	
	The Agricultural Mitigation and Compensation Plan must be developed by a QEP.
	
	As part of Agricultural Mitigation and Compensation Plan development, the EAC Holder must evaluate effects on agricultural land owners and tenure holders, and develop mitigation and compensation measures consistent with industry compensation standards, to mitigate effects or compensate for losses.
	
	The Agricultural Mitigation and Compensation Plan must include at least the following:
	• Inclusion of suitable land in the Agricultural Land Reserve in consultation with the Agriculture Land Commission.
	• When residual land parcels are to be sold, consolidate and/or connect residual agricultural parcels with adjacent agricultural land holdings, where practical and when owner(s) and BC Hydro agree.
	• Funding for mitigation actions for disruptions to agricultural land owners and tenure holders, including but not limited to the provision of alternative / replacement:
	  ○ Livestock movement options and compensation for associated increased costs;
	  ○ Infrastructure (irrigation and drainage improvements);
	  ○ Water supplies;
	  ○ Relocation of quality soil in selected locations;
	  ○ Farm and field access;
	  ○ Highway crossings;
	  ○ Utility crossings;
	  ○ Livestock watering and drainage works during construction, and restore original works after construction is completed; and
	  ○ Fencing.
	
	• Minimize access to agricultural lands by construction workers and
		Construction	BC Hydro is meeting this condition.
			
			BC Hydro is developing a Framework for the Agricultural Mitigation and Compensation Plan for submission within one year after the commencement of construction. BC Hydro has hired a senior agriculture consultant with appropriate experience and QEP credentials to support the development of the Plan (Pat Brisbin, P.Eng., P.Ag.). The plan will address the requirements set out in Condition 30.
			
			Mitigation and compensation measures consistent with industry compensation standards will be developed within Individual farm mitigation plans by the Site C Properties Team, following the process outlined within the BC Hydro Site C Property Acquisition Process Guide.
			
			Requirements for Condition 30 are also currently being implemented as follows:
			
			Agricultural Stakeholder Consultation
			
			• Agricultural stakeholder consultation regarding the Framework took place from November 23 to January 29, 2016 in coordination with Ministry of Agriculture and Ministry of Energy and Mines.
			• 114 participants interactions during the consultation period, including:
			• 81 attendees at regional meetings in December and January in Hudson's Hope, Fort St. John,

No	Condition	Timing	Status
	implement measures to minimize unauthorized public access. • For impacts that cannot be avoided, the plan will contain an approach for reimbursements that compensate for associated financial losses due to disruptions to agricultural land use. In addition to the above bulleted measures in this condition, establishment of an agricultural compensation fund of $20 million for use in the Peace Region or other areas of the province as necessary to compensate for lost agricultural lands and activities, and an approach for establishing the governance and allocation of funds. The EAC Holder must work with the Ministry of Agriculture to establish a governance structure for the agriculture compensation fund that will ensure funds will be used to support enhancement projects that improve agricultural land, productivity or systems. The framework for the Agricultural Mitigation and Compensation Plan must be developed in consultation with the affected agricultural land owners and tenure holders, and the Ministry of Agriculture, and provided to Peace River Regional District and the District of Hudson's Hope for review within 1 year after the commencement of construction. The EAC Holder must provide this draft Agricultural Mitigation and Compensation Plan to the affected agricultural land owners and tenure holders, Peace River Regional District, District of Hudson's Hope, Ministry of Agriculture and FLNR for review within 18 months after the commencement of construction. The EAC Holder must file the final Agricultural Mitigation and Compensation Plan with EAO, Peace River Regional District, District of Hudson's Hope the Ministry of Agriculture and FLNR within 2 years after the commencement of construction. The EAC Holder must develop, jointly with agricultural land owners and tenure holders, individual farm mitigation plans throughout the construction phase for all farms directly affected by the Project. The EAC Holder must develop, implement and adhere to the final Agricultural Mitigation and Compensation Plan, and any amendments, to the satisfaction of EAO.		Dawson Creek, Chetwynd ○ 30 online feedback forms and 3 written submission • Consultation Summary Report posted publicly March 7, 2016. • Meeting on Agricultural compensation fund with Regional representatives on March 8th, 2016. **Minimizing Access to Agricultural Lands** Respect for private property and restrictions on unauthorized public access are included within contractor terms and BC Hydro's Construction Environmental Management Plan., and is monitored and enforced by BC Hydro environmental monitors and independent environmental monitors. **Agricultural Compensation Fund** A joint Consultation Steering Committee has been established including staff from Ministry of Agriculture, Ministry of Energy and Mines, and BC Hydro to develop the Agricultural Mitigation and Compensation Plan. The joint committee is focused on the governance structure of the compensation fund and regional agricultural input on the fund development.
31	In addition to and separate from the compensation funding and mitigation funding the EAC Holder must fund and develop an Agriculture Monitoring and Follow-up Program for a 10 year period which includes the five years prior to reservoir filling and the first five years of operation.	Construction Operations	BC Hydro is meeting this condition. The draft and final Agricultural Monitoring and Follow-up Programs were submitted to regulatory agencies and

No	Condition	Timing	Status
	The Agriculture Monitoring and Follow-up Program must include at least the following: • Monitoring for Project-induced changes in wildlife habitat utilization, and evaluation of associated crop or feed storage damage for, agricultural operations within 5 km of the reservoir, to assess if there is an increase in wildlife-related crop depredation due to Project-related habitat losses. Monitoring must include pre- and post-reservoir filling field surveys, wildlife monitoring, farm operator interviews, and analysis of relevant records related to wildlife-related crop depredation. • Monitoring for Project-induced changes to humidity within 3 km of the reservoir, and evaluate associated effects on crop drying within this area. Monitoring must include collection and analysis of climate data, calculation of crop drying indices, and farm operator interviews. • Monitoring for Project-induced changes to groundwater elevations within 2 km of the reservoir (the area potentially influenced by groundwater elevation changes), and evaluate associated effects on crop productivity. Monitoring must include field surveys and farm operator interviews. • Monitoring for climatic factors to estimate moisture deficits and to estimate irrigation water requirements in the vicinity of the reservoir to provide information for potential future irrigation projects. Data collection will be undertaken before reservoir filling, and in the 5 years after reservoir filling, and data will be reviewed as required for proposed irrigation projects. The Agriculture Monitoring and Follow-up Program reports must be provided annually during the monitoring and follow-up period to affected agricultural land owners and tenure holders, and Ministry of Agriculture. The results of the Agriculture Monitoring and Follow-up Program must inform the Farm Mitigation Plans. Reporting must begin 180 days after the commencement of the monitoring and follow-up program that is to begin 180 days after commencement of construction. The EAC Holder must provide this draft Agriculture Monitoring and Follow-up Program to the Ministry of Agriculture, Peace River Regional District and the District of Hudson's Hope for review within 90 days after the commencement of construction. The EAC Holder must file the final Agriculture Monitoring and Follow-up Program with EAO, Ministry of Agriculture, Peace River Regional District and the District of Hudson's Hope within 150 days of commencement of construction.		governments on October 23, 2015 and December 22, 2105, respectively. Section 3.0 of the Agricultural Monitoring and Follow-up Program contains a concordance table which shows how each of the requirements of Condition 31 is addressed in the Program. A summary update is also provided below. **Wildlife Habitat Utilization Monitoring** Historical data on the extent and severity of wildlife damage to crops and stored livestock feed from the BC Ministry of Agriculture's Wildlife Damage Compensation Program is being reviewed relevant to the Peace River Region, and specifically within 5 km of the reservoir. **Monitoring Potential Effects on Crop Drying** Eight climate station locations are being confirmed, and farm operators for interview participation are being identified. **Monitoring Potential Groundwater Effects** Baseline data review of rainfall data from existing climate stations is in progress. Selection of monitoring sites for field survey, and Identification of farm operators for interviews is being undertaken. **Monitoring for Climatic factors to estimate moisture deficits** Climate station siting and network upgrades are being undertaken. **Annual Reporting** BC Hydro will provide annual reports on the implementation of the AMAFP to affected agricultural land owners and tenure holders, and Ministry of Agriculture, beginning on July 21, 2016 (360 days after commencement of construction). Reports will include a summary of monitoring plan implementation activities, and will be submitted annually in July from 2016 to

No	Condition	Timing	Status
	The EAC Holder must develop, implement and adhere to the final Agriculture Monitoring and Follow-up Program, and any amendments, to the satisfaction of EAO.		2028.
	Other Resource Industries		
32	The EAC Holder must develop an Oil, Gas and Energy Monitoring and Follow-up Program. The Oil, Gas and Energy Monitoring and Follow-up Program must, at a minimum, monitor baseline conditions and effects of increased sedimentation on Spectra intakes, during construction, and effects of increased water temperature and sedimentation during operations, on Spectra cooling operations for a period of 10 years after the commencement of operations. Monitoring reports must be provided to Spectra Energy beginning 180 days following commencement of operations, and annually thereafter. The EAC Holder must provide this draft Oil, Gas and Energy Monitoring and Follow-up Program to Spectra Energy for review within 90 days after the commencement of operations. The EAC Holder must file the final Oil, Gas and Energy Monitoring and Follow-up Program with EAO and Spectra Energy within 150 days after the commencement of operations. The EAC Holder must develop, implement and adhere to the final Oil, Gas and Energy Monitoring and Follow-up Program, and any amendments, to the satisfaction of EAO.	Construction Operations	BC Hydro acknowledges and understands this condition. BC Hydro will develop a draft Oil, Gas and Energy Monitoring and Follow-up Program, and provide the Program to Spectra Energy within 90 days after the commencement of operations. BC Hydro will file the final Program with the EAO and Spectra Energy 150 days after the commencement of operations. BC Hydro will develop, implement and adhere to the final Oil, Gas and Energy Monitoring and Follow-up Program, and any amendments, to the satisfaction of EAO.
33	The EAC Holder must negotiate a Memorandum of Understanding (MOU) with the MOTI prior to material extraction at MOTI quarries or pits to compensate for material used by the Project and to maintain availability of regional aggregate resources for MOTI operational needs. The MOU must include: • Aggregate source strategy to compensate for inundated Ministry aggregate sources, and • Strategy for the EAC Holder to stockpile surplus rock material at the West Pine, Wuthrich, and Portage Mountain quarries. The EAC Holder commitments as outlined in the MOU must be implemented and adhered to, to the satisfaction of the MOTI.	Construction	BC Hydro is meeting this condition. BC Hydro has a signed MOU with MOTI, dated November 12, 2013. Discussions have been ongoing with MOTI to make amendments to the agreement to be more reflective of the Project and associated works moving forward.
34	The EAC Holder must discuss any overlap with the Project activity zone and preliminary reservoir impact lines with affected mineral and aggregate tenure holders.	Pre-Construction Construction	BC Hydro acknowledges and understands this condition. **Mineral Tenures**:

No	Condition	Timing	Status
	Where conflicts exist, the EAC Holder must make reasonable efforts to enter into agreements with mineral and aggregate tenure holders, to the satisfaction of EAO, to resolve conflicts with mineral and aggregate tenure holders. Efforts made by the EAC Holder to enter into such agreements must be documented.		No mineral tenures appear to overlap with the Project Activity Zone and preliminary impact lines. The dam site, reservoir and transmission line are covered by no registration reserves or conditional registration reserves. No mineral claims may be made in no registration reserves. No activity may be undertaken without prior consent of BC Hydro in conditional registration reserves. Further the entire District of Hudson's Hope, the Peace Moberly Tract and the Proposed Peace Boudreau Protected area are also covered by no registration reserves. Portions of the preliminary impact lines on the north bank are not protected by any reserve, however, no mineral claims appear to have been made. **Aggregate Tenures:** Other than reserves held by the Ministry of Transportation and Infrastructure (MoTI) BC Hydro is not aware of any tenures issued to 3rd parties for the purposes of aggregate production on Crown land that overlap with the Project Activity Zone and preliminary impact lines.
	TRANSPORTATION		
35	The EAC Holder must develop a Traffic Management Plan to appropriately manage Project-related traffic in and around work sites during construction in a manner that protects wildlife, maximizes worker and public safety, and manages effects on productivity. The Traffic Management Plan must be developed by a QEP. The Traffic Management Plan must include at least the following: • Maximize the use of existing access corridors. • Equip Project vehicles travelling on Project access roads with VHF/UHF communication radios. • Control and/or restrict access where required, and as discussed with MOTI. • Identify access roads to be decommissioned after Project use. • Public safety measures. • Post speed limits on all construction access roads. • Work schedules, subject to safety considerations, to minimize delays and nuisance to the public caused by the realignment of Highway 29, particularly during peak	Pre-Construction Construction	BC Hydro is meeting this condition. The Project Traffic Management Plan, developed by a QEP, is described in Section 5.4 of the Construction Safety Management Plan (CSMP). The draft and final CSMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. **Site Preparation Works** Work on local north bank roads (240 Road, 269 Road and Old Fort Road) were initiated in 2015 under a MOTI contractor. The contractor submitted for review and approval a Traffic Management Plan for the work which was approved by MOTI prior to the commencement of work.

No	Condition	Timing	Status
	visitor periods. • Inclusion of Traffic Control Plans, Public Information Plans, Incident Plans, and Implementation Plans. The Traffic Management Plan must also establish measures for identifying and mitigating effects on local transportation infrastructure resulting from Project activities. The Traffic Management Plan must also include at least the following: • Identification of all road modifications, realignments, and improvements on Highway 29 North, Highway 29 South, Jackfish Lake Road, and North Bank Minor Roads that are required to ensure access is maintained and service levels meet the appropriate MOTI standards. • Construction of a paved brake-check before the start of the 10% grade on Canyon Drive west of Hudson's Hope and make it a mandatory requirement for Project-related trucks to stop and check vehicle brakes. • In consultation with MOTI, identify any additional measures that may be required for public safety (signage, signals, illumination, monitoring etc.) • Follow best management practices as outlined in Traffic Management Guidelines for Work on Roadways (BC Ministry of Transportation 2001 and as amended from time to time). The EAC Holder must provide this draft Traffic Management Plan to MOTI, Peace River Regional District, City of Fort St. John, District of Hudson's Hope, District of Chetwynd and Saulteau, West Moberly, Halfway River, Doig River, Blueberry River and Prophet River First Nations, and McLeod Lake Indian Band for review 90 days prior to the commencement of construction. The EAC Holder must file the final Traffic Management Plan with EAO, MOTI, Peace River Regional District, City of Fort St. John, District of Hudson's Hope, Chetwynd and Saulteau, West Moberly, Halfway River, Doig River, Blueberry River and Prophet River First Nations, and McLeod Lake Indian Band 30 days prior to the commencement of construction. The EAC Holder must develop, implement and adhere to the final Traffic Management Plan, and any amendments, to the satisfaction of EAO.		Works on 271 Road have not commenced so no contractor has been designated. A Traffic Management Plan will be a requirement prior to construction. Works on Highway 29 have not been undertaken at this point. Contracts are to be tendered and awarded by MOTI who will be responsible for review and approval of TMP's. Contracts for onsite road and bridge construction (north bank and south bank) include signage drawings specifying location and types of signage required on internal roads. **Main Civil Works** BC Hydro has required the MCW Contractor to produce a Traffic Management Plan for the MCW Work. This Plan is being prepared by a qualified Traffic Engineer in compliance with MOTI standards and requires acceptance by BC Hydro before Work commences.
36	The EAC Holder must develop and implement a carpool and commuter program as part of the Traffic Management Plan. The EAC Holder will provide a shuttle service for workers between Chetwynd and the Site C dam site if warranted by demand or	Construction	BC Hydro is meeting this condition. The carpool and commuter program is described in

No	Condition	Timing	Status
	restrictions on access for private vehicles to the dam site The EAC Holder must consult with the affected local communities, including Aboriginal communities in the development of a carpool and commuter program.		Appendix C of the Construction Safety Management Plan, Appendix C – Commuter and Carpool Plan. The draft and final CSMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. Potential carpool coordination websites for works were posted on the public Site C website in the fall of 2015. Please see: http://hw/activities/sustainable_transportation/Pages/default.aspx A contract for shuttle service for workers between Chetwynd and the Site C dam site was awarded to Peace River Hydro Partners.
37	The EAC Holder must develop a Transportation Monitoring and Follow-up Plan to ensure measures to mitigate Project effects on local transportation infrastructure are effective or need to be adjusted to adequately mitigate the effects. The Transportation Monitoring and Follow-up Plan must be developed by a QEP. The Transportation Monitoring and Follow-up Plan must include at least the following: • On an annual basis during construction and during each year when Project traffic will be using each identified intersection, traffic counts and monitoring of traffic operations at the following intersections: ○ Beattie Drive in Hudson's Hope ○ Clarke Avenue in Hudson's Hope ○ Highway 29 and Canyon Drive in Hudson's Hope ○ Highway 29 and Jackfish Lake Rd ○ Highway 97 / Highway 29 in Chetwynd ○ Highway 97 intersections in Fort St. John, including: ○ Highway 97 at Old Fort Road in Fort St. John ○ Highway 97 at 100th Street in Fort St. John ○ Highway 97 at 85th Avenue in Fort St. John • Annual monitoring during construction of traffic operations on local roads to determine if road restrictions for Project-related traffic should be implemented, in accordance with appropriate MOTI standards. As part of the Transportation Monitoring and Follow-up Plan, the EAC Holder must	Construction	BC Hydro is meeting this condition. The requirements of Condition 37 are addressed in Sections 5.4.10, Section 5.4.12, and Appendix B of the CSMP. The draft and final CSMP were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. A status update on Condition 37 requirements is provided below. **Intersection Monitoring** Intersection monitoring was carried out in November 2015 and Feb 2016. The next monitoring period is scheduled for April 2016. **Continuous Lighting** Continuous lighting was installed in 2015 and is operating in Taylor along Highway 97in accordance with this requirement. **Changeable message signs** Changeable message signs were installed in 2015 and are operating on Highway 97 in accordance

No	Condition	Timing	Status
	implement the following 90 days prior to commencement of operations: • Illumination of continuous lightning along Highway 97 through Taylor, from Birch Avenue west to 100th Street access at McMahon Drive, and intersection lightning at Highway 97 and Pine Avenue, 103rd Avenue, and Cherry Avenue • Installation of changeable message signs on Highway 97 on the south Taylor Hill and on the hill north of Taylor, to be operated as part of the MOTI network, that will provide drivers with advanced notification of road conditions, including notification of fog conditions. • Installation of a highway webcam in Taylor to monitor fog conditions, to be operated as part of the MOTI network. The location will be determined in consultation with Taylor and MOTI. The Transportation Monitoring and Follow-up Plan reporting must occur at least annually during the monitoring and follow-up program period, beginning 180 days after the commencement of construction. The EAC Holder must provide the draft Transportation Monitoring and Follow-up Plan to MOTI, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Aboriginal Groups for review within 90 days after the commencement of construction. The EAC Holder must file the final Transportation Monitoring and Follow-up Plan with EAO, MOTI, Peace River Regional District, City of Fort St. John, District of Hudson's Hope, District of Chetwynd and Aboriginal Groups within 150 days after the commencement of construction. The EAC Holder must develop, implement and adhere to the final Transportation Monitoring and Follow-up Plan, and any amendments, to the satisfaction of EAO.		with this requirement. **Webcam** Installation of the webcam has been procured to be completed in 2016.
38	The EAC Holder must develop a Public Safety Management Plan to describe how it will implement measures to avoid or manage the effects of the Project on public safety during construction and operations. The Public Safety Management Plan must be developed by a QEP. The Public Safety Management Plan must include at least the following:: • Increase public awareness of safety hazards, including navigational hazards, access restrictions and closures during the construction and operation of the Site C reservoir.	Pre-Construction Construction Operations	BC Hydro is meeting this condition. The Public Safety Management Plan, developed by a QEP, is described in Section 5.3 of the CSMP. The draft and final CSMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. A status update on Condition 37 requirements is provided below. BC Hydro is auditing the implementation of measures in

No	Condition	Timing	Status
	• Establish boater communication protocol including communication of navigational hazards during construction and operations. • Develop standard navigation mitigations for signals, markings and notifications, relating to overhead structures such as towers and conductors crossing navigable waters. • Manage public water-based access during construction and for the first 5 years of operation. The EAC Holder must provide this draft Public Safety Management Plan to MOTI, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Saulteau, West Moberly, Halfway River, Doig River, Blueberry River and Prophet River First Nations, and McLeod Lake Indian Band for review 90 days prior to the commencement of construction and operations. The EAC Holder must file the final Public Safety Management Plan with the MOTI, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Saulteau, West Moberly, Halfway River, Doig River, Blueberry River and Prophet River First Nations, and McLeod Lake Indian Band 30 days prior to the commencement of construction and operations. The EAC Holder must develop, implement and adhere to the final Public Safety Management Plan, and any amendments, to the satisfaction of EAO.		the CSMP by: • reviewing Safety Management Plans /Public Safety Management Plans submitted by the contractors, • holding regular meetings with the contractors to discuss safety performance and explore opportunities for improvement • conducting safety audits during construction to verify that requirements of the Plan are being considered and implemented as required BC Hydro has also required that the MCW contractor retain independent third party auditors to conduct safety audits on an annual basis BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance.
	OUTDOOR RECREATION AND TOURISM		
39	The EAC Holder must provide information to the Province of Alberta, during construction and operations, to assist in their communications with anglers in Alberta regarding changes in downstream fishing opportunities due to construction activities and longer-term changes in fish community composition.	Construction Operations	BC Hydro acknowledges and understands this condition. BC Hydro will provide information regarding changes in downstream fishing opportunities on to the Province of Alberta on an annual basis, commencing when information from the Fisheries and Aquatic Habitat Monitoring and Follow-up Program becomes available.
40	The EAC Holder must finalize and implement the Outdoor Recreation Mitigation Plan to mitigate changes in recreational opportunities and loss of existing recreational areas resulting from the Project. The Outdoor Recreation Mitigation Plan must be developed by a QEP. The Outdoor Recreation Mitigation Plan must include at least the following to: • Provide technical information to support outdoor recreation providers in adapting to	Construction Operations	BC Hydro is meeting this condition. BC Hydro will submit the draft and final Outdoor Recreation Mitigation Plans with regulatory agencies, governments and Aboriginal Groups within 12 months and 18 months, respectively, after the commencement of construction. Updates on the status of Condition 40 requirements are provided below:

No	Condition	Timing	Status
	new shoreline conditions. • Establish three new boat launch/day use sites, complete with parking, picnic areas and toilets, at Cache Creek, Lynx Creek and Hudson's Hope Shoreline, and accessible via Highway 29. • Establish at least one public viewpoint at the Site C dam site. • Provide approximately $150,000 to the District of Hudson Hope for the enhancement of Alwin Holland Park, or other community shoreline recreation areas. • Provide approximately $200,000 for a Community Recreation Site Fund of which $50,000 is for recreational sites on the south bank to support development of new shoreline recreation areas within the Peace River and its tributaries to the Alberta border. • Outline an approach to governance and allocation of funds from the Community Recreation Site Fund • Fund the development of a BC Peace River/Site C Reservoir Navigation and Recreation Opportunities Plan The EAC Holder must provide this draft Outdoor Recreation Mitigation Plan to FLNR, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Saulteau, West Moberly, Halfway River, Doig River, Blueberry River and Prophet River First Nations, and McLeod Lake Indian Band for review within 12 months after the commencement of construction. The EAC Holder must file the final Outdoor Recreation Mitigation Plan with EAO, FLNR, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Saulteau, West Moberly, Halfway River, Doig River, Blueberry River and Prophet River First Nations, and McLeod Lake Indian Band within 18 months after the commencement of construction. The EAC Holder must develop, implement and adhere to the final Outdoor Recreation Mitigation Plan, and any amendments, to the satisfaction of EAO.		**Boat Launches** The design of three new boat launch and day use sites is in progress. Road access for boaters and recreation site users from Highway 29 for each of the boat launches is currently in design phase, in coordination with Highway 29 work. **Public Viewpoint** The design of the Site C North bank Viewpoint and viewpoint road was completed in February 2016. Consultation with local and regional government and Aboriginal groups on the design, and interpretive signage contribution opportunities, were undertaken in February and March 2016. Procurement is in process, and construction is being planned for summer 2016. **Community Recreation Site Fund** Discussions have been initiated with the Peace River Regional District Peace Regional regarding the Community Recreation Site Fund (Letter dated November 17, 2015). A follow up meeting is being planned for April, 2016. **Navigation and Recreation Opportunities Plan** Funds are allocated for the BC Peace River/Site C Reservoir Navigation and Recreation Opportunities Plan in the Operations Phase, once opportunities associated with the new reservoir are identified.
41	The EAC Holder must make reasonable efforts to enter into agreements with the owners of the campground at Cache Creek and the hunting camp near the Site C dam site to compensate for any effects to those facilities, prior to potential effects on operation of these facilities. Where it is both physically and economically feasible, the costs to relocate facilities will be included in the agreements.	Construction	BC Hydro is meeting this condition. BC Hydro is in discussions with all trapline holders (two) and guide outfitters (one) within whose territory construction activities are taking place. An agreement has been reached with one of the two trapline holders and an offer has been made to the second trapline

No	Condition	Timing	Status
			holder. An offer has also been made to and verbally accepted by the one guide outfitter for impacts at the Dam site. BC Hydro is in discussions with regard to reaching access agreements with all trapline holders and guide outfitters within whose territory construction activities are planned for 2016 and beyond.
	COMMUNITY		
	Community Infrastructure and Services		
42	The EAC Holder must manage increased demands resulting from the influx of the Project workforce on community health care and social services by implementing mitigation measures detailed in a Healthcare Services Plan. The Healthcare Services Plan must include at least the following: • Implement on-site health care comprised of physician and nursing services to manage non-urgent health issues for the workforce residing in the construction camps. • Establish a process for coordination of program delivery with the Northern Health Authority (NHA). • Establish a process for providing new resident workers and their families with local information about health, education and social services. The EAC Holder must provide this draft Healthcare Services Plan to NHA, Peace River Regional District, City of Fort St. John and District of Hudson's Hope for review a minimum of 90 days prior to the commencement of construction. The EAC Holder must file the final Healthcare Services Plan with the NHA, Peace River Regional District, City of Fort St. John and the District of Hudson's Hope a minimum of 30 days prior to the commencement of construction. The EAC Holder must develop, implement and adhere to the final Healthcare Services Plan, and any amendments, to the satisfaction of EAO.	Pre-Construction Construction	BC Hydro is meeting this condition. The draft and final Health Care Services Plans were submitted to NHA and governments, on October 17, 2014 and June 5, 2015, respectively. An update on the status of requirements in Condition 42 is below: **On-site Project Health Clinic** The on-site Project Health Clinic opened on March 1, 2016 staffed with a nurse practitioner and advanced care paramedic. **Coordination of Program Delivery** Project Health Clinic staff have been in contact with Northern Health Authority contacts provided by Northern Health to coordinate programs delivered through the clinic. **Information distribution** Links to information about health, education and social services for each community in the Peace have been posted on the public Site C website in fall 2015 to share with new residents and potential new residents.
43	The EAC Holder must develop an Emergency Services Plan that includes at least the following to describe how the EAC Holder will implement measures to: • Contract for provision of emergency services (fire services and medical transport) ;	Pre-Construction Construction	BC Hydro is meeting this condition. The draft Emergency Services Plan was submitted to local emergency services providers, and governments

No	Condition	Timing	Status
	• Communicate Project emergency management plans to all emergency service providers, and provide updates as plans are amended • Develop site access protocols to enable safe site access during construction and communicate to emergency service providers For this condition, these emergency services refer only to Project need for emergency services during construction and are defined as those services relating to: firefighting, policing, ambulance services, Conservation Officer Service, Search and Rescue Associations, BC Wildfire Management Branch. The EAC Holder must provide this draft Emergency Services Plan to the appropriate local emergency service providers including the Peace River Regional District, City of Fort St. John, District of Hudson's Hope and District of Taylor for review a minimum of 90 days prior to the commencement of construction. The EAC Holder must file the final Emergency Services Plan with EAO, local emergency service providers including the Peace River Regional District, City of Fort St. John, District of Hudson's Hope and District of Taylor a minimum of 30 days prior to the commencement of construction. The EAC Holder must develop, implement and adhere to the final Emergency Services Plan, and any amendments, to the satisfaction of EAO.		on October 17, 2014. The final Emergency Services Plan was submitted to the EAO, local emergency services providers, and governments on June 5, 2015. Section 2.0 of the Emergency Services Plan provides a concordance table which shows how each of the requirements of Condition 43 is addressed in the Plan. A contract for fire services with the City of Fort St John has been assigned by ATCO for the worker accommodation camp. Additionally, meetings have been held with Northern Health and BC Ambulance service for coordination, especially on the topic of emergency medical transport from the site. In the event of a medical transport requirement, patients can be transported to hospital by either the Prime contractors emergency transport or by BC Ambulance. BC Hydro does not have any special agreements with any other emergency services to manage. An access protocol to ensure safety orientation and accreditation before coming into the construction site is in place and well managed through Saulteau security and the Prime contractors. Ongoing coordination on orientations is part of the process. An emergency management plan has been drafted for discussion and coordination with the PRRD. The latest version of that draft is expected to be delivered to the PRRD in early 2017.
44	The EAC Holder must assist School Districts 59 and 60 to adjust to potential increased need resulting from the influx of the Project workforce by providing annual information throughout construction about anticipated changes in the resident population and potential new school enrolment.	Construction	BC Hydro acknowledges and understands this condition. BC Hydro will provide information on the Project workforce to School Districts 59 and 60 before the end of 2016.
45	The EAC Holder must assist the Northern Lights College to adjust to potential increased need resulting from the influx of the Project workforce by providing information annually during	Construction	BC Hydro is meeting this condition.

No	Condition	Timing	Status
	construction to identify the number of worker hires.influx of the Project workforce by providing information annually during construction to identify the number of worker hires		BC Hydro has required its contractors to submit monthly reports regarding the number of workers hired to work on the Site C Project. BC Hydro will include this information in its Annual Report to be submitted to Northern Lights College in July 2016.
46	The EAC Holder must develop a Waste Management Plan. The Waste Management Plan must be developed by a QEP. The Waste Management Plan must include at least the following: • Identify waste management strategies to manage effects on landfills in the region. • Develop methods for disposal of project-related waste. • Ensure capacity of local landfills to meet disposal requirements of the Project construction activities • Establish resources and funding arrangements to address any potential shortfall in existing landfill capacity. • Identify other waste management options through consultation with the Peace River Regional District/municipal agencies responsible for management of solid waste in the area. The EAC Holder must provide the Waste Management Plan to the MOE, Peace River Regional District, City of Fort St. John and the District of Hudson's Hope for review a minimum of 90 days prior to the commencement of construction activities. The EAC Holder must file the final Waste Management Plan with the EAO, MOE, Peace River Regional District, City of Fort St. John and the District of Hudson's Hope a minimum of 30 days prior to the commencement of construction activities. The EAC Holder must develop, implement and adhere to the final Waste Management Plan, and any amendments, to the satisfaction of EAO.	Pre-Construction Construction	BC Hydro is meeting this condition. The Waste Management Plan is described in Section 4.16 of the Construction Environmental Management Plan (CEMP) for the Project. The draft and final CEMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. Revision 2 of the CEMP was submitted to these same recipients on February 4, 2016. Revision 3 of the CEMP was submitted to the Comptroller of Water Rights on March 31, 2016 and will be distributed to other regulatory agencies, governments and Aboriginal Groups in early April 2016. BC Hydro is auditing implementation of the Waste Management Plan through: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Plan are being considered and implemented as required BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance.
47	The EAC Holder must mitigate actual effects on the functionality of local water and sewage systems by implementing measures detailed in a Local Infrastructure Mitigation Plan. The Local Infrastructure Mitigation Plan must include at least the following:	Construction Operations	BC Hydro is meeting this condition. BC Hydro has established monitoring programs with the City of Fort St. John and the District of Taylor for their water supply systems.

No	Condition	Timing	Status
	• A strategy for ongoing communication with local municipalities. • Specific mitigation measures (system relocation, replacement, monitoring) that may be required to ensure the functionality of existing municipal water and sewer systems. • Identification of resources and funding arrangements associated with specific mitigation measures that may be required to ensure functionality of existing municipal water and sewer systems. The EAC Holder must provide this draft Local Infrastructure Mitigation Plan to the Peace River Regional District, City of Fort St. John, District of Hudson's Hope, District of Taylor, and Aboriginal Groups for review a minimum of 360 days prior to reservoir filling. The EAC Holder must file the final Local Infrastructure Mitigation Plan with EAO, Peace River Regional District, City of Fort St. John, District of Hudson's Hope, District of Taylor, and Aboriginal Groups a minimum of 30 days prior to reservoir filling. The EAC Holder must develop, implement and adhere to the final Local Infrastructure Mitigation Plan, and any amendments, to the satisfaction of EAO.		BC Hydro will submit the draft Local Infrastructure Mitigation Plan to governments and Aboriginal Groups, a minimum of 360 days prior to reservoir filling. BC Hydro will submit the final Local Infrastructure Mitigation Plan to the EAO, governments and Aboriginal Groups, a minimum of 30 days prior to reservoir filling.
	Housing		
48	The EAC Holder must manage the increased demands for housing in the City of Fort St. John, resulting from the influx of the Project workforce by implementing mitigation measures detailed in a Housing Plan. The Housing Plan must include at least the following: • Establish a community camp co-coordinator. • Establish a process for adjusting camp capacity throughout the construction phase to accommodate direct Project workers. • Expand affordable rental housing supply in the City of Fort St. John by building 50 rental units to be owned and operated by BC Housing or an approved non-profit operator. Immediately on completion of the housing development, 40 of the rental units will be available for BC Hydro worker housing and 10 will be available to low to moderate income households. Upon completion of the Site C construction phase, the 40 worker housing units will be made available to low to moderate income households. • Expand RV accommodation by building 20 new temporary long-stay RV accommodations. • Provide approximately $250,000 to emergency or transitional housing providers in the City of Fort St. John. • Monitor net migration to reserves as a result of the Project.	Construction	BC Hydro is meeting this condition. The draft Housing Plan and Housing Monitoring and Follow-Up Program, was submitted to the City of Fort St. John and Aboriginal Groups on April 7, 2015. The final Housing Plan and Housing Monitoring and Follow-Up Program, was submitted to the EAO, the City of Fort St. John and Aboriginal Groups on June 5, 2015. Section 2.0 of the Plan provides a concordance table which shows how each of the requirements of Condition 48 is addressed in the Plan. **Community Camp Coordinator** The coordinator identified and posted logistical information on the public Site C website to support workers consideration of moving to a local community. **Rental Housing** BC Hydro is currently in the process of developing a

No	Condition	Timing	Status
	The EAC Holder must provide this draft Housing Plan to the City of Fort St. John, and Aboriginal Groups for review a minimum of 90 days prior to the construction of housing. The EAC Holder must file the final Housing Plan with the EAO, the City of Fort St. John and Aboriginal Groups a minimum of 30 days prior to the construction of housing. The EAC Holder must develop, implement and adhere to the final Housing Plan, and any amendments, to the satisfaction of EAO.		contribution agreement with BC Housing. **RV Accommodation** BC Hydro has procured the work to expand RV accommodation and it is underway at Peace Island Park for the District of Taylor. The work is expected to be completed in 2016. **Transitional Housing** To date, BC Hydro has provided the following funding for emergency and transitional housing programs in Fort St. John: • $25,000 contribution to Skye's Place in September 2015 to support transitional housing. • $25,000 contribution to Meaope Transition House in September 2015 to support transitional housing. • $200,000 contribution to Salvation Army in November 2016 to support emergency housing.
49	The EAC Holder must ensure that measures implemented under the Housing Plan are effective in mitigating increased demands for housing in the City of Fort St. John by developing and implementing a Housing Monitoring and Follow-up Program for the construction phase. The Housing Monitoring and Follow-up Program must include at least the following to ensure measures to mitigate Project effects are effective or need to be adjusted to adequately mitigate the effects: • The EAC Holder must develop an approach for monitoring the apartment rental vacancy rate and price as published by the CMHC semi-annually, for the Fort St. John area and must define the nature and duration of market changes that may require additional mitigation. The EAC Holder will review the monitoring results with the City of Fort St. John and discuss if additional mitigation is required and mitigation options. • Reports must be provided semi-annually during construction to BC Housing and City of Fort St. John, beginning 180 days following the commencement	Construction	BC Hydro is meeting this condition. The draft Housing Plan and Housing Monitoring and Follow-Up Program, was submitted to the City of Fort St. John and Aboriginal Groups on April 7, 2015. The final Housing Plan and Housing Monitoring and Follow-Up Program, was submitted to the EAO, the City of Fort St. John and Aboriginal Groups on June 5, 2015. Section 2.0 of the Plan provides a concordance table which shows how each of the requirements of Condition 49 is addressed in the Plan. The first monitoring cycle was carried out in October 2015. The next monitoring cycle is scheduled for April 2016 to coincide with CMHC data gathering periods. The Housing Plan Rental Apartments - Interim

No	Condition	Timing	Status
	of construction. • The EAC Holder must work with Aboriginal communities in the LAA (as defined in EIS) to track net migration to reserves attributable to Project effects, on rental market conditions in the City of Fort St. John and to identify if additional mitigation is needed. The EAC Holder must provide this draft Housing Monitoring and Follow-up Program to the City of Fort St. John and Aboriginal Groups for review within 90 days after the commencement of construction. The EAC Holder must file the final Housing Monitoring and Follow-up Program with EAO, City of Fort St. John and Aboriginal Groups within 150 days following the commencement of construction. The EAC Holder must develop, implement and adhere to the final Housing Monitoring and Follow-up Program, any amendments, to the satisfaction of EAO.		Monitoring Report, containing the results of the October 2015 monitoring cycle, was submitted to City of Fort St. John and BC Housing on January 22, 2016.
	Regional Economic Development		
50	The EAC Holder must provide a one-time contribution of $160,000 to the District of Hudson's Hope within one year of reservoir filling to address permanent inundation of land no longer available for development.	Operations	BC Hydro acknowledges and understands this condition. BC Hydro will provide a one- time contribution to the District of Hudson's Hope within one year of reservoir filling to address permanent inundation of land no longer available for funding.
51	The EAC Holder must develop and implement a Business Participation Plan (Plan). The Plan must include at least the following: • Increase awareness in the business community about Project procurement opportunities. • Develop partnerships with local business organizations and economic development offices and programs to communicate and maximize opportunities for local businesses. The EAC Holder must provide this draft Plan to the City of Fort St. John, District of Hudson Hope, District of Taylor and Peace River Regional District for review 90 days prior to the commencement of construction. The EAC Holder must file the Final Plan with EAO, City of Fort St. John, District of	Pre-Construction Construction	BC Hydro is meeting this condition. The draft and final Business Participate Plans were submitted to regulatory agencies and governments on October 7, 2014 and June 5, 2015 respectively. Section 2.0 of the Plan provides a concordance table which shows how each of the requirements of Condition 51 is addressed in the Plan. As described in the Business Participation Plan, BC Hydro will publicly report on business participation activities on an annual basis. The first report will be available in July 2016.

No	Condition	Timing	Status
	Hudson's Hope, District of Taylor, and Peace River Regional District a minimum of 30 days prior to the commencement of construction. The EAC Holder must develop, implement and adhere to the Final Plan, and any amendments, to the satisfaction of EAO.		
52	The EAC Holder must support the North and South Peace non-profit organizations by establishing a community non-profit fund and providing an annual contribution of $100,000 per year to the fund during the construction phase. Organizations that support children and families will be eligible to apply for funding from the community non-profit fund.	Construction	BC Hydro is meeting this condition. BC Hydro is working to establish a community non-profit fund to support non-profit organizations. A planning workshop was held January 27, 2016 in Fort St. John 31 people attended as representatives of Peace region non-profit organizations, and local and regional governments. Discussion on community needs, fund mandate and governance. A workshop summary was provided to all attendees. A regional decision-making body is currently being established to provide local leadership on non-profit funding decisions, and a fund administrator is being engaged.
53	The EAC Holder must develop and implement a Labour and Training Plan. The Labour and Training Plan must include at least the following: • Where labour requirements cannot be met through the local labour pool, develop a strategy for attracting new entrants to the local labour force. • Resources and funding arrangements with education providers to ensure required training and skill development programs are available • Participation in regional workforce training initiatives during construction • Identification of apprenticeship opportunities during construction • Provision of additional day-care spaces in Fort St. John to increase spousal participation in the labour market.	Pre-Construction Construction	BC Hydro is meeting this condition. The draft and final Labour and Training Plans were submitted to regulatory agencies, governments, Aboriginal Groups, School Districts 59 and 60, and Northern Lights College on October 17, 2014 and June 5, 2015, respectively. Section 2.0 of the Plan provides a concordance table which shows how each of the requirements of Condition 53 is addressed in the Plan. BC Hydro has undertaken the following initiatives

No	Condition	Timing	Status
	The EAC Holder must provide this draft Labour and Training Plan to the City of Fort St John, District of Taylor, District of Hudson Hope, Peace River Regional District, Aboriginal Groups, School Districts 59 and 60, and Northern Lights College for review a minimum of 90 days prior to the commencement of construction. The EAC Holder must file the final Labour and Training Plan with EAO, City of Fort St John, District of Taylor, District of Hudson Hope, Peace River Regional District, Aboriginal Groups, School Districts 59 and 60, and Northern Lights College a minimum of 30 days prior to the commencement of construction. • The EAC Holder must develop, implement and adhere to the final Labour and Training Plan, and any amendments, to the satisfaction of EAO.		described in the Plan to date: • Partnered with Site C contractors, local employment agencies and training institutions to host career fairs in various communities in Northern BC; • Required Site C contractors to post Site C employment opportunities on the WorkBC and Employment Connections websites; • Continued to support trades and skilled training through the BC Hydro Trades and Skilled Training Bursary Awards program through Northern Lights College; • Required Site C contractors to adhere to the provincial government's policy "Apprentices on Public Projects in British Columbia" which requires identification of apprentices being utilized on the Site C Project; • Worked with major Site C contractors to identify apprenticeship opportunities for the term of their respective construction contract; and • Maintained on-going contact with training providers/institutions and employment agencies in Northeast British Columbia. In addition, BC Hydro has undertaken the following initiatives, which will be described in an Annual Report to be submitted to training institutions and employment agencies in July 2016. These include: • Requiring Site C contractors to provide information to BC Hydro which identifies categories of workers that are difficult to hire from the Peace Region labour pool. • Requiring Site C contractors to provide information on the number and job category of foreign workers, management, and supervisors employed in Canada on Project related work.

No	Condition	Timing	Status
			BC Hydro is also currently in the process of developing a plan for how to best deliver additional child care spaces in Fort St John.
54	The EAC Holder must develop an Aboriginal Training and Inclusion Plan. The Aboriginal Training and Inclusion Plan must include at least the following: • Description of a protocol and plan for the communication of employment opportunities to Aboriginal groups. • Inclusion of evaluation criteria for hiring and training Aboriginal persons in contractor procurement packages. • Strategies for capacity building, education, and training associated with Aboriginal participation in the labour market, including construction, trades, and other indirect and induced sectors for Aboriginal workers, as these jobs are likely to be longer lived than those related strictly to construction. • Resources and funding arrangements to support training, industry, and Aboriginal partnership opportunities in the region. Provide $30,000 to the to the Minerva Foundation for three years to support Treaty 8 First Nation women in northeast BC wishing to participate in the Minerva Foundation's Combining Our Strength Initiative ($10,000 provided to date.). This is in addition to funding provided to date to Northern Lights College Foundation ($1 million over five years), Northern Development Opportunities Program ($175,000), Northern Opportunities School District Counsellor ($184,000), NENAS NEATT Program ($100,000) and Oho Education ($16,600). • Aboriginal Business Participation Strategy to maximize opportunities for Aboriginal businesses, incorporating at least the following: o Obtaining information from Aboriginal suppliers in the LAA, and from other Aboriginal groups with whom BC Hydro is engaged about the Project, about their business capacity and capabilities to provide goods and services for the Project o Direct engagement with the local Aboriginal business community, including sponsoring and participating in Aboriginal business events and conferences. o Implementation of BC Hydro's Aboriginal Contract and Procurement Policy. The EAC Holder must provide this draft Aboriginal Training and Inclusion Plan to	Pre-Construction Construction	BC Hydro is meeting this condition. The draft Aboriginal Training and Inclusion Plan was submitted to Aboriginal Groups on October 17, 2014. The final Aboriginal Training and Inclusion Plan was submitted to EAO and Aboriginal Groups on June 5, 2015. Section 2.0 of the Plan provides a concordance table which shows how each of the requirements of Condition 54 is addressed in the Plan. **Communications of potential employment opportunities to Aboriginal groups** As described in the Aboriginal Training and Inclusion Plan, contractors are required to make reasonable commercial efforts to provide employment opportunities for Aboriginal persons. Based on reports submitted by contractors, from July 2015 to February 2016 Aboriginal employment hours is estimated to be 52,628 hours. BC Hydro advises Aboriginal job seekers that it posts contact information for its contractors on the Site C Project website, and encourages Aboriginal job seekers to reach out to contractors directly for employment opportunities. It is also mentioned that Site C specific job opportunities can also be found on the Work BC and Employment Connects website. Links to the Work BC and Employment Connects websites can be found on the Site C Project website. **Engagement with local Aboriginal Business Community** BC Hydro and its contractors held business networking

No	Condition	Timing	Status
	Aboriginal Groups for review a minimum of 90 days prior to the commencement of construction. The EAC Holder must file the final Aboriginal Training and Inclusion Plan with EAO and Aboriginal Groups a minimum of 30 days prior to construction. The EAC Holder must develop, implement and adhere to the final Aboriginal Training and Inclusion Plan, and any amendments, to the satisfaction of EAO.		sessions and job fairs in February/March 2016 in the communities of Tumbler Ridge, Chetwynd, Dawson Creek, Fort St John, Prince George, Mackenzie, Quesnel, and Fort Nelson. At these events, BC Hydro had members of its Procurement and Aborignal Relations teams present to discuss Site C employment and procurement opportunities, including procurement and employment opportunities with BC Hydro directly. Additionally, BC Hydro continues to encourage local Aboriginal businesses to sign-up for the Site C Business directory to make sure those businesses receive information about upcoming Site C events and procurements. **Resources and Funding Arrangements to Support Training** BC Hydro's Trades and Skilled Training Bursary at Northern Lights College remains available to Aboriginal and non-Aboriginal students enrolled in eligible programs at the College. As of November 2015, 49 Aboriginal students have benefitted from the bursary and supported students in programs such as electrical, welding, millwright, cook training, social work, and many others. BC Hydro continues to provide funding to Minerva to support Treaty 8 First Nation women of northeast BC wishing to participate in the Combining Our Strength Initiative. Committed funding will be provided for 2016-17. **Aboriginal involvement in Site C Programs/Studies** Aboriginal involvement in field studies for the heritage program has been ongoing since 2010. Aboriginal groups who have participated in heritage work include BRFN, KLMSS, PRFN, FNFN, HRFN, HLFN, KFN, DFN, DRFN, MLIB, KLCN, DTFN, MNBC, SFN, and TKD. These

No	Condition	Timing	Status
			groups continue to be contacted about current heritage field assistant opportunities. BC Hydro has also tried to facilitate Aboriginal involvement in Site C field studies where possible and as requested. In fall 2015, BC Hydro made efforts for DRFN and BRFN to participate in rare ecosystem sampling and fish sampling work. **Annual Report** The annual report for the Aboriginal Training and Inclusion Plan will be submitted to the EAO and shared with Aboriginal Groups on June 1, 2016.
55	The EAC Holder must manage increased demands on community recreational programs and services resulting from the influx of the Project workforce by implementing mitigation measures detailed in a Recreation Program for residents of the work camp, in consultation with the City of Fort St. John. If the recreational services required by residents of the camp extend beyond that provided through in-house (EAC Holder) facilities and programming, the EAC Holder must identify, through consultation with the City of Fort St. John, additional facility and/or programming needs and must provide the resources required to meet those needs. The EAC Holder must develop a draft Recreation Program for review by the City of Fort St. John and the Peace River Regional District a minimum of 90 days prior to the commencement of camp operations. The EAC Holder must file the final Recreation Program with EAO, City of Fort St. John and Peace River Regional District a minimum of 30 days prior to the commencement of camp operations. The EAC Holder must develop, implement and adhere to the final Recreation Program, and any amendments, to the satisfaction of EAO.	Construction	BC Hydro is meeting this condition. The draft Recreation Program was submitted to City of Fort St. John, and Peace River Regional District, on October 17, 2014. The final Recreation Program was submitted to EAO, City of Fort St. John, and Peace River Regional District on June 5, 2015. BC Hydro will implement and adhere to the final Recreation Program, and any amendments, to the satisfaction of EAO.
	HUMAN HEALTH		
	Potable and Recreational Water Quality		
56	The EAC Holder must ensure that wells affected by changes to groundwater levels within 1 km. of the reservoir or Peace River continue to function as reliable and safe sources of	Construction Operations	BC Hydro commenced monitoring of groundwater in June

No	Condition	Timing	Status
	water for human consumption by monitoring potentially affected wells, with the approval of potentially affected well owners, for significant long-term well quality issues. Monitoring must be done twice a year for 10 years, beginning annually from the outset of construction. If any functionality problems such as poor water quality or low yield result from the Project, the EAC Holder must work with the well owner(s) to provide an alternate source of potable water.		2015 at representative water sampling locations selected based on historical well drill logs and spatial proximity to water wells within 1 km of the reservoir. In 2015, BC Hydro was granted access to sample one private homeowner well, within 1 km of current construction activities and downstream of the permanent dam site. In spring 2016, BC Hydro will reinitiate efforts to engage with property owners with potentially affected drinking water wells by contacting all owners of known wells within 1 km of the reservoir or Peace River near the Site C construction site. BC Hydro will be requesting information on wells, and if used for drinking water, will request approval to complete well water quality testing. Implementation of twice per year monitoring will include contact with drinking water well owners with a brief questionnaire on well operations and any potential changes in water quality. Water quality testing will be completed on an as-needed basis in private drinking water wells, if potential changes or concerns are identified. If testing finds issues with quality or yield caused as a result of the project, BC Hydro will work with the well owner (s) to provide an alternate source of potable water.
	Ambient Air Quality		
57	The EAC Holder must develop an Air Quality Management Plan and Smoke Management Plan, in compliance with applicable legislation and consistent with the Air Quality Guidelines for the Protection of Human Health and the Environment (CCME 1998), and the British Columbia Air Quality Objectives and Standards (BC Ministry of Environment 2009). The main purpose of the Air Quality Management Plan and Smoke Management Plan is	Pre-Construction Construction	BC Hydro is meeting this condition. The Smoke Management Plan and Air Quality Monitoring Program are described in Section 4.1 and Appendix A and B, respectively, of the CEMP. The draft and final CEMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. Revision 2 of the

No	Condition	Timing	Status
	to mitigate the potential human health effects from a degradation of air quality in the region of Fort St. John, Taylor, Hudson's Hope, Chetwynd and for Aboriginal Groups using areas for traditional purposes close to the construction activities of clearing and burning. The Air Quality Management Plan and Smoke Management Plan must include at least the following to describe how the EAC Holder: • Identify places of high use by Aboriginal Groups for traditional purposes and develop mitigation measures if adverse effects are predicted at those locations. • Measures to manage emissions and dust from all Project activities. • Measures to manage Project effects on air quality associated with concrete production at concrete batch plants. • Control Project-related smoke by following the most current BC Ministry of Environment Open Burning Smoke Control Regulation. • Measures to retain vegetative barriers, or install temporary barriers, where practical. • Procedures to provide MOE with data collected during monitoring so that they can notify sensitive populations if air quality thresholds are exceeded. The EAC Holder must monitor air quality associated with shoreline protection works at Hudson's Hope during the construction period and for the first two years of operations. The EAC Holder must provide these draft Air Quality Management Plan and Smoke Management Plan to MOE, City of Fort St. John, District of Hudson's Hope, Peace River Regional District, District of Taylor, District of Hudson's Hope, District of Chetwynd and Aboriginal Groups for review a minimum of 90 days prior to the commencement of construction activities. The EAC Holder must file the final Air Quality Management Plan and Smoke Management Plan with EAO, MOE, City of Fort St. John, District of Hudson's Hope, Peace River Regional District, District of Taylor, District of Chetwynd and Aboriginal Groups a minimum of 30 days prior to the commencement of construction activities. The EAC Holder must develop, implement and adhere to the final Air Quality Management Plan and Smoke Management Plan, and any amendments, to the satisfaction of EAO.		CEMP was submitted to these same recipients on February 4, 2016. Revision 3 of the CEMP was submitted to the Comptroller of Water Rights on March 31, 2016 and will be distributed to other regulatory agencies, governments and Aboriginal Groups in early April 2016. BC Hydro is auditing implementation of the Smoke Management Plan and Air Quality Monitoring Program through: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Program are being considered and implemented as required BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance. **Identification places of high use by Aboriginal Groups** Ground truthing site visits have taken place in summer 2014, summer 2015 and are being planned for summer 2016. To date BC Hydro has done site visits with registered trapline holders from Saulteau First Nation and the McLeod Lake Indian Band. Requests have been made to undertake ground truthing trips with other aboriginal groups. **Publication of Site C Air Quality Monitoring Data** A MOU agreement was established between BC Hydro and MOE regarding the housing and publishing of Site C air quality monitoring data on January 7, 2016. Shoreline protection works at Hudson's Hope are planned to commence in 2019 – 2021, and air quality monitoring plans will be implemented during construction and for the first 2 years of reservoir operations.

No	Condition	Timing	Status
	Noise and Vibration		

58	The EAC Holder must develop a Noise and Vibration Management Plan to mitigate Project-related noise and vibration effects on human health.
	
	The Noise and Vibration Management Plan must include at least the following:
	• Program to monitor noise levels associated with construction of Hudson's Hope Shoreline Protection.
	• Implement notification of construction program and Construction Communication Plan for residents in vicinity of Project activities
	• Retain or erect acoustic barriers, fencing, and vegetative screens as appropriate.
	• Develop and implement noise monitoring and adaptive management as required.
	• Mitigate night-time noise (e.g. perimeter berms and acoustic barriers, portable enclosures or barriers to the conveyor hopper, and silent backup alarms)
	• Monitor noise at 85th Avenue Industrial Lands
	  ○ Construct perimeter fencing and retain or plant tree screens at 85th Avenue Industrial Lands
	  ○ Design a work and noise management schedule that allows an uninterrupted eight hour sleep schedule for Project workers,
	  ○ Manage Project construction noise to provide quiet enjoyment to residents, even if it means temporary relocation of residents at the EAC Holder's expense.
	
	The EAC Holder must provide this draft Noise and Vibration Management Plan to FLNR, District of Hudson's Hope, City of Fort St. John, Peace River Regional District and District of Chetwynd for review a minimum of 90 days prior to the commencement of construction activities.
	
	The EAC Holder must file the final Noise and Vibration Management Plan with EAO, FLNR, District of Hudson's Hope, City of Fort St. John, Peace River Regional District and District of Chetwynd a minimum of 30 days prior to the commencement of construction activities.
	
	The EAC Holder must develop, implement and adhere to the final Noise and Vibration Management Plan, and any amendments, to the satisfaction of EAO.
		Pre-Construction Construction	BC Hydro is meeting this condition.
			
			The Noise and Vibration Management Plan is described in Section 4.11 of the CEMP.
			
			The draft and final CEMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. Revision 2 of the CEMP was submitted to these same recipients on February 4, 2016. Revision 3 of the CEMP was submitted to the Comptroller of Water Rights on March 31, 2016 and will be distributed to other regulatory agencies, governments and Aboriginal Groups in early April 2016.
			
			BC Hydro is auditing implementation of the Smoke Management Plan and Air Quality Monitoring Program through:
			
			• reviewing Environmental Protection Plans (EPPs) submitted by the contractors and,
			• conducting environmental audits during construction to verify that requirements of the Program are being considered and implemented as required
			
			BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance.
			
			Shoreline Protection Works
			Shoreline protection works at Hudson's Hope are planned to commence in 2019 – 2021, and noise level monitoring will be undertaken during construction.
			
			Worker Accommodation
			Noise management plan included within Worker Accommodation design and operations contract is

No	Condition	Timing	Status
			aligned with Revision 2 of Construction Environmental Management Plan, Construction Environmental Management Plan 4.11, submitted February 4, 2016 **Communications** The Site C project team is implementing the Construction Communication Plan and the Aboriginal Group Communication Plans (dated: June 5, 2015) to ensure that residents, stakeholders and Aboriginal groups are provided with advance notification about construction activities. A summary of notifications and communications activities is provided below. • **Events – Open Houses / Neighbourhood Meetings:** A series of Construction Information Open Houses were held in the July 2015, prior to the start of construction. A neighbourhood meeting was held in June 2015 to provide information to residents living in Old Fort. • **Mail Drops:** An introductory construction brochure with construction schedule and was mailed to 10,000+ homes in summer 2015. In November 2015, an information sheet about upcoming pile driving and bridge construction was dropped off directly to 250+ homes in the vicinity of the project. In March 2016, a construction notification letter was dropped off directly to 250+ homes in the vicinity of the dam. This letter provides information about the mobilization of the main civil works contractor and the upcoming ramp up of work. • **Construction updates**: Bi-weekly construction updates are posted to the project website and sent to 5,000+ email subscribers, local government and other internal and external stakeholders. To date,

No	Condition	Timing	Status
			17 construction bulletins have been sent out. • **First Nations Construction Notification Letter / General Construction Notification Letters:** A three-month look ahead letter is provided to First Nations groups (sent December 1, 2015, March 1, 2016). In addition, this letter is posted to the project website and provided to local government contacts. • **Construction Information Sheets:** Area or issue-specific construction information sheets are updated and posted for reference to the project website. • **News Release/ Social Media:** News releases have been issued about key construction milestones, and media briefings are provided. The Site C Twitter account is kept up-to-date with information about construction. • **Project Website:** The Site C project website is kept current and provides a wide range of information about upcoming and planned construction, including a photo and video gallery. • **Public Enquiries – Telephone Line / Email Address / Enquiry Form / Consultation Office:** There are a variety of methods available for contacting the project. The Site C communications team monitors all channels and tracks, investigates and responds to all public enquiries. • In addition, other tactics are being used to provide construction-related information. These include Council Presentations, Community Liaison Committees, presentations to stakeholders, government relations and property owner liaison.

No	Condition	Timing	Status
59	The EAC Holder must outline measures including relocation of affected home-owners, as deemed appropriate in consultation with affected home-owners, to address serious levels of noise or changes in air quality during construction of the Project. The measures would be included in the appropriate plans.	Construction	A noise and air quality complaint response process has been developed and is being implemented. The key steps in the process include the following: **Proactive noise mitigation:** • Implementation of the Noise and Vibration and Air Quality Management Plans, review of the Environmental Protection Plans • Implementation of construction communications program to provide advance notice to residents of any construction work that may cause elevated levels of noise, dust, or traffic. • Ongoing monitoring of air quality, and selective proactive monitoring of noise levels by the environmental monitoring team in advance of construction activity changes with potential to elevate noise levels or effect air quality. **Complaint Response:** • Complaint follow up and information gathering with the home-owner, and ongoing communication during complaint investigation. • Complaint documentation within Request for Information (RFI) and/ Field Advice Memo (FAM), and coordination of response with Construction Management, Contractor, Environmental Monitors, and Community Relations as required. **Monitoring/ Notification:** • Initiate site specific noise monitoring, as required. • For Air Quality provide notification of air quality issues based on climate station monitoring. Initiate noise monitoring, as required.

No	Condition	Timing	Status
			Additional Mitigation • Identify additional mitigation measures, as required. For serious levels of noise or changes in air quality that cannot be mitigated, short term temporary relocation may be considered in consultation with the affected home-owners. However, to date, the use of appropriate mitigation measures has been effective in the resolution of complaints.
	Methylmercury		
60	The EAC Holder must, in collaboration with the First Nations Health Authority (FNHA), NHA and Aboriginal Groups, develop a Methylmercury Monitoring Plan. The Methylmercury Monitoring Plan must include: Methods for collecting monitoring information must include: • Involving Aboriginal Groups and the FNHA in the design, implementation, management and interpretation and communication of results; • Use of information regarding consumption of fish by Aboriginal Groups known to consume fish in the methymercury monitoring study if available, and non-aboriginal harvesters including: o species and size of fish caught for consumption; o location where fish are caught for consumption; o consumption of fish by age group and gender; o fish meal sizes by age group and gender; o fish meal frequency; o parts of fish consumed; o fish preparation methods; and o other relevant consumption information (e.g. events where consumption is higher over a short period of time such as a camping event); and • Use of baseline methylmercury levels in representative fish species consumed by Aboriginal Groups and non- aboriginal harvesters.	Construction Operations	BC Hydro acknowledges and understands this condition. BC Hydro will work with the FNHA, NHA and Aboriginal Groups to jointly develop a Methylmercury Monitoring Plan, and will submit this Plan to EAO, FNHA and NHA, a minimum 90 days prior to reservoir filling. Reservoir filling will commence in 2022.

No	Condition	Timing	Status
	Requirements for monitoring the trend and evolution of methylmercury concentrations in fish. Monitoring requirements must include the following: • proposed geographic extent; • proposed monitoring parameters; • proposed monitoring locations; and • proposed monitoring timelines and frequency. Measures to enable people to limit exposure to methylmercury to avoid risk to human health such as: • a detailed communications strategy developed in consultation with relevant Aboriginal groups and government departments and agencies including consumption advisories or other health related bulletin or information, as may be necessary; and • an annual update on the status, results, and trends of methylmercury concentrations in fish and the presence of human health risks associated with the consumption of fish from the affected waterbodies. Baseline information must be established prior to any project impacts using a minimum of two years of data and operations phase monitoring will occur each year for the first ten years of operations and every 5 years after until such time as methymecury levels in fish populations have stabilized. The EAC Holder must report on the results to EAO, FNHA and NHA in accordance with the monitoring schedule. The EAC Holder must provide this draft Methylmercury Monitoring Plan to FNHA and NHA for review a minimum of 90 days prior to the commencement of reservoir filling. The EAC Holder must file the final Methylmercury Monitoring Plan with EAO, FNHA and NHA a minimum of 30 days prior to the commencement of reservoir filling. The EAC Holder must develop, implement and adhere to the final Methylmercury Monitoring Plan, and any amendments, to the satisfaction of EAO.		
	HERITAGE RESOURCES		
	Visual Resources		
61	The EAC Holder must develop and implement measures to manage Project effects on visual resources by undertaking the following throughout construction:	Construction	BC Hydro is meeting this condition. BC Hydro completed public consultation on the Hudson's

No	Condition	Timing	Status
	• Address how to landscape the shoreline protection area in Hudson's Hope to maintain or enhance natural views in collaboration with the District of Hudson's Hope. • Set objectives and requirements for exterior designs for Project structures, and landscaping to blend in with the character of the surrounding environment except in accordance with safety objectives. • Set objectives and requirements for establishing and building workforce accommodation camps on previously disturbed areas or areas generally hidden from key viewpoints. The EAC Holder must undertake the measures to the satisfaction of EAO.		hope shoreline protection area. BC Hydro will collaborate with District of Hudson's Hope regarding measures to maintain or enhance visual resources. BC Hydro has included requirement for building designs to blend in with surrounding in architectural contract terms for Project Structures, where feasible. The Site C workforce accommodation camps have been sited on previously disturbed areas and are general hidden from key viewpoints.
	Physical Heritage and Cultural Heritage		
62	The EAC Holder must protect and preserve heritage resources by implementing measures as detailed in a Heritage Resources Management Plan. The Heritage Resources Management Plan must be developed by a QEP. The Heritage Resources Management Plan must specify a process for the engagement of Aboriginal Groups in planning and follow-up/monitoring activities related to heritage resources as the Project proceeds. In particular, the Plan must incorporate a process for continued collaboration with Aboriginal Groups on ground-truthing for the identification of any burial sites that the Project may disturb. The EAC Holder must provide the draft Heritage Resources Management Plan to Archaeology Branch of FLNR and Aboriginal Groups for review a minimum of 90 days prior to the commencement of construction. The Heritage Resources Management Plan must include Archaeological Impact Management and Heritage Resources Monitoring and Follow-Up Programs. The field and reporting portions of each program will be of a scope, duration and frequency prescribed by the BC Heritage Conservation Act permits. The Archaeology Impact Management Program must be developed by a QEP qualified to hold Section 14 Heritage Inspection and Investigation Permits. The Heritage Resources Monitoring and Follow-Up Program must include at least the following: • Monitor reservoir erosion during occurrences of exposure to assess the impacts on existing or newly identified protected archaeological sites and other heritage	Pre-Construction Construction Operations	BC Hydro is meeting this condition. The draft Heritage Resources Mitigation Plan was developed by a QEP and submitted to the Archaeology Branch of FLNR, and Aboriginal Groups on October 17, 2014. The final Heritage Resources Mitigation Plan was developed by a QEP and submitted to EAO, the Archaeology Branch of FLNR, and Aboriginal Groups on June 5, 2015. Section 2.0 of the Plan provides a concordance table which shows how each of the requirements of Condition 62 is addressed in the Plan. The implementation of mitigation measures, systematic data recovery or emergency salvage operations are being undertaken in accordance with Heritage Conservation Act Inspection Permit 2014-0274 and Site Alteration Permit 2015-0193. Monitoring of reservoir during occurrences of exposure will take place after reservoir filling, as required. Monitoring of shoreline erosion downstream of the dam site for approximately 2 km will be undertaken for a period of two years following the commencement of reservoir filling and commissioning.

No	Condition	Timing	Status
	resources • Implement mitigation measures, systematic data recovery or emergency salvage operations in accordance with the Heritage Resources Management Plan. • Conduct the monitoring of shoreline erosion downstream (for approximately 2 km) as part of chance-find procedures to determine if physical heritage resources are affected by the Project. The EAC Holder must undertake this monitoring for any spills from the Project reservoir for a period of two years following the commencement of reservoir filling and commissioning. • Establish a reporting structure for reporting to Aboriginal Groups and the Archaeology Branch beginning 180 days following the commencement of operations. The EAC Holder must file the final Heritage Resources Management Plan with EAO, Archaeology Branch and Aboriginal Groups a minimum of 30 days prior to commencement of construction. The EAC Holder must develop, implement and adhere to the final Heritage Resources Management Plan, and any amendments, to the satisfaction of EAO.		BC Hydro will develop the Heritage Resource Monitoring and Follow-Up Program prior to reservoir filling.
63	The EAC Holder must manage adverse Project effects on cultural resources by implementing mitigation measures detailed in a Cultural Resources Mitigation Plan. The Cultural Resources Mitigation Plan must be developed in collaboration with a Cultural and Heritage Resources Committee (Committee) established by the EAC Holder that includes Aboriginal Groups. The Cultural Resources Mitigation Plan must include consideration of the following elements and/or others that may be recommended by the Committee: • Identification and naming of key cultural sites. • Documenting historical use of the area, including trails, sites, and stories. • Commemoration of sites lost to inundation. • Cultural awareness and orientation of workforce. • Support for cultural camps through financial or in-kind support. The EAC Holder must provide the draft Cultural Resources Mitigation Plan to the Committee for review a minimum 90 days prior to the commencement of construction. The EAC Holder must file the final Cultural Resources Mitigation Plan with EAO and the Committee a minimum of 30 days prior to the commencement of construction	Pre-Construction Construction	BC Hydro is meeting this condition. Since September 2014, BC Hydro has invited 13 Aboriginal groups to participate in the Culture and Heritage Resources Committee (the "Committee"). The Committee has met on four occasions to discuss construction plans and mitigation measures related to cultural and heritage resources. The Committee will meet again on April 20, 2016 in Fort St John, to discuss naming of locations and cultural sites, cultural awareness training, and visit the Site C dam site. Additionally, BC Hydro and the Committee are working collaboratively on planning around removal of future eagles nests, as well as exploring ideas to commemorate eagles and eagle nest sites. To date, 7 Aboriginal groups, including Doig River First Nation, Dene Thaʾ First Nation, Horse Lake First Nation, Duncanʾs First Nation, McLeod Lake Indian Band, Métis Nation BC, and Kelly Lake Métis

No	Condition	Timing	Status
	The EAC Holder must develop, implement and adhere to the final Cultural Resources Mitigation Plan, and any amendments, to the satisfaction of EAO.		Settlement Society, have participated on the Committee. Invitations continue to be sent to Treaty 8 Tribal Association (on behalf of Saulteau, Prophet River and West Moberly First Nations), Halfway River and Blueberry River First Nations to join and participate on the Committee.
64	The EAC Holder must provide a total of $100,000 to local accredited facilities in close proximity to the Project, prior to the start of operations, to curate and display the recovered resources and the funding is not to be used for buildings to house them. These funds must be provided only to facilities that agree to work with interested Aboriginal Groups on the display and curation of those artefacts.	Construction	BC Hydro acknowledges and understands this condition. BC Hydro will fund local accredited facilities in close proximity to the Project, prior to the start of operations, to curate and display the recovered resources and the funding is not to be used for buildings to house them.
	ENVIRONMENTAL PROTECTION AND MANAGEMENT		
	Greenhouse Gas Emissions		
	The Program must include at least the following: • Protocols for monitoring GHG emissions from Site C reservoir for the first 10 years of operations. • Protocols for monitoring and reporting GHG emissions during operation and maintenance activities. • A reporting structure for reporting results at least annually during the monitoring and follow-up program period, beginning 180 days following commencement of operations, to MOE and Environment Canada. The EAC Holder must provide this draft Greenhouse Gases Monitoring and Follow-Up Program to MOE and Environment Canada for review within 90 days after the commencement of operations. The EAC Holder must file the final Greenhouse Gases Monitoring and Follow-Up Program with EAO, MOE and Environment Canada within 150 days after the commencement of operations. The EAC Holder must develop, implement and adhere to the final Greenhouse Gases Monitoring and Follow-Up Program, and any amendments, to the satisfaction of EAO.		BC Hydro acknowledges and understands this condition. BC Hydro will submit a draft and final Greenhouse Gases Monitoring and Follow-Up Program to regulatory agencies and Environment Canada within 90 day, and 150 days, respectively, after the commencement of operations.
	ENVIRONMENTAL MANAGEMENT PLANS, FOLLOW-UP AND MONITORING		
66	The EAC Holder must clearly document its roles and responsibilities for monitoring and reporting employee and contractor performance and compliance with the EAC and its	Pre-Construction	BC Hydro is meeting this condition.

No	Condition	Timing	Status
	conditions in an Environmental Oversight Program. The Environmental Oversight Program must include requirements for investigating and reporting non-compliance with the EAC and any management plans, ensuring corrective actions are implemented, and requirements for reviewing and updating the Construction Environmental Management Plans and Operations Environmental Management Plans to ensure that they remain relevant and current. The EAC Holder must submit the draft Environmental Oversight Program to EAO 90 days prior to commencing construction. The EAC Holder must submit the final Environmental Oversight Program to EAO 30 days prior to commencing construction. The EAC Holder must develop, implement and adhere to the final Environmental Oversight Program, and any amendments, to the satisfaction of EAO.	Construction	The Environmental Oversight Program is described in Sections 2.0 and 2.5 of the CEMP. The draft and final CEMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. Revision 2 of the CEMP was submitted to these same recipients on February 4, 2016. Revision 3 of the CEMP was submitted to the Comptroller of Water Rights on March 31, 2016 and will be distributed to other regulatory agencies, governments and Aboriginal Groups in early April 2016.
67	The EAC Holder must appoint an IEM acceptable to EAO, at least three months prior to construction. The IEM will be responsible for monitoring the course of construction of the Project as directed by EAO. The IEM must audit any incident reports as well as EAC Holder responses to the EAC Holder's Environmental Monitor's findings and recommendations (Reports) must be filed with FLNR and EAO within 30 days of request. These Reports must be developed and reported to the satisfaction of EAO.	Pre-Construction Construction	BC Hydro is meeting this condition. BC Hydro retained Environmental Dynamics Inc. (EDI) as the Independent Environmental Monitor for the Project on January 13, 2015. EAO approved this on May 7, 2015.
68	The EAC Holder must manage worker and public safety throughout the construction phase by implementing measures detailed in a Construction Safety Management Plan that complies with all applicable requirements of statutes, permits, approvals, and authorizations as outlined in Section 35 of the EIS. The Construction Safety Management Plan must be developed by a QEP. The Construction Safety Management Plan must include the following component plans: • Fire Hazard and Abatement Plan; • Public Safety Management Plan; • Traffic Management Plan; and • Worker Safety and Health Management Plan; Each component plan in addition to plan specific conditions in this document must include	Pre-Construction Construction	BC Hydro is meeting this condition. The draft and final Construction Safety Management Plans were developed by a QEP and submitted to regulatory agencies, governments and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. BC Hydro is auditing the implementation of measures in the CSMP by: • reviewing Safety Management Plans submitted by the contractors, • holding regular meetings with the contractors to discuss safety performance and explore

No	Condition	Timing	Status
	the following: • Clear statement of Objectives; • Description of potential Project effects and safety hazards, through consideration of baseline conditions and sensitive receptors; • Clear documentation of all measures to be implemented and actions to be taken to mitigate potential effects and safety hazards; • Description of worker qualifications and training requirements pertaining to the Construction Safety Management Plan; • Description of reporting requirements; and • Process for revising and updating the Construction Safety Management Plan. The EAC Holder must provide the draft Construction Safety Management Plan to regulatory agencies, Peace River Regional District, City of Fort St. John and the District of Hudson's Hope and Aboriginal Groups for review 90 days prior to commencement of construction. The EAC Holder must file the final Construction Safety Management Plan with EAO, regulatory agencies, Peace River Regional District, City of Fort St. John and District of Hudson's Hope and Aboriginal Groups 30 days prior to commencement of construction. The EAC Holder must develop, implement and adhere to the final Construction Safety Management Plan, and any amendments, to the satisfaction of EAO.		opportunities for improvement • conducting safety audits during construction to verify that requirements of the Plan are being considered and implemented as required BC Hydro has also required that the MCW contractor retain independent third party auditors to conduct safety audits on an annual basis BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance.
69	The EAC Holder must manage effective environmental protection and management throughout the construction phase by implementing measures detailed in a Construction Environmental Management Plan (CEMP). The CEMP must be developed by a QEP. The CEMP must provide details on how potential adverse effects will be avoided, mitigated, or compensated. The CEMP must include the following: • Acid Rock Drainage and Metal Leachate Management Plan; • Air Quality Management Plan; • Blasting Management Plan; • Contaminated Sites Management Plan; • Erosion Prevention and Sediment Control Plan; • Fisheries and Aquatic Habitat Management Plan; • Fuel Handling and Storage Management Plan; • Groundwater Protection Plan;	Pre-Construction Construction	The draft and final CEMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. Revision 2 of the CEMP was submitted to these same recipients on February 4, 2016. Revision 3 of the CEMP was submitted to the Comptroller of Water Rights on March 31, 2016 and will be distributed to other regulatory agencies, governments and Aboriginal Groups in early April 2016. BC Hydro is auditing those measures of the CEMP by: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Plan

No	Condition	Timing	Status
	• Hazardous Waste Management Plan; • Heritage Resources Management Plan; • Ice Management Plan; • Noise and Vibration Management Plan; • Smoke Management Plan; • Soil Management, Site Restoration, and Revegetation Plan; • Spill Prevention and Response Plan; • Surface Water Quality Management Plan; • Vegetation and Invasive Plant Management Plan; • Waste Management Plan; and • Wildlife Management Plan. • Process for revising and updating the CEMP Detailed Environmental Protection Plans will be developed which must include the following: • Clear statement of objectives; • Description of potential Project effects and safety hazards, through consideration of baseline conditions and sensitive receptors; Clean documentation of applicable legislative requirements that must be adhered to, as well as BC Hydro policies, guidelines and other best management practices that will be followed;. • Clear documentation of measures to be implemented and actions to be taken to mitigate or compensate potential effects; • Description of worker qualifications and training requirements pertaining to each of the plans associated with the Constructive Environmental Management Plan; and • Description of Monitoring and Reporting Requirements. The EAC Holder must provide the draft CEMP to regulatory agencies, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Aboriginal Groups for review a minimum of 90 days prior to the commencement of construction. The EAC Holder must file the CEMP with EAO, regulatory agencies, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Aboriginal Groups 30 days prior to the commencement of construction. The EAC Holder must develop, implement and adhere to the CEMP, and any		are being considered and implemented as required BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance. With regard to the Erosion Prevention and Sediment Control Plan component of the CEMP, BC Hydro and its Contractors are actively managing a complex engineering and erosion and sediment control at the L3 RSEM area of the Project. This issues at this site are complex and require a coordinated engineering, water management and erosion and sediment control solution that BC Hydro will devise by March 31 and implement over the coming months at this site.

No	Condition	Timing	Status
	amendments, to the satisfaction of EAO.		
70	The EAC Holder must manage Project effects through construction and operations by implementing measures detailed in mitigation and monitoring plans. Each mitigation and monitoring plan in addition to plan specific conditions in this document must include the following: • Plan objectives; • Plan scope; • Mitigation plan details (including details of any sub-components), including a summary of potential Project effects and baseline conditions relevant to the plan and any sub-components, a schedule and a spatial description of the plan area; • Monitoring plan details, where monitoring is required, including parameters to be monitored or measured, a schedule (including frequency and duration), a spatial description of monitoring plan area or sampling locations; and • Description of plan reporting requirements.	Pre-Construction Construction Operations	BC Hydro is meeting this condition. Final mitigation plans have been submitted to the EAO in accordance with the requirements of the EAC. Plans submitted to date are as follows: • Aboriginal Plant Use Mitigation Plan • Aboriginal Training and Inclusion Plan • Agricultural Monitoring and Follow-up Program • Business Participation Plan • Construction Environmental Management Plan (Rev2) • Construction Safety Management Plan • Cultural Resources Mitigation Plan • Del Rio Pit Development Plan • Emergency Services Plan • Fisheries and Aquatic Habitat Management Plan • Fisheries and Aquatic Habitat Monitoring and Follow-up Program • Healthcare Services Plan • Heritage Resources Management Plan • Housing Plan and Housing Monitoring and Follow-up Program • Labour and Training Plan • Recreation Program • Vegetation and Wildlife Mitigation and Monitoring Plan • Vegetation Clearing and Debris Management Plan • West Pine Quarry Development Plan; and • Wuthrich Quarry Development Plan
71	The EAC Holder must manage environmental protection and management by implementing measures in the following Development Plans: • Del Rio Pit Development Plan; • Impervious Core Materials Source Development Plan;	Pre-Construction Construction	BC Hydro is meeting this condition. The draft and final Development Plans for Del Rio Pit and Wuthrich Quarry were submitted to regulatory

No	Condition	Timing	Status
	• Portage Mountain Quarry Development Plan; and • Wuthrich Quarry Development Plan. Each Development Plan will include the following: • Plan purpose; • Plan scope; • Plan details; • Summary of safety and environmental management; and • Site reclamation strategy. The EAC Holder must provide the draft Development Plans to regulatory agencies, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Aboriginal Groups for review a minimum of 90 days prior to the commencement of construction activities that require an applicable Development Plan. The EAC Holder must file the Final Development Plans with EAO, regulatory agencies, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Aboriginal Groups 30 days prior to the commencement of construction activities that require an applicable Plan. The EAC Holder must develop, implement and adhere to the Final Development Plans, and any amendments, to the satisfaction of EAO.		agencies, governments and Aboriginal Groups on April 7, 2015 and June 5, 2015, respectively. BC Hydro is auditing implementation of the Development Plans through: • reviewing Environmental Protection Plans (EPPs) submitted by the contractors and, • conducting environmental audits during construction to verify that requirements of the Plan are being considered and implemented as required BC Hydro will continue to issue Field Advice Memos to its contractors to address any issues of non-compliance.
72	The EAC Holder must manage effective communications for the Project by implementing measures in communication plans and a business participation plan. The following communication and participation plans are to be developed and implemented: • Business Participation Plan; • Construction Communication Plan; and • First Nations Communication Plan. Each plan in addition to plan specific conditions identified in this document will include: • Clear Statement of Objectives; • Audiences; • Key activities and tools; and • Annual summary reporting.	Pre-Construction Construction	BC Hydro is meeting this condition. (See also Condition 58) The Site C project team is implementing the Construction Communication Plan and the Aboriginal Group Communication Plans (dated: June 5, 2015) to ensure that residents, stakeholders and Aboriginal groups are provided with advance notification about construction activities. A summary of notifications and communications activities is provided below. • **Events – Open Houses / Neighbourhood Meetings:** A series of Construction Information Open Houses were held in the July 2015, prior to the start of construction. A

No	Condition	Timing	Status
			neighbourhood meeting was held in June 2015 to provide information to residents living in Old Fort. • **Mail Drops:** An introductory construction brochure with construction schedule and was mailed to 10,000+ homes in summer 2015. In November 2015, an information sheet about upcoming pile driving and bridge construction was dropped off directly to 250+ homes in the vicinity of the project. In March 2016, a construction notification letter was dropped off directly to 250+ homes in the vicinity of the dam. This letter provides information about the mobilization of the main civil works contractor and the upcoming ramp up of work. • **Construction updates**: Bi-weekly construction updates are posted to the project website and sent to 5,000+ email subscribers, local government and other internal and external stakeholders. To date, 17 construction bulletins have been sent out. • **First Nations Construction Notification Letter / General Construction Notification Letters:** A three-month look ahead letter is provided to First Nations groups (sent December 1, 2015, March 1, 2016). In addition, this letter is posted to the project website and provided to local government contacts. • **Construction Information Sheets:** Area or issue-specific construction information sheets are updated and posted for reference to the project website. • **News Release/ Social Media:** News releases have been issued about key construction milestones, and media briefings are provided.

No	Condition	Timing	Status
			The Site C Twitter account is kept up-to-date with information about construction. • **Project Website:** The Site C project website is kept current and provides a wide range of information about upcoming and planned construction, including a photo and video gallery. • **Public Enquiries – Telephone Line / Email Address / Enquiry Form / Consultation Office:** There are a variety of methods available for contacting the project. The Site C communications team monitors all channels and tracks, investigates and responds to all public enquiries. • In addition, other tactics are being used to provide construction-related information. These include Council Presentations, Community Liaison Committees, presentations to stakeholders, government relations and property owner liaison.
73	The EAC Holder must manage worker and public safety throughout the operations phase by implementing measures detailed in an Operations Safety Management Plan that complies with all applicable requirements of statutes, permits, approvals, and authorizations as outlined in Section 35 of the EIS. The Operations Safety Management Plan must be developed by a QEP. The Operations Safety Management Plan must include the following component plans: • Public Safety Management Plan (including the Reservoir Shoreline Monitoring and Management Plan); and • Worker Safety and Health Management Plan. Each component plan must include the following: • Clear Statement of Objectives; • Description of potential Project effects and safety hazards, through consideration of baseline conditions and sensitive receptors;	Construction Operations	BC Hydro acknowledges and understands this condition. BC Hydro will submit a draft Operations Safety Management Plan, developed by a QEP, to regulatory agencies, governments and Aboriginal Groups, a minimum of 90 days and 30 days, respectively, prior to the commencement of operations.

No	Condition	Timing	Status
	• Clear documentation of all applicable legislative requirements that must be adhered to, as well as BC Hydro policies, guidelines and other best management practices that will be followed; • Clear documentation of compliance and effectiveness monitoring to be undertaken; • Description of worker qualifications and training requirements pertaining to the Plan(s); • Description of reporting requirements; and • Process for revising and updating the Operations Safety Management Plan. The EAC Holder must provide this draft Operations Safety Management Plan, including all component plans, to regulatory agencies, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Aboriginal Groups for review a minimum of 90 days prior to the commencement of operations. The EAC Holder must file the final Operations Safety Management Plan, including component plans with EAO, regulatory agencies, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Aboriginal Groups a minimum of 30 days prior to the commencement of operations. The EAC Holder must develop, implement and adhere to the final Operations Safety Management Plan, and any amendments, to the satisfaction of EAO.		
74	The EAC Holder must manage to ensure effective environmental protection and management throughout the operations phase by implementing measures detailed in an Operations Environmental Management Plan (OEMP). The OEMP must be developed by a QEP. The OEMP must include the following plans: • Hazardous Waste Management Plan; • Ice Management Plan; • Vegetation and Invasive Plant Management; • Waste Management Plan (including Materials Management); and • Water Management Plan. Each plan must include the following: • A Clear Statement of Objectives; • Description of potential Project effects, through consideration of baseline conditions and sensitive receptors; • Clear documentation of all applicable legislative requirements that must be	Construction Operations	BC Hydro acknowledges and understands this condition. BC Hydro will submit a draft and final Operations Environmental Management Plan, developed by a QEP, to regulatory agencies, governments and Aboriginal Groups, a minimum of 90 days and 30 days, respectively, prior to the commencement of operations.

No	Condition	Timing	Status
	adhered to, as well as BC Hydro policies, guidelines and other best management practices that will be followed; • Clear documentation of compliance and effectiveness monitoring to be undertaken; • Description of reporting requirements; and • Process for revising and updating the Plan. The EAC Holder must provide this draft OEMP, including all plans, to regulatory agencies, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Aboriginal Groups for review a minimum of 90 days prior to the commencement of operations. The EAC Holder must file the final OEMP, with regulatory agencies, Peace River Regional District, City of Fort St. John, District of Hudson's Hope and Aboriginal Groups a minimum of 30 days prior to the commencement of operations. The EAC Holder must develop, implement and adhere to the final OEMP, and any amendments, to the satisfaction of EAO.		
75	The EAC Holder must provide its on-site project employees, contractors and sub-contractors, prior to those employees, contractors and sub-contractors starting work, with briefings on and copies of Schedule B (Table of Conditions) of the EAC and all Environmental and Safety Management Plans identified in Schedule B that are relevant to their works.	Construction	BC Hydro is meeting this condition. BC Hydro is providing briefings and copies of Schedule B during construction, and prior to on-site project employees, contractors and sub- contractors starting work. BC Hydro has sent regulatory documents to be communicated with sub-contractors via FAMs to the following contractors: • Duz-Cho Construction on December 15, 2015 • Morgan Construction and Environmental Ltd. on September 9, 2015 • Paul Paquette & Sons Contracting on October 6, 2015 • Ruskin Construction September 10, 2015 • ATCO Two Rivers Lodging Group on October 7, 2015 • Peace River Hydro Partners on February 18, 2016
	DAM SAFETY		

No	Condition	Timing	Status
76	The EAC Holder must conduct an assessment of the impacts of a multiple cascading dam breach, in accordance with the Canadian Dam Association Guidelines and BC Hydro's Dam Safety Program, and share the results of that study with the Government of Alberta, FLNR and the authorities of the towns that would be affected, prior to the commencement of operations.	Construction	BC Hydro acknowledges and understands this condition BC Hydro will conduct an assessment of the impacts of a multiple cascading dam breach prior to the commencement of operations.
77	The EAC Holder must consult with the Government of Alberta and emergency management officials in Alberta, and FLNR on communication and contingency plans to address the potential occurrences of a multiple cascading dam breach, prior to the commencement of operations.	Construction	BC Hydro acknowledges and understands this condition BC Hydro will consult with the Government of Alberta and emergency management officials in Alberta prior to the commencement of operations.