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March 5, 2019

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

Dear Mr. Wruck:

**RE: British Columbia Utilities Commission (BCUC or Commission)  
British Columbia Hydro and Power Authority (BC Hydro)  
Site C Clean Energy Project  
PUBLIC – Annual Progress Report No. 3  
(Combined with Quarterly Progress Report No. 14)  
January 2018 to December 2018**

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BC Hydro writes to provide its public Annual Report No. 3. Commercially sensitive and contractor-specific information has been redacted.

We have combined the annual report and the quarterly progress report into one document for Annual Report No. 3 covering the period January 1 to December 31, 2018, which includes the quarterly results for the quarter ended December 31, 2018. Annual Report No. 3 provides the same content as in previous years, while also including results and information reported in the Quarterly Progress Report No. 14 in one combined document.

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

For further information, please contact Geoff Higgins at 604-623-4121 or by email at [bchydroregulatorygroup@bchydro.com](mailto:bchydroregulatorygroup@bchydro.com).

Yours sincerely,



(for) Fred James  
Chief Regulatory Officer

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Enclosure (1)

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**Site C Clean Energy Project**

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**Annual Progress Report No. 3**

**(Combined with Quarterly Progress Report No. 14)**

**January 2018 to December 2018**

**PUBLIC**

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## 1 Message from the President & Chief Operating Officer

We are building the Site C Project (the **Project**) to meet the energy and capacity needs of our residential, commercial and industrial customers. Once complete in 2024, it will serve our province for more than 100 years. Construction of the Project began in July 2015 and has been underway for 41 months.

As part of our commitment to being open and transparent, we voluntarily provide the British Columbia Utilities Commission with a copy of our quarterly and annual reports on Site C. In an effort to streamline and reduce duplicate information, we have combined the annual report and the quarterly progress report into one document for Annual Report No. 3 covering the period January 1 to December 31, 2018, including the quarterly results for the quarter ended December 31, 2018. Annual Report No. 3 provides the same content as in previous years, while also including results and information reported in the quarterly progress report in one combined document. We also post project reports on the Site C website.

This report documents the significant progress that was achieved on the Project during this period, including the award of several major contracts, the issuance of dozens of key permits and authorizations, the advancement of our agreements with communities and First Nations communities, and the safe achievement of several critical construction milestones.

Of particular note this year, we successfully resolved various issues with our main civil works contractor that dated back to early 2017. The settlement agreement, which was finalized in July 2018, includes at-risk incentive payments to the contractor if and when they meet critical project milestones. It also includes advancing some critical construction activities and purchasing additional key equipment.

Most importantly, the settlement includes an updated contractual schedule. This is crucial for the project to reach its goal of achieving river diversion in 2020 and meeting the 2024 in-service date.

The second half of the year was a period of acceleration on the project, with favourable weather conditions allowing us to continue construction work later into the fall than anticipated.

As we continue to progress on the Project, we remain committed to responsibly and transparently delivering Site C on time and within budget, and we look forward to continuing to share our progress publicly.

Chris O'Riley  
President & Chief Operating Officer



## 2 Executive Summary

Site C will be the third dam and hydroelectric generating station on the Peace River in northeastern British Columbia (B.C.). Once complete in 2024, Site C will provide 1,100 megawatts of capacity, and produce about 5,100 gigawatt hours of energy per year – enough to power the equivalent of 450,000 homes per year in B.C.



After an extensive environmental assessment process, BC Hydro received an Environmental Assessment Certificate from the Province of British Columbia and an Environmental Decision Statement from the Government of Canada in October 2014. These approvals collectively contain more than 170 conditions and thousands of sub-conditions. In addition, BC Hydro is required to apply for multiple provincial permits, water licences, leaves to commence construction and federal authorizations related to the Project. In total, approximately 400 permits and authorizations will be required by the time the Project completes construction.

Construction on Site C began on July 27, 2015.

During the third full year of construction on the Project, construction activities accelerated substantially, particularly the roller-compacted concrete placement work on the powerhouse buttress and the excavations required in advance of river diversion in 2020. The roller-compacted concrete buttress for the Site C powerhouse was completed on October 5, 2018, 10 days ahead of schedule. Work on the first diversion tunnel started in August 2018, and the second tunnel started in September 2018.

In early 2018, the second largest single Site C contract was awarded for the generating station and spillways civil works contractor. The contractor mobilized to site on schedule in late spring 2018. In addition, procurements concluded for the generating station and spillways hydromechanical equipment, powerhouse cranes, transmission line construction and substation in 2018.

Some construction and clearing activities were voluntarily and temporarily suspended in certain sections of the reservoir areas and the transmission line corridor due to an injunction application that was brought forward in early 2018. The injunction application was dismissed by the Supreme Court of British Columbia in October 2018, and these construction and clearing activities recommenced late in the year.

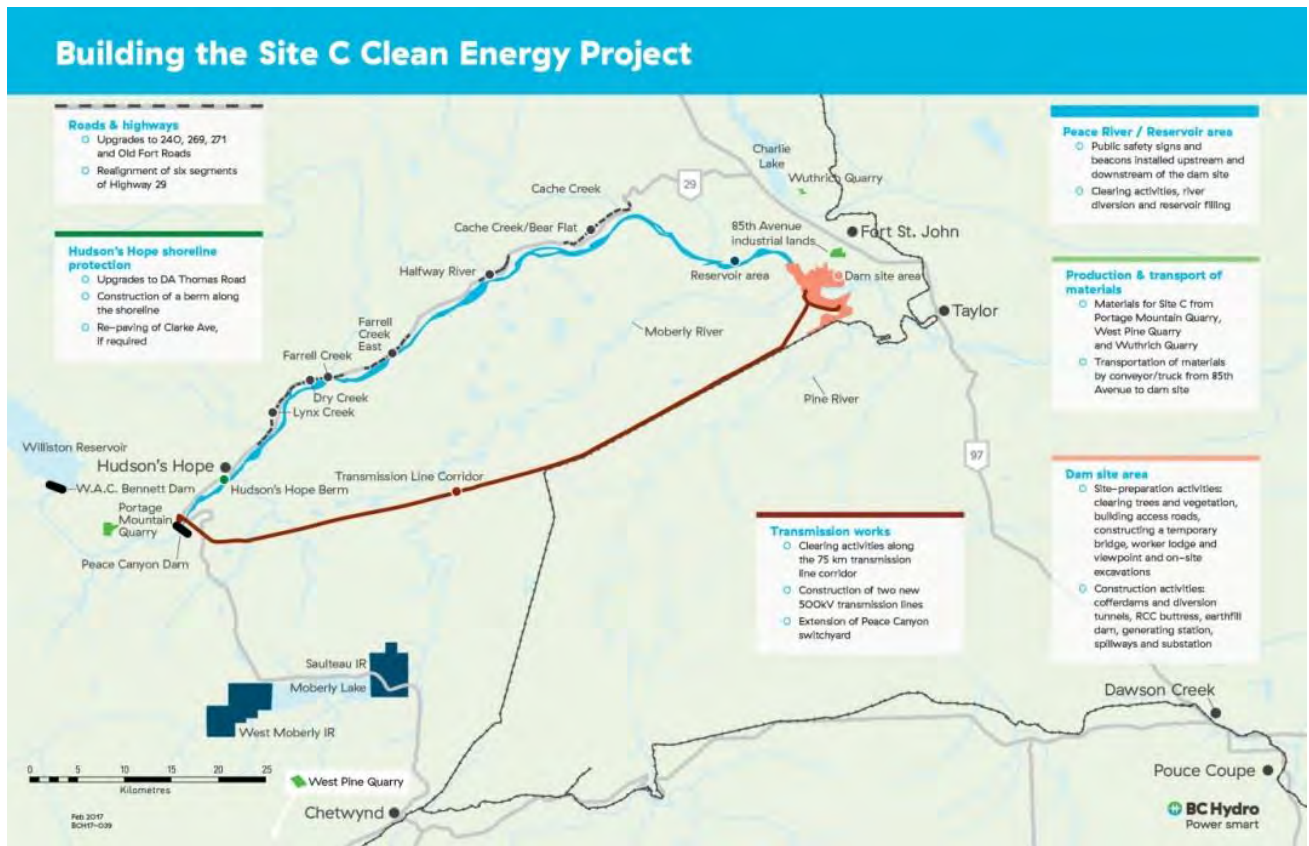
In December 2017, the Province of B.C. requested BC Hydro and the Ministry of Transportation and Infrastructure to work with Treaty 8 First Nations and others to redesign the Highway 29 realignment at Cache Creek East to reduce the effects on potential burial and cultural sites of importance.

After eight months of engagement and consultation with Indigenous groups and landowners, BC Hydro announced the new realignment option in September 2018. The selected realignment was developed through the consultation process. BC Hydro plans to begin construction on this portion of the highway realignment by

spring/summer 2020. Construction on the four kilometres of the highway realignment at Cache Creek West – which was not affected by the redesign – began in late September 2018.

BC Hydro continued to secure the appropriate permits, authorizations and leaves to commence construction required to begin and advance work on the Project. In addition, work continued to advance in the areas of environmental monitoring and assessment; fish, wildlife, habitat, vegetation management and heritage programs; and Indigenous and community engagement activities.

**Figure 1 Site C Project Components**



### **3 Annual Report Structure**

In an effort to streamline and reduce duplicate information, we have combined the annual report and the quarterly progress report into one document for Annual Report No. 3, covering the period January 1 to December 31, 2018, including the quarterly results for the quarter ended December 31, 2018. Annual Report No. 3 provides the same content as in previous years, while also including results and information reported in the quarterly progress report in one combined document.

### **4 Summary of Project – January to December 2018**

#### **4.1 Overview and General Project Status**

Construction began on July 27, 2015 and is ongoing. Since the commencement of construction, the following work has been completed:

- Site preparation, including on-site access roads;
- Clearing of the left and right banks at the dam site and clearing of the lower reservoir area is substantially complete;
- Left bank cofferdams;
- Construction of the worker accommodation lodge and Peace River construction bridge;
- Powerhouse excavation, and placement of 414,000 cubic metres (m<sup>3</sup>) of roller-compacted concrete in the powerhouse buttress;
- Construction of dam site access public road;
- Construction of the Site C viewpoint, and
- Excavation of the diversion tunnel inlet (upstream) and outlet (downstream) portals, allowing for the commencement of diversion tunnel excavations.



**Figure 2 An Artist's Rendering Depicts the Site C Earthfill Dam, Generating Station and Spillways, Substation, Transmission Lines and Reservoir 8**



Significant Project updates that occurred between January 1 and December 31, 2018, include:

- In February 2018, BC Hydro launched the \$20 million Peace Agricultural Compensation Fund, which was established to support agricultural production and initiatives in the Peace Region. For more information, refer to section [4.7.4](#).
- In February 2018, the BC Hydro board of directors approved the revised Project budget of \$10.7 billion;
- In March 2018, BC Hydro awarded the Site C generating station and spillways civil works contract. This contract is the second largest to be awarded on the project and includes the delivery of civil works associated with the powerhouse, penstocks, spillways and power intakes. Other major contracts awarded throughout the year include:
  - ▶ Site C substation construction;

- ▶ Powerhouse bridge and gantry cranes;
  - ▶ Hydromechanical equipment; and
  - ▶ Site C transmission line construction.
- In March 2018, construction started on the Site C substation. For more information refer to section [4.2.1.5](#).
  - In April 2018, BC Hydro announced that construction was underway on a project to build 50 new affordable housing units in Fort St. John.
  - In June 2018, BC Hydro reached a memorandum of understanding with the main civil works contractor on an updated contractual schedule; the memorandum of understanding was finalized the following month. For more information, refer to section [4.10.4.1](#).
  - In July 2018, BC Hydro assumed prime contractor responsibilities for the right bank cofferdam area. BC Hydro is now accountable for coordinating the work in this area to ensure the safety of the workers. For more information, refer to section [4.3](#).
  - In August 2018, the Site C generating station and spillways civil contractor initiated their permanent works with the first concrete placement in the Site C powerhouse. For more information, refer to section [4.2.1.2](#).
  - In August 2018, the excavation of the diversion tunnel inlet and outlet portals was completed, allowing tunneling excavations to commence that same month. Refer to section [4.2.1.1](#) for more information.
  - In September 2018, after eight months of consultation and engagement with Indigenous groups and property owners, BC Hydro announced the new alignment for Highway 29 at Cache Creek East. For more information, refer to Highway 29 in section [4.2.1.6](#).

- The September 2018 employment statistics showed the highest workforce numbers to date on Site C, with 3,746 people working on the project (79 per cent of those from British Columbia). For more information, refer to section [4.8.2](#).
- In October 2018, the main civil works contractor completed roller-compacted concrete placements for the powerhouse buttress, a major schedule milestone. For more information, refer to section [4.2.1.1](#).
- In October 2018 construction started on the 500 kilovolt transmission lines between the Site C substation and Peace Canyon. For more information, refer to section [4.2.1.5](#).
- Also in October 2018, the B.C. Supreme Court dismissed an injunction application filed by the West Moberly First Nations, who sought to stop Site C construction until their treaty infringement claim could be heard. For more information, refer to section [4.5](#).

These, and other, project updates are detailed in this report. [Table 1](#) provides a dashboard based on the Project's status as at December 31, 2018.

**Table 1 Project Status Dashboard**

● On Target      ● Moderate Issues      ● At Risk

Status as of:	December 2018	
<b>Overall Project Health</b>	●	Overall project health remains amber. Construction activities on site are progressing safely and are on schedule and on budget. River diversion remains a critical project milestone. BC Hydro and contractors continue to take action to address environmental incidents related to the care of water event that occurred in September 2018.
<b>Scope</b>	●	Scope changes have been minimal and the changes are expected to be managed within contingency.
<b>Schedule</b>	●	The project is on track for the overall in-service date of 2024. Achieving river diversion in September 2020 remains one of the project's most critical milestones.
<b>Cost</b>	●	The project budget (\$10.7 billion including Treasury Board Reserve) was approved by the board of directors in February 2018. Cost pressures continue to be identified, assessed and monitored.
<b>Regulatory, Permits and Tenures</b>	●	Permits are on track and are meeting schedule requirements. To date, the project has obtained 68% of its major required authorizations and the remaining authorizations are anticipated to be received as required to meet the overall project schedule needs. Environmental Assessment Certificate Amendment approvals are progressing well, with all requested amendments approved to date. Wildlife installations that were previously behind schedule are proceeding.
<b>Environment</b>	●	In the month of September 2018, approximately 55 mm of rain fell causing the release of ~ four million litres of low pH storm water into the Peace River. The Water Comptroller issued an Order to Remedy requiring the submission of an independent review of the care of water system. BC Hydro has subsequently increased the system capacity along with other actions to reduce the potential of future similar events. Environment Canada initiated an investigation on October 10, 2018 and the investigation is ongoing.
<b>Procurement</b>	●	The proponents that have been selected to participate in the request for proposals for the balance of plant contract were approved by the Board in November 2018.
<b>Indigenous Relations</b>	●	Six of 10 agreements are fully executed and in implementation. BC Hydro is continuing to engage with Nun wa Dee Stewardship Society to respond to concerns related to cultural and heritage resource mitigations, including concerns in the Cache Creek East area.
<b>Litigation</b>	●	In January 2018, two Treaty 8 First Nations (West Moberly First Nations and Prophet River First Nation) each filed treaty infringement claims, followed by an interim injunction application filed by West Moberly First Nations. These claims assert, among other things, that the Site C Project is an infringement of their rights under Treaty 8. The injunction sought to stop the Site C Project pending the trial of the treaty claim. The injunction hearing began July 23, 2018 and concluded in September 2018. A decision was issued on October 24, 2018 denying the application for an injunction.
<b>Safety</b>	●	Site C remains a complex, multi-work front, multi-employer project with significant safety hazards both on-site and off-site. There has been strong safety and regulatory performance, improving safety results (BC Hydro and Contractor) over the year, as well as out-performing WorkSafeBC comparators in the electric utilities, major construction, and forestry industries. In late 2018, BC Hydro consolidated the safety and security teams into a single group, allowing for operational decisions closer to site and resulting in better solutions as safety and security issues often overlap.
<b>Stakeholder Engagement</b>	●	BC Hydro continues to work with the communities, regional district and stakeholder groups on the implementation of various community agreements.
<b>Quality</b>	●	The overall quality rating for the project is good. A significant effort was made by the main civil works contractor during the quarter October 2018 to December 2018 to close out historical non-conformity reports. An assessment of quality practices across the project was performed during the same period, with particular emphasis on engineering, manufacturing and construction activities. The assessment report was completed in December 2018 and an action plan has been developed for roll out in 2019.



## 4.2 Major Accomplishments, Work Completed, Key Decisions and Key Issues

### 4.2.1 Construction

Refer to [Appendix D](#) for the full construction schedule.

#### 4.2.1.1 Main Civil Works

Main civil works is on track to meet 2020 river diversion and the dam in-service milestone for 2024.

The scope of the main civil works contract includes the construction of the following major components:

- Diversion works (including two approximately 11 metre diameter, concrete-lined tunnels, each approximately 750 metres in length);
- Excavation and bank stabilization (approximately 26 million m<sup>3</sup> of overburden and rock excavation);
- Relocation of surplus excavated material (including management of discharges);
- Dams and cofferdams (including a zoned earth embankment 1,050 metres long and 60 metres above the present riverbed and stage 1 and 2 cofferdams);
- Roller-compacted concrete (including a buttress approximately 800 metres long with 2 million m<sup>3</sup> of concrete);
- Haul roads; and
- Inlet and outlet portals.

On June 1, 2018, BC Hydro reached a settlement agreement with the main civil works contractor on an updated contractual schedule. The settlement agreement included:

- A contractual schedule that achieves 2020 river diversion and keeps the project on track to meeting the 2024 project in-service date;
- Accelerating a number of critical construction activities and purchasing some additional key equipment;
- At-risk incentive payments to the contractor if and when they meet critical project milestones; and
- Settlement of past issues that arose prior to May 31, 2018.

The total potential cost of the settlement agreement over the life of the project is estimated at \$325 million. While the settlement agreement will draw on the project contingency, it results in a reduction of risk to the project plan and schedule and there is sufficient budget available such that there is no impact to the overall project budget.

Construction progress at site currently is split between work on the left bank and right bank.

### **Left Bank**

Work activities on the left bank are to stabilize the slope with a mass excavation, stabilize the diversion inlet and outlet portals and excavate a set of diversion tunnels in preparation for river diversion and construction of the earthfill dam.

The activities currently underway or completed include:

- A haul road on the left bank is in operation to support the planned construction works;

- Work has commenced on ground preparation for installation of the till conveyor that will move dam core material from 85<sup>th</sup> Ave to site by summer 2019;
- Stabilization of the diversion inlet portal, which included benched excavation above the inlet portal to allow work to commence on construction of the inlet portals. On June 29, 2018, a small rock movement occurred in a localized area above and to the west of the diversion tunnel inlet portal #2. A remediation plan was implemented to maintain the diversion schedule;
- Work on the diversion tunneling commenced in August 2018 with the inlet portal top heading excavation on tunnel #1 and the top heading excavation on tunnel #2 in September 2018. Outlet portal excavation and tunneling on the top heading on both tunnel #1 and tunnel #2 started in December 2018. Diversion tunnel excavation is expected to continue through to July 2019. Excavation of the Diversion tunnels is challenging, and BC Hydro will continue to work with the contractor to plan the work and mitigate schedule risks; and
- Left bank slope stabilization activities were substantially completed in 2018. This work began in 2015 and involved the removal of approximately 11 million m<sup>3</sup> of material to flatten the grade of the left bank above the dam site.

### **Right Bank**

The right bank scope of work includes the excavation of the powerhouse, spillways and dam, and placing roller-compacted concrete for the foundations to support the powerhouse, dam and spillway structures. The current activities on the right bank include:

- Excavation of the right bank drainage tunnel to allow for spillway and dam abutment excavation. The right bank drainage tunnel excavation was completed in February 2019;

- The 2018 aggregate production in support of roller-compacted concrete placement and cast-in-place concrete started in March 2018 and progressed to support all roller-compacted concrete placements;
- The roller-compacted concrete buttress for the Site C powerhouse was completed on October 5, 2018, 10 days ahead of schedule. This is a significant milestone on the Site C project. In total, the contractor placed 414,000 m<sup>3</sup> of roller-compacted concrete;
- Excavation of the first five of seven blocks for the spillway apron was completed in September 2018;
- The second phase of excavation of the spillway buttress slope is underway and expected to be completed by April 2019;
- On July 1, 2018, BC Hydro assumed prime contractor responsibilities for the right bank cofferdam area. BC Hydro is now accountable for coordinating the work in this area to ensure the safety of the workers; and
- Approximately 25 per cent of the aggregates required for 2019 have been stockpiled. The remaining aggregates are expected to be crushed and cleaned starting in spring 2019.

### **In-River Work**

When the river is diverted in 2020, upstream and downstream cofferdams will be in place in the Peace River to provide safe access for the main dam construction. The current in-river work includes dredging in support of the stage 1 cofferdams.

### **Earthfill Dam**

Work on the earthfill dam commenced in October 2018 and initial material placements for the earthfill dam will continue through 2019. Foundation preparation is about to commence with core trench excavation and grout curtain trials both expected to start in early spring 2019.

#### **4.2.1.2 Generating Station and Spillways**

Overall cost and schedule is on track for generating station and spillways.

The generating station and spillways scope of work includes the construction of the following major components:

- Generating station and spillways civil work includes:
  - ▶ concrete, steel, installing cranes, and installing gates for the powerhouse;
  - ▶ concrete, penstocks, and installing gates for the inlet headworks; and
  - ▶ concrete and installing gates for the spillways.
- Cranes which includes the supply and commissioning the powerhouse cranes, tailrace gantry crane, and headworks gantry crane.
- Hydromechanical equipment, including the supply of all gates.

#### **Generating Station and Spillways Civil Work**

The contract for the generating station and spillways civil works was awarded on March 2, 2018. This is the second largest contract to be awarded for the project and includes the delivery of civil works associated with the powerhouse, penstocks, spillways and power intakes for the dam. The generating station and spillways contractor started work on the right bank on schedule in April 2018. This work involved the preparation of the contractor's infrastructure.

The infrastructure needed to support the permanent work was completed in June 2018, which included building and testing the first concrete batch plant, assembling the aggregate crushing equipment and developing the aggregate source area. The generating station and spillways civil contractor's laydown areas were developed including the building of covered work areas.

Laydown Area L2, the area immediately downstream of the powerhouse, was transferred from the main civil works contractor to the generating station and

spillways civil contractor on time in June 2018, enabling the generating station and spillways civil contractor to continue to develop their infrastructure.

An amendment to the Project's Environmental Assessment Certificate was issued in June 2018 to reflect design changes to the generating station and spillways. Refer to section [4.6.4](#) for more details.

The contractor started permanent work in August 2018. As of December 31, 2018, concrete placements are on schedule with a cumulative total of 17,500 m<sup>3</sup> of concrete placed. Currently, concrete placements are being performed for the tailraces and coupling chambers (terminus of penstocks) for Units 1, 3 and 5; and the main service bay. Since maintaining the schedule for the concrete placements becomes increasingly challenging during the winter months due to cold temperatures and snow and ice at the construction site, BC Hydro is working closely with the contractor to plan the work and mitigate schedule risks.

### **Cranes**

The powerhouse bridge and gantry cranes contract was signed February 6, 2018.

The fabrication of the powerhouse bridge cranes began in July 2018. As of December 31, 2018, the powerhouse bridge cranes fabrication is approximately 80 per cent complete.

### **Hydromechanical Equipment**

The contract for the supply of the hydromechanical gates was executed on April 24, 2018. This contractor began design on the draft tube gate anchors immediately and the anchors were delivered to site in October 2018.

#### **4.2.1.3 Balance of Plant**

The formal procurement process for the generating station and spillways balance of plant contract was launched in June 2018. The balance of plant request for supplier qualifications and the request for proposals for the generator terminal equipment

(equipment that connects the generators to the unit transformers) both received a sufficient number of qualified responses. In December 2018, signed participation agreements were received from all shortlisted respondents for the balance of plant procurement and the names of the proponent teams were announced publicly. Evaluation of three equipment supply contracts and negotiations on one equipment supply contract were completed in December 2018. Three equipment supply contracts were issued on BC Bid with closing dates in January 2019.

#### **4.2.1.4 Turbines and Generators**

All progress for design, procurement and manufacturing for the turbines and generators is on schedule. The scope of the work includes the complete design, supply, installation, testing and commissioning of six turbines, generators, governors and exciters.

The contractor continues the assembly and welding of embedded turbine components in its temporary manufacturing facility on the right bank at site. The contractor's São Paulo factory will supply the majority of the turbine generator components, and has produced several of the cast steel parts for the first turbine. Initial meetings for various other turbine and generator components in the São Paulo factory have been held concurrently with visits to three of the contractor's subcontractors for supply of insulating materials, rough machining and stator lamination punchings. Based on the current powerhouse construction schedule, the contractor will commence turbine installation in the powerhouse by summer 2020. The turbine and generator contractor delivered the first stage embedded parts on time in September 2018. Current areas of focus include ensuring quality of the manufactured components and that contract specifications are met.

BC Hydro visited the contractor's São Paulo facility in May 2018 for a contract progress review, subcontractor evaluation and quality inspections. Additional inspections and testing are planned as the work progresses to ensure contract specifications are met.

In September 2018 BC Hydro's local inspector commenced full time work in the São Paulo factory. Active communication with the contractor and resolving issues early in the manufacturing process are part of the strategy to ensure quality.

#### **4.2.1.5     *Transmission and Substation***

The transmission sub-project is on budget and on schedule to meet the in-service dates for the Site C substation and the first and second 500kV lines. The Peace Canyon gas-insulated switchgear expansion is expected to be placed into service in 2019.

The transmission sub-project will connect the Site C Project to the BC Hydro transmission system. The scope of work includes the following major components:

- A new 500kV Site C substation;
- Two 75 kilometre long, 500kV transmission lines from the Site C substation to the Peace Canyon generating station;
- Three one kilometre long, 500kV transmission lines from the Site C Generating Station to the Site C substation; and
- Expansion of the existing Peace Canyon 500kV Gas Insulated Switchgear to incorporate the two new 500kV transmission line terminals.

#### **Transmission**

The clearing and construction of access roads on the eastern half of the transmission line right of way was completed in 2018. Following the dismissal of the West Moberly First Nations injunction application in October 2018, the clearing and access road construction on the western half of the transmission line right of way resumed in January 2019, with completion targeted for September 2019.

Contracts for the supply of transmission line overhead conductors and transmission line construction were awarded on March 2, 2018, and May 1, 2018 respectively. The transmission construction contractor established a laydown yard near Moberly



Lake in June 2018, and began receiving transmission tower steel. The contractor mobilized to the transmission right of way on October 5, 2018 and started tower assembly on October 24, 2018. Installation of the helical pile foundations started on November 10, 2018. The transmission line contractor is behind plan on both works; however BC Hydro is working with the contractor on a recovery plan and the contractor is increasing their production to get back on schedule. At this time, the in-service date for the first transmission line remains achievable, but there is schedule risk. There is minimal risk to achieving the in-service date for the second transmission line as there is sufficient float to mitigate the current delays.

### **Substation**

The substation construction contract was awarded on February 16, 2018 and the contractor mobilized to site on March 28, 2018. Substation construction is in progress, including foundation construction, grounding grid installation and installation of high voltage electrical equipment. In 2018, the substation contractor was able to complete 75 per cent of the foundations and 55 per cent of the grounding grid installation and erect the majority of the 500kV electrical equipment. The supply and installation of the control building and control building systems including AC and DC power, lighting, fire protection, and heating, ventilating and air conditioning were substantially completed in 2018.

### **Peace Canyon Gas-Insulated Switchgear Expansion**

The gas-insulated switchgear design-build contractor mobilized their civil subcontractor to the Peace Canyon generating station in June 2018 and completed the outdoor switchyard expansion civil works. They also completed the installation of fencing, ground grid and steel structures for terminating the transmission lines. The design and manufacture of the 500kV gas-insulated-switchgear was completed in 2018.

The expansion of the gas-insulated switchgear is expected to be completed and placed into service later in 2019.

#### **4.2.1.6 Highway 29**

The Highway 29 sub-project is on budget and on schedule to meet permanent realignment by spring 2023. The creation of the Site C reservoir requires realignment of segments of Highway 29. The scope of the highway realignment also entails relocation of existing 25kV distribution lines along the existing highway and the slope protection berm at District of Hudson's Hope to protect against bank erosion due to reservoir wind waves and water table rise. In order for the highway to remain accessible once the reservoir is created and the dam is operating, the permanent realignment is planned to be completed by spring 2023.

The Highway 29 realignment is divided into four main areas:

- Cache Creek (East and West);
- Halfway River;
- Western segments (Farrell Creek East, Farrell Creek, Dry Creek); and
- Other areas (Lynx Creek East, Lynx Creek).

Development and operation of the Portage Mountain Quarry to supply rip rap is also included in this work area for highway construction.

#### **Cache Creek**

##### *Cache Creek East*

BC Hydro worked with Treaty 8 First Nations and landowners on the redesign of the eastern portion of the Highway 29 realignment at Cache Creek East. During the period, BC Hydro and the Ministry of Transportation and Infrastructure explored the feasibility of three alternate route options for Cache Creek East to reduce its effects

on potential Indigenous burial sites and areas of cultural importance as identified by Treaty 8 First Nations.

To evaluate these options, BC Hydro used a structured decision making process that has been used for other BC Hydro capital projects. As part of this process, BC Hydro undertook site investigations and sought input from Indigenous groups and landowners.

In August 2018, BC Hydro completed its structured decision making process for the selection of the realignment option. The selected realignment option, developed through consultation, is located north of the original route and is approximately 240 metres away from a potential burial site and 370 metres from an area identified by Treaty 8 First Nations to be of cultural importance. This option is the second shortest route of the three considered, meets provincial design and safety requirements, and includes a longer bridge at the Cache Creek crossing. In September 2018, BC Hydro announced the new alignment for Highway 29 at Cache Creek East.

All investigations for this segment of the highway realignment were completed through the summer of 2018, including geotechnical investigations and drilling.

The property acquisition process will continue for Cache Creek East. A request to amend the Project's Environmental Assessment Certificate Amendment to reflect the revised realignment will be submitted to the Environmental Assessment Office in March 2019.

#### *Cache Creek West*

The procurement for the four kilometres of the highway realignment at Cache Creek West started in summer 2018. A contract was issued for a partial scope of work in October 2018. The construction activities for this partial scope started in early October 2018 and most of the work was completed by December 2018 with the exception of some drainage work which will be completed in spring 2019. The

invitation to quote for the remaining scope for Cache Creek West was issued in December 2018 with negotiations planned for early 2019 and an anticipated construction start date in June 2019.

### **Halfway River**

The majority of geotechnical investigations were completed for Halfway River segment of Highway 29 during the summer of 2018. The functional design was completed and the detailed design for this segment of the highway started in winter 2018.

An amendment to the Project's Environmental Assessment Certificate was issued on October 26, 2018 to reflect a revised design of the Halfway River bridge. More details can be found in section [4.6.4](#).

### **Western Segments**

The majority of geotechnical investigations were completed for the western segments of Highway 29 during the summer of 2018. Design of all remaining western segments will continue.

The property acquisition process will continue for the western segments.

### **Other areas**

As part of the development of the Portage Mountain Quarry, BC Hydro completed trial blasts in late summer 2018 to assess the production yields and quality of rock. The preliminary assessments of yield production and rock quality, durability and geochemical testing were completed during fall 2018. The final report is expected in January 2019. This quarry is planned to be developed to supply rip rap materials for certain sections of Highway 29 realignment and to construct a river shoreline protection berm for the District of Hudson's Hope.

#### ***4.2.1.7 Reservoir Clearing***

In 2018, work was initially delayed in portions of the reservoir due to the injunction application. Following the dismissal of the injunction application, work resumed in fall 2018. All clearing is scheduled for completion by spring 2023, prior to reservoir inundation.

The reservoir clearing scope of work is divided into three main areas:

- Lower reservoir;
- Moberly River drainage, eastern reservoir, Cache Creek drainage; and
- Middle reservoir, Halfway River drainage and western reservoir.

### **Lower Reservoir**

In the lower reservoir, clearing of remaining trees and clean up of wood waste from past seasons' work resumed in September 2018 and is now substantially complete.

### **Moberly River Drainage, Eastern Reservoir and Cache Creek Drainage**

Contract packages for access and clearing for the Moberly River drainage, eastern reservoir and Cache Creek drainage areas were assembled and released to First Nations contractors. Clearing in the areas included in these contract packages is required to be complete prior to river diversion. The contract packages for access and clearing for Moberly River drainage, north bank of eastern reservoir and the

Cache Creek drainage were successfully procured and works will continue through winter 2018/2019. Clearing of the south bank portion of the eastern reservoir is being rescheduled for the 2019/2020 clearing season as contract negotiations were not successful. Access and clearing activities will be managed in this area to ensure there is no impact to the overall project schedule.

### **Middle Reservoir, Halfway River Drainage and Western Reservoir**

Inventory collection of the middle and western reservoir areas including Halfway River drainage progressed and continued into the fall 2018. This work will be used to develop the access and clearing plans for these areas and this information will be used to help support submissions for regulatory approvals and the development of contract packages. Access and clearing for the middle reservoir is scheduled to start in the fall 2019 and is anticipated to progress westward in future clearing seasons.

#### **4.2.2 Engineering**

Engineering provides technical support across the Project with substantial focus given to the maintenance and achievement of the contractors schedule for both the main civil works contract and the generating station and spillways civil works contract.

### **Main Civil Works**

Over the past year, design for the main civil works has continued to focus on options for advancement of the river diversion schedule which included completion of constructability refinements for the inlet and outlet portal excavations. For the roller-compacted concrete, design alternates were considered and many implemented for schedule advancement and hand-over to the generating station and spillways contractor.

### **Large Cranes, Hydromechanical, Turbines and Generators**

Engineering support to construction and vendor integration has been ongoing throughout 2018 for the large cranes, hydromechanical equipment and turbines contracts.

### **Generating Station and Spillways, Balance of Plant and Equipment Supply**

Several batches of construction drawings for the generating station and spillways civil works contract were completed through 2018, in support of, and in accordance with the revised contractor's schedule for the release of remaining construction drawings.

The implementation design for the balance of plant and equipment supply packages for generating station and spillways has been advancing, which includes specifications and Revit 3D modelling work.

Design continued to be advanced on the protection and control systems and is on schedule.

### **Transmission and Substation**

Implementation design for the 500kV lines and the Site C substation was completed in 2018, while the Peace Canyon gas insulated switchgear design is nearing completion with protection and controls construction drawings remaining.

### **Highway 29**

Planning for the Highway 29 final design was updated to meet the project schedule requirements, with alternate route designs progressed in consultation with stakeholders. Advancement of the implementation design for Highway 29 and associated bridge structures continued and geotechnical investigations were undertaken to confirm design assumptions, ground risk or sources for construction materials.

### **Technical Advisory Board**

The 18<sup>th</sup> and 19<sup>th</sup> Technical Advisory Board meetings were held in January 2018 and October 2018 in Fort St. John and Vancouver, respectively. The Technical Advisory Board was provided with a project update and construction site tour, while also considering technical aspects of the main civil works and the generating station and spillway contracts.

Refer to [Appendix E](#) for the reports on Technical Advisory Board activities in 2018.

#### **4.2.3 Quality Management**

The Project has a project quality management plan that outlines activities to ensure materials, equipment and the constructed works meet contract quality requirements. The plan identifies resources and procedures necessary for achieving the quality objectives, roles and responsibilities, resource planning and establishment of a quality management program.

Implementation and monitoring of quality control and quality assurance plans are requirements for all contractors. The project tracks and manages quality non-conformances, which is an occurrence that does not conform to the quality requirements of the contract. [Table 2](#) identifies quality management non-conformity instances during the reporting period.



**Table 2      Quality Management Non-Conformity Report Metrics Reporting Period –  
January 2018 to December 2018**

Contract	Reported October 1, 2018 to December 31, 2018	Closed October 1, 2018 to December 31, 2018	Reported January 1, 2018 to December 31, 2018	Closed January 1, 2018 to December 31, 2018	Reported to Date	Closed to Date	Open as of December 31, 2018
Main Civil Works	33	97	399	714	1,070	1,044	26
Turbines and Generators	5	0	17	11	29	20	9
Generating Station and Spillways Civil Works	43	21	n/a	n/a	64	43	21
Large Cranes	6	3	n/a	n/a	9	6	3
Hydromechanical Equipment	0	0	n/a	n/a	0	0	0
Transmission	15	15	52	47	62	57	5

A significant effort was made by the main civil works contractor during the last quarter ended December 31, 2018 to close out historical non-conformity reports. BC Hydro and the contractor continue to meet weekly to discuss and resolve open non-conformity reports, and quality steering committee meetings continue to be held monthly to discuss broader topics related to the contractor's quality performance.

BC Hydro and the turbines and generators contractor continue to meet on a weekly basis to discuss and resolve quality issues. With the turbine and generators manufacturing activities increasing in fall 2018 at the contractors São Paulo Brazil facility, BC Hydro hired a quality surveillance inspector who will be located at the Brazil facility on a full-time basis.

As the generating station and spillways civil works contractor has now started its concrete placements for the generating station, there has been an increase in the number of concrete-related non-conformity reports. However, the contractor has been proactive in identifying these non-conformities, addressing their root causes and implementing corrective actions. BC Hydro will continue to monitor the contractor's quality performance as the quantity and complexity of concrete placements increases in 2019.

The 15 non-conformities reported during the last quarter of the reporting period for the transmission contract were minor in nature; corrective actions and verifications to close them out were reviewed by BC Hydro. BC Hydro continues to perform quality surveillance audits of the transmission contractors to verify that their quality management systems are being adhered to.

BC Hydro continues to have quarterly meetings with our quality assurance partners, Englobe Corporation and SGS Canada, regarding the project's current and future resource-requirements for quality surveillance at offsite manufacturing locations. Work is assigned between the two organizations based upon their expertise, the location of their global offices and the availability of key personnel. Currently, Englobe is responsible for quality surveillance of the turbines and generators

contract, and SGS is responsible for quality surveillance of the hydromechanical equipment and cranes contract.

An assessment of quality practices across the project was performed during the quarter ended December 31, 2018, with particular emphasis on engineering, manufacturing and construction activities. The assessment report was completed in December 2018 and an action plan has been developed for implementation in 2019.

### **4.3 Safety and Security**

BC Hydro takes our commitment to safety seriously. In 2018, we took several steps to increase the focus on working safely and building a safety culture at site. As a priority, we have been working closely with our major contractors to develop plans that measurably improve safety performance.

One of the most substantial safety-focused efforts in 2018 has been related to BC Hydro's prime contractor safety area model for Site C. Our major prime contractors (including BC Hydro) within the Site C boundaries are working on the following sub-projects: main civil works, including Site C shared roads; generating station and spillways; turbines and generators; worker accommodation; and the Site C substation.

With respect to the prime contractor safety area model, during 2018, BC Hydro has:

- Temporarily assumed prime contractor responsibilities to provide safety coordination in the right bank cofferdam area, until the near-term safety hazards due to overlapping work between main civil works and generating station and spillways sub-projects no longer exist (estimated to be by late 2019);
- Held senior level meetings with WorkSafeBC to explain the prime contractor safety area model, review how prime contractors manage access, and describe BC Hydro's safety verifications and audits;

- Completed several training sessions with BC Hydro Site C teams (including senior leadership, construction management, and direct contractors) to ensure a thorough and practical understanding of owner and prime contractor roles and responsibilities;
- Updated the prime contractor safety area maps to address inconsistencies and to ensure clarity with respect to prime contractor boundaries; and
- Engaged with BC Hydro’s Site C construction management, interface management, safety and security and prime contractor representatives on their required processes and documentation for BC Hydro to introduce other workers (BC Hydro or contractor) into their prime areas.

Also, in 2018, BC Hydro established a Joint Safety Steering Committee with BC Hydro and major Site C prime contractors to address shared safety issues and opportunities. BC Hydro also developed a new set of leading performance indicators for safety, security and regulatory compliance at Site C. These performance metrics are being evaluated against major construction, forestry, and electricity industry comparators to set forward-looking performance targets.

In late 2018, a director of safety and security joined the Site C project and the onsite safety and security teams were consolidated into a single group. This re-organization is allowing for operational decisions to be made closer to site and resulting in better solutions as safety and security issues often overlap.

The safety and security team is working on a refreshed Site C Safety Plan for 2019, with a number of new and revised initiatives to build on accomplishments in 2018. Key areas of focus include ongoing emphasis on safety culture on dam site and off dam site, alignment with WorkSafeBC’s safety risk priorities and implementing a service model to support safety functions for all the sub-projects.

### Safety Performance Metrics

From January through December 2018, Site C (including all contractors) experienced 34 all-injury incidents (25 medical attention treatments and nine lost time injuries) and 12 serious incidents<sup>1</sup> of which 10 were near misses and two resulted in medical attention. These included dislodged shotcrete that struck a worker’s hardhat and shoulder, and a knife slip cut to a worker’s wrist.

Serious incident frequency ended the year at 0.44, down from a peak of 0.99 in April 2018. Lost time injury frequency was down to 0.33 and all-injury frequency was 1.25. Refer to [Appendix B, Figure B-1](#) for a graphic representation for these key safety results in 2018.

Site C safety metrics outperform WorkSafeBC’s comparators in the heavy construction and forestry industries (baseline is 2017 average), shown in [Table 3](#) below.

**Table 3      WorkSafeBC Industry Sector Comparators**

WorkSafeBC Industry Sector	# Lost Time Injury/ Lost Time Injury Frequency	Serious Incident Frequency	All Injury Frequency
Electric Utilities	64/2.20	n/a	n/a
Forestry	617/4.50	n/a	6.05
<b>Heavy Construction</b>	<b>87/3.30</b>	<b>n/a</b>	<b>6.41</b>
Site C Project (rolling 12-months)	9/0.33	0.44	1.25

In 2018, the Project reported 865 non-serious safety incidents which included 147 good catches, 315 near misses and 403 minor injuries that may have required first aid but no medical treatment. A “near miss” is defined as an incident that *could have* resulted in an injury, but did not because of effective hazard barriers or the person was out of harm’s way / missed. BC Hydro considers near miss reporting as

<sup>1</sup> Serious incidents are any injury or near miss with a potential for a fatality or serious injury.

indicative of a stronger and improving safety culture, and is encouraging all Site C contractors and employees to report near misses. The BC Hydro safety team is also investing effort into a deeper analysis of Site C near misses to identify and mitigate safety trends.

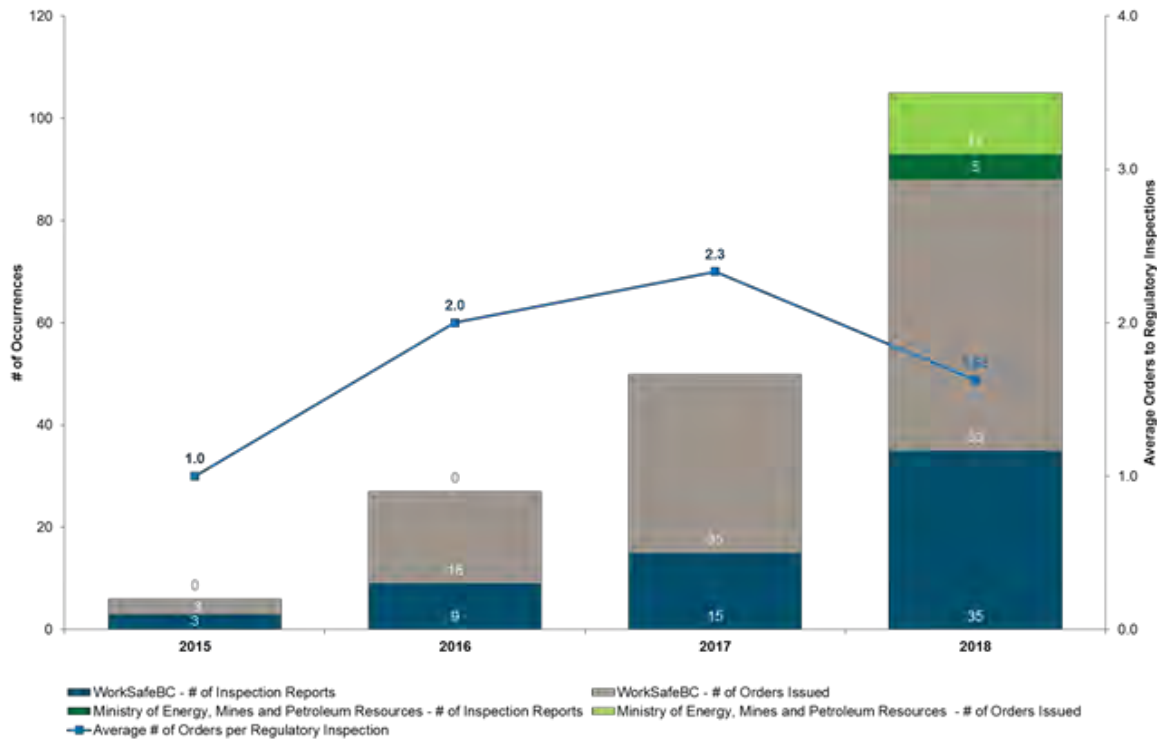
### **Regulatory Performance Metrics**

From January through December 2018, the Ministry of Energy, Mines and Petroleum Resources conducted five regulatory inspections of Site C and issued 12 orders, and WorkSafeBC conducted 35 inspections and issued 53 orders. As of December 31, 2018, 56 of the 65 orders were fully complied with. The Ministry of Energy, Mines and Petroleum Resources focused inspections on Site C quarries.

WorkSafeBC's primary focus was on tower and mobile cranes in the right bank cofferdam area, ventilation systems in main civil works maintenance shop, diversion tunnelling and excavation in the left bank, and contractor safety orientation and training programs.

Of the 40 regulatory inspections in 2018, 13 resulted in no orders or a 'clean sheet'. In December 2018, the rolling 12-month 'clean sheet' result was 33 per cent. The per cent of 'clean sheets' is a metric that measures regulatory safety compliance. There is an additional metric, 'average number of orders per regulatory inspection', which helps correct for the higher volume of regulatory inspections expected at a large construction project like Site C. As shown in the [Figure 3](#) below, the average number of orders per regulatory inspection has dropped over the last three years, from 2.0 in 2016 to 1.6 in 2018.

**Figure 3** Number of Orders to Regulatory Inspections, 2015 to 2018



Refer to [Appendix B, Table B-1](#) for a summary of the regulatory inspections and orders received in 2018.

### Summary of Safety and Regulatory Performance Metrics

[Table 4](#) below summarizes the Site C safety and regulatory metrics discussed above in a tabular format. This table has been changed from the previous report to reflect current safety and regulatory performance metrics used for Site C, including new leading indicators to ensure ongoing focus on the key priorities.

**Table 4      Summary of Site C Safety and Regulatory Metrics**

	Reported October 1, 2018 to December 31, 2018	Reported in 2018 (January 1, 2018 to December 31, 2018) <sup>2</sup>	Reported Since Inception (July 27, 2015 to December 2018) <sup>2</sup>
Fatality <sup>3</sup>	0	0	0
Permanently Disabling Injury <sup>3</sup>	0	0	1
Serious Incidents <sup>4</sup>	3	12	32
Lost Time Injury	1	9	17
All-Injury Incidents (Lost Time Injury + Medical Attention requiring Treatment)	7	34	77
Regulatory Inspections	11	40	67
Regulatory Orders	16	65	121

Refer to [Appendix B, Figure B-2](#) for additional information on the types of all-injury incidents in 2018.

#### **4.4      First Nations Consultation**

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

Accommodation offers were originally extended to ten First Nations communities. Six agreements have been fully executed and are in various stages of implementation. One agreement is in legal drafting. To date, Impact Benefits Agreements with Doig River First Nation, Halfway River First Nation, Sauteau First Nation and McLeod Lake Indian Band, and a Project Agreement with Dene Tha' First Nation have been publicly announced.

<sup>2</sup> Numbers are subject to change due to timing of when data is retrieved and when injury is categorized.

<sup>3</sup> Excludes health events unrelated to work standards.

<sup>4</sup> Serious incidents are any injury or near miss with a potential for a fatality or serious injury.



## 4.5 Litigation

As of the beginning of 2018, nine judicial reviews of environmental approvals and Site C permits had been dismissed or discontinued. Four appeals had been taken from those and three had been heard and dismissed. For two of those appeals, leave to appeal to the Supreme Court of Canada was sought and dismissed. The last appeal, which was for the judicial review of construction permits, was inactive and was subsequently dismissed by the court on May 31, 2018. In addition, an Environmental Appeal Board proceeding appealing the water licences for the Project had been brought in 2016 and withdrawn in 2017.

Subsequent to the reporting period, on February 5, 2019, another Environmental Appeal Board proceeding appealing the water licences was dismissed.

On January 15, 2018, the West Moberly First Nations and the Prophet River First Nation each filed a Notice of Claim in B.C. Supreme Court asserting an infringement of Treaty 8 and seeking, among other remedies, an injunction against the issuance of government permits and approvals for Site C. West Moberly First Nations later filed an injunction application seeking to halt Site C construction pending the hearing of their treaty infringement claim. The B.C. Supreme Court dismissed the injunction application on October 24, 2018. In the decision, the court directed that the trial of the treaty infringement claim be concluded no later than mid-2023.

The details of open proceedings in 2018 are summarized in [Table 5](#) below.

**Table 5      Litigation Status Summary**

Description		Date
<b>B.C. Supreme Court: Provincial Permits</b>		
Prophet River First Nation West Moberly First Nations	Injunction application dismissed Hearing of Petition complete  Petition Dismissed Appeal filed Hearing date	August 28, 2015 November 17 to 23, 2015 and February 2, 2016 October 31, 2016 November 30, 2016 Appeal abandoned May 31, 2018 (due to inactivity)
<b>B.C. Supreme Court: Treaty Infringement Claims</b>		
West Moberly First Nations Prophet River First Nation	Claims filed	January 15, 2018
West Moberly First Nations	Injunction application filed Hearing date  Injunction denied	January 31, 2018 July 23 to August 3, 2018 and September 4 to 7, 2018 October 24, 2018 No appeal filed
<b>Environmental Appeal Board</b>		
C. London	Water Licence appeal filed Hearing date  Appeal dismissed	March 11, 2016 Written appeal concluded in October 2018. February 5, 2019
<b>B.C. Supreme Court Civil Claims</b>		
Building Trades v. BC Hydro	Civil claim filed Response to claim filed	March 2, 2015 April 10, 2015
Aggregate Mining Process LLC and Reynolds Shipping LLC	Civil claim filed Response to claim filed	November 16, 2018 December 6, 2018
<b>Office of the Information and Privacy Commissioner (OIPC)</b>		
Applicant requested review of Freedom of Information response	Request for review filed OIPC Order issued Application for judicial review of Order filed	August 17, 2017 December 11, 2018 January 18, 2019

## 4.6 Permits and Government Agency Approvals

### 4.6.1 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 licences, leaves to commence construction and federal authorizations. Timing of the application for these permits and authorizations is staged and aligned with the construction schedule, availability of detailed design information, and by project component. Permitting approaches and requirements are also determined through regular meetings with regulatory agencies, and are subject to change throughout the Project. As at December 31, 2018, BC Hydro estimates that approximately 418 permits will be required throughout the life of the project. Of these permits, 283 have been received and are actively being managed.

Multiple conditions are attached to each permit or authorization, which cover 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. [Table 6](#) provides an overview of Provincial Environmental Assessment Certificate and Federal Decision Statement Conditions. BC Hydro has developed a comprehensive Construction Environmental Management Plan which outlines how we will comply with the Project Environmental Assessment Certificate, federal Decision Statement, and provincial and federal permits and authorizations. As of December 31, 2018, all required conditions and submissions have been met in accordance with the schedule and requirements of the conditions.

**Table 6 Overview of Provincial Environmental Assessment Certificate and Federal Decision Statement Conditions**

Type	Number of Environmental Assessment Certificate Conditions	Number of Federal Decision Statement Conditions	Notes
<b>AQUATIC ENVIRONMENT</b>			
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 and Fish Habitat	4	10	Protecting riparian zones, including fish passage in design, and managing total dissolved gas.
Vegetation and 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.
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 Indigenous plant use and ground truthing measures to inform additional measures.
<b>LAND AND RESOURCE USE</b>			
Harvest of Fish and Wildlife	1		Compensating guide outfitters and trap line holders.
Agriculture	2		Establishing a \$20 million fund and monitoring.
Other Resource Industries	3		Addressing surplus aggregate, and interface with oil and gas producers.
Transportation	5		Controlling access, providing carpool plans, monitoring traffic and delivering appropriate signage.
Outdoor Recreation and Tourism	3		Building boat launches and recreation fund, compensating camp ground owners, and informing downstream Alberta fishers.

Type	Number of Environmental Assessment Certificate Conditions	Number of Federal Decision Statement Conditions	Notes
<b>COMMUNITY</b>			
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.
<b>HUMAN HEALTH</b>			
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.
<b>HERITAGE RESOURCES</b>			
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.
<b>ENVIRONMENTAL PROTECTION and MANAGEMENT</b>			
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 and Development Plans	4		Providing required mitigation Plans, Quarry Development, Communications and Business Participation Plans.

Type	Number of Environmental Assessment Certificate Conditions	Number of Federal Decision Statement Conditions	Notes
Accidents and Malfunctions		6	Providing required plan and consultation with Environment Canada on effects of potential accidents and malfunctions on the environment.
<b>ADMINISTRATIVE</b>			
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.
<b>TOTAL</b>	<b>78</b>	<b>98</b>	

#### 4.6.2 Federal Authorizations

Federal authorizations are required under the *Fisheries Act* (Fisheries and Oceans Canada) and the *Navigation Protection Act* (Transport Canada). All major federal authorizations for construction and operation of the Site C dam and reservoir were received in July 2016. At this time, no further *Fisheries Act* authorizations are anticipated. Additional *Navigation Protection Act* approvals for discrete works in the reservoir (e.g., shoreline works, debris booms and Highway 29 bridges) are anticipated to be issued at the regional level. As of December 31, 2018, 41 federal approvals have been received and are actively being managed. Two approvals were pending, and 16 future approvals planned.

In November 2017, the Canadian Wildlife Service added bank swallows to the *Species at Risk Act* requiring a Canadian Wildlife Service permit to disturb bank swallow burrows. Colonies of burrows have been identified in portions of the dam site and potentially along some portions of the future reservoir. On March 15, 2018, BC Hydro received approval from the Canadian Wildlife Service to prevent nesting and remove inactive bank swallow burrows within the dam site. BC Hydro continues

to work closely with its main civil works contractor to mitigate the risk of bank swallows nesting on site.

On April 5, 2018, Transport Canada contacted BC Hydro regarding the requirement for a potential amendment to the *Navigable Waters Protection Act* authorization arising from the change in design of the generating station and spillways and on May 4, 2018, BC Hydro submitted an application to amend the *Navigation Protection Act* approval for the main civil works due to changes to the design of the spillway. Transport Canada is currently reviewing this application.

#### **4.6.3 Provincial Permits**

Site C requires provincial permits primarily under the *Land Act*, *Water Sustainability Act*, *Forest Act*, *Wildlife Act*, *Heritage Conservation Act*, and *Mines Act*. These permits include investigative permits, licences to occupy land, water licence approvals, leaves to commence construction and leaves to construct, and licences to cut vegetation, among others. Permit applications are sequenced with the overall schedule of the Project to ensure the most current and factual information is included in the submissions.

Approximately 359 provincial permits and approvals will be required throughout the life of the project. As of December 31, 2018, 242 permits have been obtained and are actively being managed. These have included permits for the dam site area (site preparation and clearing, as well as preliminary works for the main civil works and generating station and spillway, such as construction of cofferdams, excavation and construction of roller-compacted concrete buttress), worker accommodation (land tenure and water withdrawal), Highway 29 geotechnical investigations, transmission line clearing and construction of access roads, and lower reservoir and Moberly River clearing. Future provincial permits are planned for the construction of the Highway 29 realignment, Hudson's Hope Berm, and reservoir clearing and filling. All future permits are anticipated to be issued in accordance with the Project construction schedule.

The majority of the provincial permits are administered by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development and the Ministry of Energy, Mines and Petroleum Resources. In addition, BC Hydro has developed a coordinated First Nations consultation process with the Ministry of Forest, Lands, Natural Resource Operations and Rural Development to assist with the government permit workload. This coordinated consultation process was implemented in January 2018.

#### **4.6.4 Environmental Assessment Certificate**

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.

In 2018, the Environmental Assessment Office issued three amendments to the Project's Environmental Assessment Certificate.

On June 22, 2018, the Environmental Assessment Certificate was amended to reflect design changes to the generating station and spillways. The changes include: each generator will now be connected to a transformer located upstream of the units, on the transformer deck; the spillways originally had seven gates, but will now be constructed with three radial gates and six low level outlets; and the discharge capacity of the spillways has been increased. These improvements will optimize capacity, minimize environmental risks, improve safety and facilitate the ease of long-term maintenance during operations. The footprint and the functional requirements of the generating station and spillways will remain the same.

On October 26, 2018, the Environmental Assessment Certificate was amended to allow design changes to the Halfway River Bridge within the Halfway River Highway 29 realignment. The amendment reflects that a long bridge, rather than a short bridge with a causeway, will be constructed at the Halfway River Highway 29 realignment.



On November 14, 2018, the Environmental Assessment Certificate was amended to permit the use of West Pine Quarry, in addition to the already approved Portage Mountain Quarry, as a source of quarry and excavated material for the construction of the Highway 29 realignment, Hudson's Hope shoreline protection, and areas along the reservoir requiring protection during reservoir filling. All amendment requests are posted on the Environmental Assessment Office website at <https://projects.eao.gov.bc.ca/p/site-c-clean-energy/docs>.

On November 27, 2018, BC Hydro submitted a request to amend two conditions of Environmental Assessment Certificate #14-02 to permit the selective use of mechanical clearing in riparian zones during reservoir clearing when it is unsafe to undertake manual clearing. This request is currently under review by the Environmental Assessment Office.

As with any large construction project, refinements to the design are expected. There are no material impacts to the cost of the project as a result of the proposed amendment requests.

#### **4.6.5 Permitting Improvement**

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

- BC Hydro continues to facilitate meetings with the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, the Comptroller of Water Rights, the Department of Fisheries and Oceans and contractors to ensure permit applications are coordinated, timely and sufficient;
- Regular permitting forums are being held with First Nations communities to share information on upcoming permit applications and to seek feedback before applications are submitted to regulators; and

- BC Hydro has implemented a coordinated First Nations communities consultation process with the Ministry of Forest, Lands, Natural Resource Operations and Rural Development to assist with the government permit workload.

## **4.7 Environment**

### **4.7.1 Mitigation, Monitoring and Management Plans**

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

Focus remains on minimizing sediment and erosion across the dam site, care of water, hydrocarbon management, invasive weed control and finding a solution to the pH and metal limits required by the Water Comptroller as the background conditions throughout the site make compliance challenging.

On the left bank, construction is nearing completion of substantial sediment control features located at L3, the main channel through the dam site. Additionally, large portions of the left bank have been revegetated and are less susceptible to erosion as a result.

On the right bank, the site is managing the impacts of exposed, naturally occurring potentially acid generating rock with installation of a temporary care of water system. An on-site mobile water treatment plant was added to the system in July 2018 to augment the collections and retention system by treating water for high metal content and low pH prior to discharge into the Peace River. The system is comprised of ditches, pumps, holding ponds, sediment ponds and the treatment plant, as well as other treatment options.

As of December 31, 2018, all required submissions have been made in accordance with the schedule and requirements of the conditions, including all environmental protection plans required of the generating station and spillways contractor.

Also in 2018, there were 15 annual reports submitted in accordance with the conditions.

#### **4.7.2 Environmental Compliance Inspections and Enforcement**

Throughout 2018, the Site C project was inspected by provincial and federal regulators from the Water Comptrollers' Office, the B.C. Environmental Assessment Office, the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, the Ministry of Energy, Mines and Petroleum Resources and the Canadian Environmental Assessment Agency. Both provincial and federal regulatory agencies have noted that environmental compliance has improved throughout 2018.

Compliance officers from the B.C. Environmental Assessment Office, the Canadian Environmental Assessment Office, the Water Comptroller's Office, and various provincial agencies participated in a week long compliance promotion event on site from January 25 to January 28, 2018. No non compliances were noted during this event.

During 2018, environmental compliance was focused on a few of the following areas:

- During the period from April 2018 through December 2018, environmental compliance continued to focus on completing the channelization works at the areas of the dam site referred to as L3 and Garbage Creek. The stilling basin in the upper portion of L3 was damaged due to high flows during freshet. This stilling basin was decommissioned and the area cleared of debris. Repairs of the L3 upper stilling basin and channel have been underway through the fall and winter of 2018 with completion estimated for March 2019. Works on the installation of the lower sediment pond on the lower portion of L3 were

substantially completed in fall 2018. Repairs to the head pond and channel of Garbage Creek are underway over the winter quarter with completion estimated for March 2019.

- Additionally, the Water Comptroller requested a review of the capacity of the care of water system on the right bank approach channel following the discharge of approximately four million litres of partially treated storm water into the Peace River during a 55-mm rain event on September 8 and September 9, 2018. The discharge was a relatively small volume of approximately 34 litres per second over a 26-hour period into a flow in the Peace River of approximately 1.2 million litres per second. As such, the water was immediately diluted with no harmful effects observed. BC Hydro is taking action to increase the holding capacity and effectiveness of the care of water system and to remove the weathered acidic rock to reduce the potential for a similar reoccurrence. Environment Canada is also investigating the incident related to the discharge of storm water into the Peace River.

Inspectors from the B.C. Environmental Assessment Office, Environment Canada, the Water Comptroller, and the Canadian Environmental Assessment Agency performed over 1,600 hours of inspections between January 1 and December 31, 2018. The results of these inspections are listed below in [Table 7](#).

BC Hydro has performed almost 26,000 inspections over the reporting period with a compliant or partial compliant result of 95.7 per cent across all contractors and works areas.

During the year, the independent environmental monitor continued weekly inspections with a focus on hydrocarbon management, waste disposal, erosion and sediment control, dust management and wildlife management. Overall, the weekly inspections indicated general environmental compliance.

**Table 7      Warning Letters and Orders**

Agency	Number of Warning Letters	Number of Orders
Water Comptroller’s Office	0	2
Environmental Assessment Office	1	2
Ministry of Forests, Lands, Natural Resource Operations and Rural Development	0	0
Ministry of Energy, Mines and Petroleum Resources	0	0
Canadian Environmental Assessment Agency	1	0

Site C staff met bi-weekly with provincial regulators to ensure ongoing focus and attention to the areas of most importance and concern for the regulators and to proactively address any environmental or regulatory issues that may arise.

Issues continue to be observed for excessive greasing of equipment and hydrocarbon spills as well as gas cylinder storage issues. However, improvement has been noted in the latter portion of the year. BC Hydro is working with its onsite contractors to raise the awareness of both care of water and spill/leak prevention requirements.

Additionally, Site C engaged both an Independent Environmental Monitor and an Independent Engineer that report directly to provincial regulators. The Independent Environmental Monitor provided weekly reports that have also demonstrated substantial compliance across the Project while continuing to identify areas of focus for sediment and erosion control, water management and spill prevention. The Independent Engineer worked directly with site staff to proactively identify design issues that may impact the environment and develop mitigation plans to avoid or minimize impacts.

### 4.7.3 Heritage

In accordance with a number of Environmental Assessment Certificate and Federal Decision Statement conditions, the Site C Heritage Resources Management Plan addresses the measures that will be used to mitigate the adverse effects of the Project on heritage resources. In November 2018, the Heritage Resource Management Plan was updated to Revision 3 and published on the Site C Project website.

The 2018 heritage field program focused on field work to meet regulatory requirements for pre-construction archaeological impact assessments and systematic data recovery at selected archaeological sites. The field season was initiated in May 2018 and ended in November 2018. Heritage works included up to 60 archaeologists and First Nations community representatives active on site and the submittal of 23 archaeological interim reports to the BC Archaeology Branch and First Nations communities in accordance with *Heritage Conservation Act* permit terms and conditions. Additionally, three palaeontological reports were submitted to the B.C. Archaeology Branch and the B.C. Heritage Branch. Heritage reviews of contract documents, contractor environmental plans and construction readiness plans were performed to ensure compliance. One heritage chance find was reported at the end of this period, and no *Heritage Conservation Act* permit amendments were received.

### 4.7.4 Agricultural Mitigation and Compensation Plan Framework

As part of the Site C Agricultural Mitigation and Compensation Plan, BC Hydro has established a \$20 million BC Hydro Peace Agricultural Compensation Fund to support agricultural production and related economic activity in the Peace Region. The fund is governed by a regional decision-making board made up of representatives from five regional agricultural organizations, the Peace River Regional District, three agricultural producer members-at-large and one Peace River Valley agricultural producer. Northern Development Initiative Trust was selected as

the fund administrator in a public request for proposals process with a contract concluded on August 8, 2018. BC Hydro approved the financial management plan for the \$20 million fund, which was developed by Northern Development Initiative Trust and the fund board. Subsequently, BC Hydro transferred \$20 million to Northern Development Initiative Trust in December 2018. The Board and Northern Development Initiative Trust will meet in spring 2019 to review the initial investment returns and define timing and programs for the first agricultural grant intake.

## **4.8 Labour, Employment and Training Initiatives and Building Capacity Initiatives**

### **4.8.1 Labour**

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

In addition, ten unions affiliated with the BC Building Trades will be working on the installation of the turbines and generators. As of September 2017, the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers (Boilermakers Union) members are working on this contract.

The generating station and spillways contractor has signed a labour agreement for the generating station and spillways civil works with the IUOE Local 115, the CSWU Local 1611 and CMAW.

Further, the substation contractor has negotiated labour agreements with the IBEW for the electrical work on the Site C substation, and their civil subcontractor has been

certified to the CMAW. The transmission contractor is performing transmission line work on the project and is signatory to a labour agreement with the IBEW.

#### 4.8.2 Employment

Contractors submit monthly workforce data electronically to BC Hydro. [Table 8](#) presents the monthly number of construction contractors, non-construction contractors, engineers, and project team workers for this period. As with any construction project, the number of workers — and the proportion from any particular location — will vary month-to-month and also reflects the seasonal nature of construction work.

**Table 8                      Site C Jobs Snapshot Reporting Period –  
 January 2018 to December 2018**

Month	Number of B.C. primary residents <sup>5</sup>	Number of total workers <sup>6</sup>
January 2018	1,498	1,743
February 2018	1,803	2,086
March 2018	1,804	2,124
April 2018	1,890	2,242
May 2018	2,358	2,810
June 2018	2,531	3,093
July 2018	2,625	3,303
August 2018	2,856	3,561
September 2018	2,974	3,746
October 2018	2,944	3,681
November 2018	2,727	3,463
December 2018	2,418	3,107

<sup>5</sup> Employment numbers provided by Site C contractors and consultants are subject to revision. Data not received by the project deadline may not be included in the above numbers. Employment numbers are direct only and do not capture indirect or induced employment.

<sup>6</sup> Total workers include:

- Construction and non-construction contractors performing work on Site C dam site, transmission corridor, reservoir clearing area, public roadwork, worker accommodation and services.
- Engineers and project team that is comprised of both on site and off site workers.
- The project team, which includes, BC Hydro construction management and other offsite Site C project staff. An estimate is provided where possible if primary residence is not given.



In December 2018, 78 per cent of the workforce were residents of British Columbia, while 25 per cent of the workforce were residents from the Peace River Regional District. The onsite contractor number also includes 15 per cent women and 121 workers working for various contractors as apprentice carpenters, welders, electricians, millwrights, ironworkers, mechanics, boilermakers, labourers and heavy equipment operators.

#### **4.8.3 Training and Capacity Building Initiatives**

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

All major Site C construction contractors currently attend this meeting. The committee meets quarterly, or on an as-needed basis.

The committee has developed a number of initiatives, such as:

- Established a protocol for distribution of Indigenous candidate resumes;
- Developed and implemented the Indigenous Employment and Informational Day;
- Reviewed and assisted contractors in contract reporting requirements;
- Discussed communication of site-wide policies;
- Shared regional cultural events with project contractors;
- Shared BC Hydro's Indigenous Employment and Business Development employment and training initiatives;
- Reviewed contractors' best practices;
- Shared success stories to assist in generating opportunities; and

- Reviewed project status and upcoming labour requirements for contractors and how to meet labour demands.

BC Hydro has included apprentice targets in the generating station and spillways civil works contract, the transmission lines and the substation contracts, and the BC Hydro procured Highway 29 work. The generating station and spillways contractor has also committed to providing opportunities for apprentices.

In August 2013, Northern Lights College Foundation started distributing the BC Hydro Trades and Skilled Training Bursary Awards. As of August 31, 2018, 241 students had received bursaries, including 100 Indigenous students who have benefitted from the bursary in programs such as electrical, welding, millwright, cooking, social work, and many others. The bursary ended in October 2018, with remaining amounts still available. BC Hydro has worked with the Northern Lights College Foundation to extend the bursary for an additional year, and reserve the remaining bursary amounts for trades programs directly needed for project work.

BC Hydro continues to work with local employment agencies to ensure that as job opportunities become available, they are posted on the WorkBC website as well as on the Fort St. John Employment Connections website. In December 2018, Site C contractors reported 628 workers on site from the Peace River Regional District. This is a total of 25 per cent of the construction and non-construction contractors' workforce.

Both major contractors on site are exploring opportunities for apprentice and other training on site. Specifically, as the project ramps up, the generating station and spillways contractor will be developing initiatives for both on and off site pre-apprenticeship programs. The main civil works contractor has reported apprentices in the heavy equipment operator and labourer trades through a new training program in partnership with CLAC and the Industry Training Authority.

## **4.9 Community Engagement and Communication**

### **4.9.1 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 four community agreements with respect to the Project, with the District of Taylor (2013), the District of Chetwynd (2013), the City of Fort St. John (2016) and the District of Hudson's Hope (2017). 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 cooperatively with the City of Fort St. John, District of Hudson's Hope, District of Taylor and the District of Chetwynd to ensure implementation of their respective agreements.

In 2018, the Regional Community Liaison Committee, which is comprised of local elected officials and local First Nations communities, met three times (January 31, May 16 and November 28). In addition, a site tour was conducted with the Regional Community Liaison Committee on September 19, 2018. A total of 12 communities have participated as committee members, including eight local governments and four local First Nations communities (McLeod Lake, Doig River, Sauteau and Blueberry River) as well as the two MLAs for Peace River North and Peace River South. Representatives from the Project's major contractors have also attended the meetings as invited guests.

## **4.9.2 Business Liaison and Outreach**

BC Hydro continued to implement its business construction liaison and outreach by attending local chamber of commerce meetings in Fort St. John and Chetwynd. The project team sent out 23 notifications in 2018, which includes six notifications in the final quarter of the year to the Site C business directory.

### **4.9.2.1 Community Relations and Construction Communications**

BC Hydro continued to implement its construction communications program throughout 2018. The program includes updating and maintaining the project website [www.sitecproject.com](http://www.sitecproject.com) with current information, and photos and videos of construction activities, and providing information to local and regional stakeholders as required.

#### **Construction Bulletins**

Bi-weekly construction bulletins continued to be issued throughout 2018. These bulletins are posted on the project website and sent by email to the web-subscriber list. There were 26 construction bulletins and four construction notification letters issued in 2018, with seven and one, respectively, distributed in the final quarter of the year.

#### **Public Enquiries**

In total, BC Hydro received 1,989 public enquiries between January 1 and December 31, 2018, with 475 received in the last quarter of the year. The majority of these enquiries continued to be about business and job opportunities, with limited construction impact concerns from local residents. [Table 9](#) shows the breakdown of some of the most common enquiry types.

In total, BC Hydro has received more than 9,000 enquiries since August 2015.

**Table 9                      Public Enquiries Breakdown**

Enquiry Type <sup>7</sup>	October 1, 2018 to December 31, 2018	2018
Job Opportunities	338	1,374
Business Opportunities	73	373
General Information	37	132
Construction Impacts <sup>8</sup>	13	30
Other <sup>9</sup>	14	80
<b>Total</b>	<b>475</b>	<b>1,989</b>

#### **4.9.2.2            Communications Activities**

Based on a search using the media database Infomart, there were 688 stories referencing the Site C project in B.C. news media between January 1 and December 31, 2018. In the final quarter of the year, there were 157 media stories referencing the Project.

#### **4.9.3                Housing Plan and Housing Monitoring and Follow-Up Program**

BC Hydro and BC Housing signed a Contribution Agreement on July 19, 2016 related to the development, construction and operation of a building in Fort St. John comprised of 50 residential rental units. This agreement is the outcome of detailed discussions between the two partners to find the most appropriate approach to meeting the Project’s environmental assessment conditions 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 viable financial operation of the affordable housing units in the near-term and viable financial operation of all 50 units of affordable housing in the longer term.

The housing project is under construction by Western Canadian Properties Group with interior finishing underway. Construction is substantially complete with occupancy expected in spring 2019. BC Hydro is working with BC Housing to

<sup>7</sup> This table is a sample of enquiry types and does not include all enquiry types received.

<sup>8</sup> The nature of the construction impact inquiries is primarily air quality, noise and traffic conditions.

<sup>9</sup> “Other” accounts for enquiries related to a variety of other topics, such recreation access near construction sites, property owner correspondence, or requests for site tours.

determine if BC Hydro will utilize any of the available suites during the remainder of the Project. Any suites not utilized by BC Hydro are available to BC Housing to offer for public rental.

#### **4.9.4 Labour and Training Plan**

In accordance with an Environmental Assessment Certificate condition, a Labour and Training Plan was developed and submitted to the Environmental Assessment Office on June 5, 2015. This plan, as well as Environmental Assessment Certificate Condition 45, includes reporting requirements to support educational institutions in planning their training programs to support potential workers in obtaining project jobs in the future. This report was issued to the appropriate training institutions in the northeast region of B.C. in July 2016, July 2017 and July 2018. The next report will be issued in July 2019.

This plan and Environmental Assessment Certificate Condition 45 also require the establishment of a daycare. This measure is being implemented through a contribution agreement with School District 60 in the North Peace. The daycare opened on August 1, 2018 as part of a new school in Fort St. John. School District 60 selected the YMCA of Northern B.C. as the daycare operator.

#### **4.9.5 Human Health**

##### ***4.9.5.1 Health Care Services Plan and Emergency Service Plan***

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

The clinic provides workers with access to primary and preventative health care and work related injury evaluation and treatment services and is currently open seven

days a week, 24 hours a day. Since opening the Project health clinic, there have been a total of 8,227 patient interactions. During the reporting period, there were 1,123 patient interactions, of which 249 were occupational and 874 non-occupational. Several preventive health themes were promoted to workers including: seasonal affective disorder, workforce bullying and HIV/AIDS.

#### **4.9.6 Property Acquisitions**

In spring 2018, BC Hydro accessed private properties to inform design and mitigation options for the various components of the Site C Project. In fall 2018, BC Hydro finalized consultation with private property owners, which informed the structured decision making process impacting their properties in (Cache Creek East) and later commenced the property acquisition process for the re-alignment of two highway projects (Cache Creek East and Farrell Creek) and the Hudson's Hope shoreline protection project. BC Hydro also successfully negotiated agreements with landowners to enable reservoir clearing within the eastern reservoir.

### **4.10 Key Procurement and Contract Developments**

#### **4.10.1 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**

<b>Component</b>	<b>Contract</b>	<b>Procurement Model</b>	<b>Anticipated Timing</b>
Worker Accommodation	Worker accommodation and site services contract	Design-Build-Finance-Operate-Maintain	Completed
Earthworks	Site preparation contracts	Predominantly Design-Bid-Build	Completed
	Main Civil Works contract	Design-Bid-Build	Completed
Reservoir/ Transmission Clearing	Multiple reservoir clearing contracts to be awarded over seven to eight years	Design-Bid-Build	Five contracts completed (transmission line, lower and eastern reservoirs)
Generating Station and Spillways	Turbines and Generators contract	Design-Build	Completed
	Generating Station and Spillways Civil Works contract	Design-Bid-Build	Completed
	Hydromechanical Equipment contract	Supply Contract	Completed
	Balance of Plant Equipment Supply	Supply Contracts	F2019 to F2020
	Balance of Plant Contract)	Design-Build/ Design-Bid-Build	F2019 to F2021 shortlisted respondents signed participation agreement on December 19, 2018
Electrical and Transmission Infrastructure	Transmission Lines Construction contract	Design-Bid-Build	Completed
	Site C substation contract	Design-Bid-Build	Completed
	Peace Canyon Substation upgrade contract	Design-Build	Completed
Highway 29 Realignment	Design-Bid-Build in coordination with B.C. Ministry of Transportation and Infrastructure with anticipated contracts being awarded from 2018 to 2022		



#### 4.10.2 List of Major Contracts Awarded (Excess of \$50 million)

Since inception of the Project, seven major construction contracts (i.e., greater than \$50 million in value) have been awarded: worker accommodation, north bank site preparation, main civil works, turbines and generators, generating station and spillways civil works, transmission line construction and hydromechanical equipment. The contracts were procured through a public competitive process and awarded based on a rigorous evaluation process within the budget established for each contract. A list of contracts in excess of \$50 million awarded to December 31, 2018 is shown in [Table 11](#) below.

**Table 11 Major Project Contracts Awarded**

Work Package	Contract Value <sup>10</sup> (\$ million)	Current Status
Site Preparation: North Bank	60	Contract executed July 2015
Worker Accommodation	473	Contract executed September 2015
Main Civil Works	2,094	Contract executed December 2015
Turbines and Generators	464	Contract executed March 2016
Generating Station and Spillways Civil Works	1,617	Contract executed March 2018
Transmission Line Construction	113	Contract executed May 2018
Hydromechanical Equipment	69	Contract Executed April 2018

#### 4.10.3 Large Contracts to Date (Excess of \$10 million)

BC Hydro has provided a table in [Appendix H](#) which shows the breakdown to date of the contracts awarded in excess of \$10 million and cumulative variances.

#### 4.10.4 Contract Management

##### 4.10.4.1 Material Changes to the Major Contracts

The main civil works contract is a unit price contract and as such variations in quantities and design are expected over the term of the contract. Since contract award in December 2015, the main civil works contract value has increased by

<sup>10</sup> Contract value reflects the current value including executed change orders to the end of the reporting period.

\$347 million to reflect approved changes to date. The changes are managed within project contingency.

BC Hydro reached a settlement agreement with the main civil works contractor in July 2018. The majority of the financial and contractual impacts of the settlement have been reflected in the quarter ended December 31, 2018. The addition of the remaining incentive agreements will be reflected in subsequent quarterly results, but all fall within the total cost of the agreement over the life of the project of \$325 million. While the agreement will draw on the project contingency, there is sufficient budget available such that there is no impact to the overall project budget.

#### **4.10.4.2 Contingency and Project Reserve Draws**

As a result of the change in timing for river diversion and other factors including an increase in direct and indirect costs, BC Hydro revised the project budget to \$10.7 billion, which was approved by the provincial Treasury Board in January 2018 and the BC Hydro board of directors in February 2018. This revised budget includes contingency of \$858.1 million and reserve subject to the control of Treasury Board of \$708 million.

Refer to [Appendix J](#) for more detailed information regarding contingency and project reserve draws.

### **4.11 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.

### **4.12 Site Photographs**

Refer to [Appendix A](#) for site construction photographs.

## 5 Project Schedule

### 5.1 Project In-Service Dates

As filed with the British Columbia Utilities Commission Inquiry respecting Site C on October 4, 2017, BC Hydro identified that the river diversion milestone will move from 2019 to 2020. This did not impact the overall in-service dates, as shown in [Table 12](#) below.

**Table 12 In-Service Dates**

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

### 5.2 Project Governance, Costs and Financing, and Risk

#### 5.2.1 Project Governance

With increased internal and external oversight of project performance, BC Hydro is confident the project will be delivered on time and within the updated budget.

Examples of measures implemented in 2018 include:

- EY Canada continued to provide independent oversight for the project including budget oversight, schedule evaluation and risk assessment analysis.
- Increasing the number of BC Hydro on-site representatives to effectively manage the construction contracts.

- Addition of a project controls lead at site focused on progress measurement, which enhances the ability to identify early warnings signs of potential challenges and opportunities for corrective actions.
- The project team filled a number of director-level positions within the project controls, risk, commercial management, safety and quality teams. In addition, senior leadership team positions for main civil works, off dam site and design engineering were filled. Refer to [Figure 4](#) for the current organization structure.
- Project management plans were updated in 2018 reflecting the \$10.7 billion updated budget and the new organization structure.
- Updates to the Project Assurance Board’s terms of reference were approved by the BC Hydro board of directors in September 2018. The changes clarify roles and responsibilities of the Project Assurance Board, the BC Hydro board, the Technical Advisory Board, government and others.

**Figure 4 Project Organizational Structure**



### 5.2.2 Project Budget Summary

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

[Table 13](#) below presents the overall project budget, based on the updated budget approved in February 2018, represented in nominal dollars.

**Table 13 Current Project Budget**

Description	Current Budget, Approved February 2018 (Nominal \$ million)
Dam, Power Facilities, and Associated Structures	4,548
Offsite Works, Management and Services	1,845
<b>Total Direct Construction Cost</b>	<b>6,393</b>
Indirect Costs	1,456
<b>Total Construction and Development Cost</b>	<b>7,849</b>
Contingency	858
Interest During Construction	1,285
<b>Project Cost, before Treasury Board Reserve</b>	<b>9,992</b>
Treasury Board Reserve	708
<b>Total Project Cost</b>	<b>10,700</b>

### 5.3 Project Expenditure Summary

[Table 14](#) provides a summary of the updated budget and the actual costs *for the calendar year 2018* and the variance between the two.

**Table 14 Project Expenditure Summary  
(\$ million Nominal) Compared to Updated  
Budget**

Description	Updated Budget for Calendar 2018	Actuals for Calendar 2018	Variance
Total Project Costs	1,004	1,080	(76)
Treasury Board Reserve	0	0	0
<b>Authorized Project Cost</b>	<b>1,004</b>	<b>1,080</b>	<b>(76)</b>

[Table 15](#) provides a summary of the F2017-F2019 Service Plan and the actual costs for the calendar year 2018 and the variance between the two.

**Table 15 Project Expenditure Summary  
(\$ million Nominal) Compared to  
F2017-F2019 Service Plan**

Description	F2017-F2019 Service Plan Calendar 2018	Actual for Calendar 2018	Variance
Total Project Costs	842	1,080	(238)
Treasury Board Reserve	0	0	0
<b>Authorized Project Cost</b>	<b>842</b>	<b>1,080</b>	<b>(238)</b>

Variations between the actual and the plan to date amounts occur due to differences in the timing of project implementation activities. Variations are primarily due to higher than planned expenditures for main civil works and generating station and spillways expenditures work.

#### 5.4 Comparison of Cost Plan by Quarter to Actual Expenditures (F2018 Q4 to F2019 Q3)

**Table 16 Cost Plan for the Reporting Period:  
January 2018 to December 2018  
(\$ million Nominal) Compared to Updated  
Budget**

Description	F2018 Q4	F2019 Q1	F2019 Q2	F2019 Q3	Total for Reporting Period
Planned Expenditures	206	243	253	302	1,004
Actual Expenditures	228	199	346	307	1,080
<b>Variance</b>	<b>(22)</b>	<b>44</b>	<b>(93)</b>	<b>(5)</b>	<b>(76)</b>

[Table 16](#) above presents a comparison of the planned total expenditures by quarter with the actual expenditures. Over the entire reporting period, actual expenditures were \$76 million more than plan, primarily due to higher than planned main civil works expenditures for the settlement of claims and earlier than planned left bank excavation and diversion tunnel work as well as additional stilling basin costs under infrastructure. These are partially offset by transmission expenditures shifting into F2019 Q4 and reservoir clearing expenditures shifting into F2020 due to schedule delays.

**Table 17**      **Cost Plan for the Reporting Period:  
 January 2018 to December 2018  
 (\$ million Nominal) Compared to  
 F2017-F2019 Service Plan**

Description	F2018 Q4	F2019 Q1	F2019 Q2	F2019 Q3	Total for Reporting Period
Planned Expenditures <sup>11</sup>	176	242	241	183	842
Actual Expenditures	228	199	346	307	1,080
<b>Variance</b>	<b>(52)</b>	<b>43</b>	<b>(105)</b>	<b>(124)</b>	<b>(238)</b>

[Table 17](#) above presents a comparison of the planned total expenditures by quarter with the actual expenditures. Over the entire reporting period, actual expenditures were \$238 million more than plan, primarily due to higher than planned main civil works expenditures for the settlement of claims and earlier than planned left bank excavation and diversion tunnel work. There were also schedule advancements for generating station and spillway and transmission work and additional stilling basin costs. These are partially offset by lower mitigation and compensation and reservoir clearing expenditures, which shifted into future periods.

## 5.5 Internal Project Financing versus External Borrowings to Date

To date, all project funding has been from internal borrowings and there has been no Site C Project-specific debt issued. As part of BC Hydro's debt management strategy, BC Hydro's exposure to variable debt is managed within a board-approved range of five per cent to 25 per cent and a target of 15 per cent. In addition, from F2017 to December 31, 2018, BC Hydro has hedged \$7.4 billion of its future forecast long-term debt issuances out to F2024 through the use of derivative contracts to lock in low interest rates.

As at December 31, 2018, \$4 billion in hedges have settled with a realized gain of \$122 million and \$3.4 billion of hedges remain outstanding with an unrealized gain of \$46 million.

<sup>11</sup> The plan for F2018 Q4 is from the F2017-F2019 Service Plan and the plan for F2019 is from the F2019-F2021 Service Plan

Additional hedges have been transacted in calendar 2019 to further lock in low interest rates on forecast debt issuances out to F2025. To date, all project funding has been from internal borrowings and there has been no Site C Project-specific debt issued.

## 5.6 Material Project Risks

Material project risks are identified through a project risk profile assessment, which is prepared on an ongoing basis. As the project progresses through implementation phase, the material project risks will evolve to reflect the current risks facing the project.

Refer to [Table 18](#) below for a list of the material project risks.

**Table 18 Material Project Risks**

Risk Description	Impact and Response Plan Summary
On the left bank diversion tunnels: Risk that contractor productivity does not meet plan and/or differing geotechnical conditions.	<p><b>Impact:</b> Potential schedule delay and increased cost.</p> <p><b>Response:</b> Contractor has increased tunnel construction labour and equipment; contractor has improved work methods and/or additional subcontractors; BC Hydro has provided production incentives through the settlement agreement with contractor.</p>
Risk that productivity for roller-compacted concrete is lower than planned.	<p><b>Impact:</b> Project schedule not achieved; potential interface issues may arise with other contractors.</p> <p><b>Response:</b> Physical progress is captured and reported on a weekly basis for key work fronts. Key interface milestones are monitored and discussed on a regular basis. Meetings are held with the contractor on a regular basis.</p>
Risk that worker accommodation budget is not sufficient.	<p><b>Impact:</b> Increased cost to cover additional bed nights in camp; possible contractor workforce impacts; increased cost for local lodging and potential impacts on the community.</p> <p><b>Response:</b> BC Hydro is undertaking an economic analysis of camp expansion based on updated contractor resource information. Analysis completed winter 2018/2019.</p>



Risk Description	Impact and Response Plan Summary
Risk that contractor labour rate increases in excess of budgeted amount.	<p><b>Impact:</b> BC Hydro has included provisions in the major contracts that allow for labour escalation to a prescribed amount, as well as a cost/savings sharing formula based on general industry rates above/below the prescribed amount. Increased pressure on the labour market would likely drive labour wage rates higher, potentially resulting in general industry increases beyond the prescribed amounts</p> <p><b>Response:</b> BC Hydro has defined contract labour escalation formulas in all major contracts.</p>
Risk of a safety incident resulting in fatality or disabling injury.	<p><b>Impact:</b> Serious worker injury or fatality; project delays and associated costs.</p> <p><b>Response:</b> Implemented senior-level safety steering committee with all prime contractors to address shared safety issues and opportunities, hired permanent senior field safety manager, and holding regular on-site safety conferences.</p>
For work fronts other than the left bank diversion tunnel: Risk of differing geotechnical conditions.	<p><b>Impact:</b> Potential schedule delay and increased cost.</p> <p><b>Response:</b> Completed detailed geotechnical investigations prior to construction; close monitoring and quick intervention to manage construction risk if geotechnical issues arise.</p>
Risk that First Nations communities do not support the project.	<p><b>Impact:</b> First Nations communities file legal challenges (e.g., injunction applications) or engage in protest actions that could delay or stop the project work and/or increase costs.</p> <p><b>Response:</b> Project team to continue to engage and consult with First Nations communities and ensure commitments are met or exceeded; Project team to fully support the development of legal response documents; follow court order requirements, if applicable; continue to negotiate Impact Benefit Agreements.</p>
Risk that reservoir clearing not completed for diversion.	<p><b>Impact:</b> Reservoir not cleared impacting diversion; outstanding 2018/2019 seasonal work moved into next season (2019/2020) using up float and increased cost to expedite; increased debris to manage.</p> <p><b>Response:</b> Award contracts at start of clearing season; carry remaining work into 2019/2020 season; hire additional contractors/resources for each clearing season; develop comprehensive debris management plan.</p>
Risk that Highway 29 not completed on time for inundation.	<p><b>Impact:</b> Highway incomplete impacting inundation schedule; additional costs.</p> <p><b>Response:</b> Increase design resources in peak periods; utilize schedule float; proactively respond to geotechnical issues; proponents to secure steel supply contracts during bid; use Ministry of Transportation and Infrastructure specifications; support First Nations contractors to work with qualified builders.</p>

Risk Description	Impact and Response Plan Summary
<p>Risk that project cannot attract and retain sufficient skilled workers.</p>	<p><b>Impact:</b> Contractors may not be able to adequately source, supply, attract, and retain sufficient project labour due to workforce demographics, increased competition for labour from other major projects, and the requirement for specialized workers. This may result in potential impacts to schedule, safety, productivity and cost.</p> <p><b>Response:</b> Contractors provide labour sourcing and supply plans, provide advance notice of foreign workers, and participate in local job fairs. BC Hydro will encourage and facilitate capacity-building initiatives, monitor employee turnover rates and other projects labour conditions.</p>
<p>Risk that BC Hydro's borrowing costs for project are higher than budgeted.</p>	<p><b>Impact:</b> Rising interest rates increase the project's interest costs above the amount budgeted.</p> <p><b>Response:</b> BC Hydro to hedge interest rates on approximately 75% of future debt placements through F2025, to reduce the potential impact. Please refer to section <a href="#">5.5</a> above for further details.</p>
<p>Risk that reservoir clearing costs are higher than budget.</p>	<p><b>Impact:</b> Budgets insufficient to award contracts and complete work.</p> <p><b>Response:</b> Review scope, modify approach, negotiate pricing, and if required, obtain contingency draw.</p>

## **6 Look ahead – January 2019 to December 2019**

### **6.1 Construction**

The following is a description of key construction activities planned to take place in 2019:

- The main civil works will advance, focusing on excavations and diversion tunnel excavation and concrete lining, and the inlet and outlet gate structures;
- Work will continue on the 800-metre-long roller-compacted concrete buttress, specifically the spillway buttresses;
- Work will continue on construction of the earthfill dam;
- Work will advance on the portion of the Highway 29 realignment at Cache Creek West and will begin in the Halfway River segment;
- The generating station and spillways contractor will continue to place concrete for the powerhouse and main service bay structures;
- Work will continue on the transmission line corridor and includes: road maintenance and construction; clearing; tower foundation installation; and transmission line tower installation;
- Construction will continue on the Site C substation and the expansion of the outdoor switchyard at Peace Canyon is scheduled to be completed and placed into service; and
- Reservoir clearing will advance in the lower, middle and eastern reservoir areas.

### 6.1.1 Key Milestones

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

The key milestones for 2019 are listed in [Table 19](#).

**Table 19 Key Milestones**

Milestone	Performance Measurement Baseline	Plan Date (Control Date <sup>12</sup> )	Forecast <sup>13</sup>	Variance
<b>Generating Station and Spillways</b>				
Primary anchor for intake operating gates and intake maintenance gates provided	March 2019	March 2019	March 2019	On track
Work area w2 (intakes) access provided to the contractor	May 2019	May 2019	May 2019	On track
Main service bay concrete complete	May 2019	May 2019	May 2019	On track
Main service bay ready for powerhouse bridge cranes assembly and erection	July 2019	July 2019	July 2019	On track
Work area w3 access to generating station and spillways	November 2019	November 2019	November 2019	On track
Powerhouse bridge cranes commissioned and ready for travel load tests	December 2019	December 2019	December 2019	On track
<b>Highways</b>				
Halfway River grading, paving and bridge contract award complete	July 2019	September 2019	September 2019	On track
<b>Main Civil Works</b>				
Outlet portal stabilization ready for tunnelling	April 2019	April 2019	February 2019	On track
Right bank drainage tunnel excavation, support and drainage complete	August 2019	September 2019	February 2019	On track
Cast-in-place concrete and roller-compacted concrete of spillway (apron boundary around roller-compacted concrete walls) complete	October 2019	October 2019	October 2019	On track
Diversion tunnel #1 and #2 Construction Complete	November 2019	November 2019	November 2019	On track

<sup>12</sup> Control date reflects plan, adjusted for approved changes to milestone dates.

<sup>13</sup> As at January 31, 2019.

Milestone	Performance Measurement Baseline	Plan Date (Control Date <sup>12</sup> )	Forecast <sup>13</sup>	Variance
<b>Turbines and Generators</b>				
Stator bars pre-production test at Powertech	June 2019	June 2019	June 2019	On track
Unit 1 draft tube supply complete	August 2019	August 2019	August 2019	On track
<b>Transmission</b>				
PCN GIS Outage	March 2019	April 2019	April 2019	On track
Peace Canyon in-service date	October 2019	October 2019	July 2019	On track

### 6.1.2 Main Civil Works

Over the next year, the key construction related activities planned for the left bank include work on the tunnel lining which is scheduled to start by April 2019 and to be completed by December 2019, and the installation of the inlet structures for the diversion tunnels will commence in May 2019. Tunnel excavation is scheduled to be complete by July 2019.

Planning is currently underway on the right bank for 2019 roller-compacted concrete placements at the spillway buttress; this includes effort to optimize production and reduce downtime during the roller-compacted concrete season. The contractor is completing slope protection through the winter 2019 that will reduce cleaning times and surface preparations during the summer of 2019. Roller-compacted concrete on the spillway buttress is scheduled to be complete in fall 2019.

The main civil works contractor will continue work at the 85<sup>th</sup> Avenue Industrial Lands and complete assembly of the overland conveyor from 85<sup>th</sup> Avenue to the left bank of the dam site. This conveyor is scheduled to be operational in summer 2019, transporting excavated material from the Industrial Lands to the dam site for the construction of the earthfill dam.

Rip-rap will be shipped via railway from West Pine Quarry and will be stockpiled at Septimus Siding for use at the dam site.

### 6.1.3 Generating Station and Spillways

Over the next year, the key activities planned for the generating station and spillways include:

- Place a cumulative total of 65,000 m<sup>3</sup> of concrete to significantly progress Units 1-5;
- Complete the steel super structure for the main service bay;
- Start construction of the intake headworks. Place 18,000 m<sup>3</sup> of concrete;
- Start construction of the spillway in November 2019;
- Hydromechanical equipment supplier to supply gate anchors for intake gates and to supply gate guides for the draft tube gates; and
- Powerhouse bridge cranes supplier to supply and commission the powerhouse cranes.

### 6.1.4 Turbines and Generators

Over the next year, design, procurement and manufacturing will continue for the turbines and generators contract. During 2019, the turbines and generators contractor will continue to fabricate the large turbine-embedded parts at a temporary manufacturing facility on-site, including the draft tube cone and elbow, and the spiral case. The contractors' factory in São Paulo will continue production of metal castings for the turbine runners and wicket gates, and will continue with fabrication of the turbine stay ring and the generator stator.

In addition to the above, the contractor will ship pre-production stator bars for the generator to Powertech laboratory for testing, and subsequently commence manufacture of the stator bars. Production of stator laminations and generator poles will also commence in 2019.

### **6.1.5 Transmission and Substation**

Clearing and access road construction on the western half of the transmission line right of way is targeted to be complete in September 2019.

In 2019, foundations for the first transmission line, 5L005, will be completed and the majority of transmission towers assembled and erected, with conductor stringing in early 2020.

In 2019 the Site C substation will be substantially complete with the contractor focusing on completing the remaining civil work, installing steel supports, buswork, cable trenches, power and control cables, telecommunications equipment and protection and control equipment inside the control building.

In the early months of 2019, substation construction will continue, including installation of cable trenches, support steel and buswork, protection and control equipment and telecommunication equipment. The line contractor will begin installation of transmission structures on completed foundations. The 500kV gas-insulated switchgear will be delivered to Peace Canyon and preparation work will be done to get ready for installation later in 2019. The 500kV gas-insulated switchgear installation is expected to be completed and placed into service in July 2019.

### **6.1.6 Highways**

Design of Cache Creek East and all western segments will continue in 2019. The detailed design for Halfway River segment is scheduled to be complete by June 2019. The remainder of the procurement of the Cache Creek West area will continue.

In February 2019, work will begin at the Halfway River segment to remove vegetation and trees to prepare the highway right of way for construction. The procurement for Halfway River will begin in June 2019 in anticipation of a contract award date in September 2019.

### **6.1.7 Reservoir Clearing**

Design work will continue in 2019 for the eastern and middle reservoir areas. Access development and clearing will continue in the Moberly River, lower and eastern reservoir and will start in the middle reservoir. Design for the debris boom facilities for diversion will be finalized.

## **6.2 Engineering**

The BC Hydro engineering team will continue to provide technical and construction support to the project through 2019, with substantial focus given to the maintenance and achievement of the contractors schedule for both the main civil works contract, and the generating station and spillways civil works contract. Further, the engineering design team will continue to advance the implementation design for the generating station and spillways civil works contract with ongoing issue of construction drawings in accordance to the current project requirements.

Key areas on the main civil works contract that will be supported include the ongoing construction of the Peace River diversion inlet structures and tunnels, the placement of roller-compacted concrete foundation for the spillway and powerhouse, and additional support on an as and when required basis for all other aspects required to achieve the works.

Advancement and substantial completion of the implementation design for the generating station and spillways civil works with issuance of construction drawings for the spillway and powerhouse, and the implementation design for the balance of plant and equipment supply packages. Also, integration and review of the large cranes, hydromechanical, and turbine and generators will be ongoing throughout 2019.

Advancement and substantial completion of portions of the implementation design for Highway 29 and the ongoing technical support to Highway 29 construction



activities such as clearing at the Halfway River construction area and road construction works at Cache Creek West.

The engineering team will continue to provide the Technical Advisory Board with project and construction updates through 2019, while also considering technical aspects of the main civil works and the generating station and spillways contracts. The Technical Advisory Board will undertake two formal meetings in May and November of 2019 which will be held in Fort St. John and Vancouver.

### **6.3 Quality Management**

The areas of focus for the quality team in 2019 will be:

- Updating the project quality plan, and the supporting design, manufacturing and resident engineering quality plans, to ensure that they are in alignment and reflect the current complexity of the project;
- Supporting the construction management and resident engineering teams with regards to defining roles and responsibilities for quality assurance at site;
- Continuing to work with suppliers and contractors to ensure they are satisfying their obligations with regards to quality control of their work; and
- Improving internal processes for assessing and reporting quality across the project.

### **6.4 Safety and Security**

BC Hydro will continue to focus on working with and verifying that our direct award contractors are fully managing their prime contractor responsibilities; and ensuring our regulatory compliance with the more stringent owner responsibilities in forestry-related projects as required by WorkSafeBC.

## **6.5 First Nations Consultation**

Efforts will continue in the next year to conclude Impact Benefit Agreements with the remaining First Nations communities 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.

## **6.6 Permits and Government Agency Approvals**

Permits and licences are required for construction activity to be undertaken in 2019. Approximately 55 permit applications are anticipated to be submitted for approval in this time frame as well as eight Environmental Assessment Certificate amendment requests related to the realignment of Highway 29 segments at Cache Creek, Dry Creek, and Farrell Creek; the location of material sources for construction and reservoir clearing; groundwater monitoring; the expansion of the worker camp; and hauling of material from 85<sup>th</sup> Avenue Industrial Lands.

Delays to these permits, licences or amendments may result in delays to the associated construction work. However, BC Hydro continues to consult with federal and provincial authorities, local government and First Nations communities to mitigate this risk and does not anticipate delays that will impact construction schedules. Specific actions to mitigate risk to permits and licences include:

- Early identification and submission of permit and licence applications through consultation with contractors (e.g., weekly meetings with main civil works on permits/permitting plan);
- Weekly meetings with Ministry of Forests, Lands, Natural Resource Operations and Rural Development on permitting process, technical details and consultation status;
- Bi-weekly meetings with the Environmental Assessment Office;

- 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;
- Joint development of permitting dashboards between the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, Comptroller of Water Rights and BC Hydro to track permit risks and develop mitigation measures; and
- Proactive key stakeholder and First Nations community consultation on Environmental Assessment Certificate condition amendment requests.

## **6.7 Environment**

Site environmental monitoring and survey work will continue through 2019. The Project team will continue to collaborate with Indigenous groups, stakeholders and regulators 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.

On-site compliance resources continue to perform daily inspections and to work with the onsite contractors to ensure environmental compliance. Inspectors will continue to focus on the areas of sediment and erosion control, water management, hydrocarbon spill prevention and invasive weed mitigation. Additionally, as new contractors mobilize to site, the site staff are working closely to ensure an immediate focus on environmental compliance. A joint BC Hydro, regulator, and contractor representative compliance meeting is scheduled for spring 2019.

Additionally, experts in wildlife mitigation and fish and aquatic mitigation will continue to collect field data and install wildlife mitigation features, such as bat and fisher

houses, snake dens, course woody debris piles, and other habitat features as the work progresses.

## **6.8 Community Engagement and Communications**

Increased focus on community engagement will occur through the Regional Community Liaison Committee, one on one community meetings, presentations and issue-specific technical meetings.

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.

The Site C public affairs team will attend business and chamber of commerce meetings in Fort St. John, Dawson Creek, Chetwynd and Prince George. In addition, project update presentations will be provided to varying organizations as opportunities arise.

Discussions will continue with the Peace River Regional District to reach a community measures agreement.

The Regional Community Liaison Committee will continue to meet at least three times to discuss project progress and areas of community interest. In addition, a site tour will be conducted for the Regional Community Liaison Committee to view construction-related activities.

## **6.9 Property Acquisitions**

Over the next year, BC Hydro will commence the property acquisition process for the remaining highway re-alignment projects and portions of middle and western reservoir clearing projects. BC Hydro will also continue negotiations with private

property owners in relation to permissions for the further field investigations to inform design and mitigation options for the various Site C sub-projects.

## 6.10 Cost Plan by Quarter F2019 and F2020

**Table 20 Annual Cost Plan (\$ million Nominal)**  
 Reporting Period: January 2019 to  
 December 2019

Description	Final Investment Decision	F2019 Q4	F2020 Q1	F2020 Q2	F2020 Q3	Summary of Quarters
Total Project Costs (\$)	9,992	272	313	494	368	1,447
Treasury Board Reserve	708	0	0	0	0	0
Authorized Project Cost (\$)	<b>10,700</b>	272	313	494	368	1,447

## 6.11 Material Project Risks

Risk management is an ongoing, iterative process. As documented in the Site C Risk Management Plan, the ongoing risk management 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.

## 7 Risk and Cost Management Assessment Summary and Independent Oversight

BC Hydro engaged Ernst & Young (EY) and BTY in 2016 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. Their report which was released in October 2016 identified strong overall project management practices, as well as some areas for improvement. [Table 21](#) below lists the items carried forward that have not been completed.

**Table 21 EY Recommendations and BC Hydro Action Plan for 2016**

EY Finding/Recommendation	BC Hydro Action	Completed to December 2018
<p>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.</p> <p><b>Recommendation 6:</b> Dashboards with key project data should be considered to aid decision-making across the project.</p>	<p>BC Hydro will develop an implementation plan for the appropriate Dashboard tool with key project data.</p>	<p>Dashboards at both the Project and Sub-Project level have been developed and implemented. These dashboards draw on existing systems, such as SAP and P6, and use Tableau to present the information in a user-friendly and effective manner.</p>
<p>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.</p> <p><b>Recommendation 7:</b> An audit and people, process, and systems review of the contractors should be considered.</p>	<p>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.</p>	<p>We regularly complete reviews of contractor schedule submissions. We have implemented weekly reporting on physical progress for key work fronts. As part of this reporting we validate progress information provided by contractors, report weekly progress against plan and forecast whether identified milestones will be achieved.</p>
<p>Project controls should be a key focus for the project management team going forward.</p> <p><b>Recommendation 9:</b> Continue to refine the project controls processes on the project.</p>	<p>BC Hydro will develop a Project Controls Handbook customized for the Site C project team.</p>	<p>A Director, Project Controls, Risk and Services was hired in May 2018. A vision and an updated organizational chart for Project Controls Risk and Services was announced in July 2018. Additional team members, such as a Site Project Controls Lead and two Interface Engineers, have been hired. EY completed a review of Project Controls and Risk in summer 2018 and applicable opportunities for improvement arising from this report have been completed or are in process.</p>

Further, in June 2018, Ernst & Young provided BC Hydro with a number of opportunities for improvement to the project controls and risk management plans for the Project. [Table 22](#) below lists identified items and current status.

**Table 22 EY Recommendations and BC Hydro  
Action Plan for 2018**

Area	#	EY Finding/Recommendation	BC Hydro Action	Completed to December 2018
Risk	R1	The limited size and on site presence of the Project Controls function restricts the ability of BCH to effectively manage a growing risk profile.	Add additional resources to the site controls team to support effective management, including staff for quantity surveying, scheduling, records and information management, under the supervision of a team lead.	Completed in 2018.
	R2	The Project Assurance Board is not provided with a clear view of Project risk exposure relative to the performance management baseline to inform timely decision making.	Establish alternative objective criteria to escalate risks to the Project Assurance Board. Link schedule risks to key project milestones. Conduct quantitative risk analysis on a quarterly basis. Implement automated and standardized reporting and risk-related data analytical tools. Implement a risk review committee of senior project leaders that meets monthly to review risks to be reported to the Project Assurance Board.	All actions were completed in 2018.
Schedule	S1	There is no single source of truth that is able to inform the level of progress achieved relative to the project baseline.	Subsequent to the settlement agreement with the main civil works contractor, ensure alignment of contractor schedules with the integrated master schedule. Implement dashboards for all subprojects to consistently present data for schedule, cost, risk, submittals and changes.	All actions were completed in 2018.
	S2	Management information does not consistently show progress made, relative to time taken and money spent, limiting the ability to determine performance relative to key interfaces and milestones.	Improve visibility and awareness of critical and near-critical path schedule activities to support improved analysis of change and risks impacts of any forecast deviance from defined milestones. Establish weekly reporting of physical progress against plan for key work areas.	All actions were completed in 2018.
Cost	C1	The Project Assurance Board is not provided with a clear view of cost performance and pressure on contingency, over time, relative to contract budgets.	Establish standardized monthly reporting of cost pressures, contingency drawn and contingency available, over time.	Completed in 2018.
Change	Ch1	Management information is not supported by trend analysis to clearly indicate the consumption of contingency relative to potential changes over time.	Establish and enhance standardized monthly reporting for potential cost pressures (greater than 50% probability of occurrence).	Completed in 2018.

## 8 Project Objective

The strategy being employed on the Site C Project related to balancing the project objectives of scope, quality, schedule, and cost is shown in [Figure 5](#), and is as follows:

- First, implement the project scope, consistent with the quality specifications; in other words, don't compromise on scope or quality. BC Hydro is building Site C for the long-term, and it does not make sense to undermine the quality of the asset;
- Second, mitigate schedule risk and build schedule float. The rationale for this is due to the very significant impacts associated with missing the river diversion schedule milestone. There is a relatively narrow window to complete river diversion in fall 2020, and if that window is missed, the project is delayed by a full year. As a result, the project team has completed a number of activities to increase schedule float to further reduce the risk of missing river diversion when unplanned events occur that delay the schedule; and
- Third, complete the project within the approved budget at the lowest reasonable cost.

BC Hydro's goal is to achieve all of these objectives. However, as unplanned events occur, they put pressure on meeting all of the project objectives, and the project team has utilized the above strategy to balance how best to meet these objectives.

**Figure 5 Site C Project Objective**





## 9 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 Executive Vice President, the President and Chief Operating Officer and the Site C Project Assurance 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 Assurance Board and management following each meeting and provide a report of key findings and recommendations; and
- Prepare and submit technical reports as required to management and the board of directors.

The 18<sup>th</sup> and 19<sup>th</sup> Technical Advisory Board meetings were held in January 2018 and October 2018, both with site visits and meetings in Fort St. John and Vancouver. Presentations and discussions were held on a range of topics, including schedule risks (inlet and outlet, diversion tunnel productivity); geotechnical stability; excavations for the roller-compacted concrete buttress and roller-compacted concrete placement; quality management; spillway final design, stilling basin and power intakes final design; debris management; dam foundation grouting; and long-term dam safety management. The Technical Advisory Board met via conference call in March 2018 to address the excavation for the outlet portal and in August 2018 as a general update. Two members of the Technical Advisory Board conducted a site visit in August 2018. The next Technical Advisory meeting is scheduled to be held between May 28, 2019 and May 31, 2019.

Refer to [Appendix E](#) for reports on Technical Advisory Board activities in 2018.

## 10 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 third annual compliance report on time on March 31, 2018, which can be found in [Appendix G](#).

**Site C Clean Energy Project**

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**Annual Progress Report No. 3  
(Combined with Quarterly Progress Report No. 14)**

**Appendix A**

**Site Photographs**

**Figure A-1** The Turbines and Generators Contractor Delivering Equipment to their Work Area (January 2018)



**Figure A-2** Installing Conveyor Equipment at the Approach Channel and Powerhouse Buttress on the Right Bank (January 2018)



**Figure A-3** Aerial View of the Right Bank, with  
Generating Station and Spillways Aggregate  
Area (February 2018)



**Figure A-4** Aerial View of the Left Bank with Cofferdam  
and Excavation, Facing Northwest  
(February 2018)





**Figure A-5 Aerial View of the Drainage Tunnel on the Right Bank (March 2018)**



**Figure A-6 Drainage Tunnel on the Right Bank (March 2018)**



**Figure A-7 Right Bank Crusher Plant 2 and Aggregate Stock Piles (April 2018)**



**Figure A-8 Right Bank Insulation Placement on the Face of the Roller-Compacted Concrete (April 2018)**





**Figure A-9 Right Bank Roller-Compacted Concrete Area (April 2018)**



**Figure A-10 In-River Works – Dredging (April 2018)**





**Figure A-11 Left Bank Shotcrete Placement for the Inlet Portal (April 2018)**



**Figure A-12 Conveyor Belt Components Delivered to the 85<sup>th</sup> Avenue Industrial Lands (May 2018)**



**Figure A-13 Left Bank Inlet Portal Cofferdam and Outlet Portal Cofferdam (May 2018)**



**Figure A-14 Right Bank Phase 2 Crusher (June 2018)**





**Figure A-15** Roller-Compacted Concrete Placement and Shotcrete Application for the Spillway Buttress on the Right Bank (June 2018)



**Figure A-16** Installing Concrete Forms for the Substation on the Right Bank (June 2018)



**Figure A-17 Right Bank Phase 2 Crusher Plant  
(July 2018)**



**Figure A-18 Concrete Placement for the Right Bank  
Powerhouse Buttrass (July 2018)**





**Figure A-19 Substation Control Building Steel Structure on the Right Bank (August 2018)**



**Figure A-20 Concrete Pedestals and Concrete being Placed in Forms for the Substation (August 2018)**



**Figure A-21 Transformer Assembly at the Site C Substation Site (August 2018)**



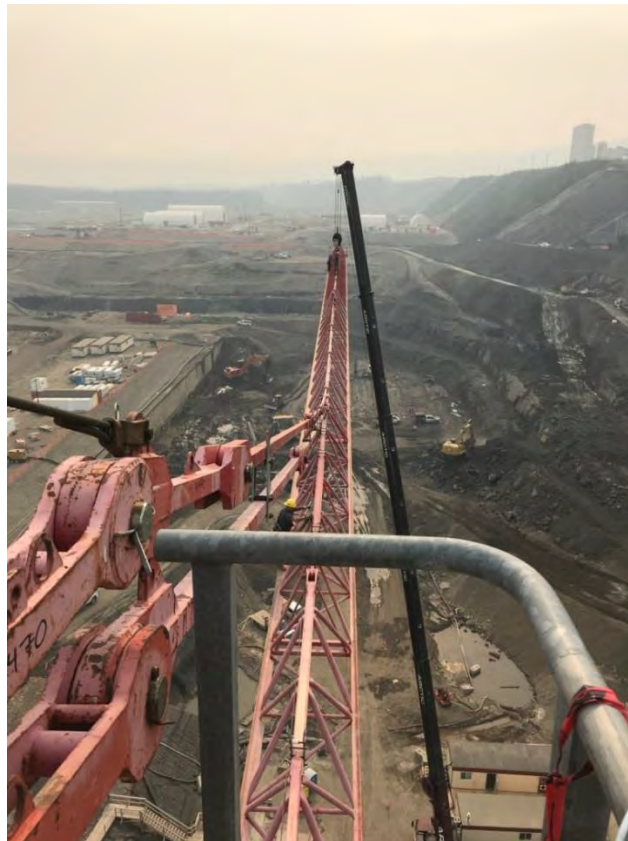
**Figure A-22 Powerhouse Buttress and Generating Station and Spillways Civil Works Laydown Area (August 2018)**



**Figure A-23 Shotcrete Application in the Right Bank Drainage Tunnel (August 2018)**



**Figure A-24 Installation of a Tower Crane at the Powerhouse on the Right Bank (August 2018)**





**Figure A-25 Powerhouse Construction Area  
(September 2018)**



**Figure A-26 Work on the Diversion Tunnel Inlet  
Portal (September 2018)**





**Figure A-27 Completed Powerhouse Buttress on the Right Bank (October 2018)**



**Figure A-28 Start of Highway Realignment Work at Cache Creek West (October 2018)**



**Figure A-29 Laydown Area for Highway 29 Cache Creek West Construction (October 2018)**



**Figure A-30 500kV Electrical Equipment at the Site C Substation (October 2018)**





**Figure A-31** Excavation of Diversion Tunnels on the Left Bank (October 2018)



**Figure A-32** Component for the Conveyor from 85<sup>th</sup> Avenue to the Dam Site (November 2018)



**Figure A-33 Construction of the Earthfill Dam on the Left Bank (November 2018) Roller-Compacted Concrete Buttress on the Right Bank, with the Concrete Insulated for Winter (November 2018)**



**Figure A-34 Powerhouse and Main Service Bay on the South Bank (December 2018)**





**Figure A-35** The Conveyor Belt Corridor Near the Dam Site: the Conveyor to Move Materials from the 85<sup>th</sup> Avenue Industrial Lands to the Dam Site will be Built Along this Right-of-Way (December 2018)



**Figure A-36** Concrete Being Pumped into a Coupling Chamber at the Powerhouse (December 2018)



**Site C Clean Energy Project**

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**Annual Progress Report No. 3  
(Combined with Quarterly Progress Report No. 14)**

**Appendix B**

**Safety and Security**

Figure B-1 below provides information on Employee and Contractor Serious Incidents/Near Miss Frequency, Lost Time Injury Frequency and All Injury Frequency.

**Figure B-1 Employee and Contractor Serious Incidents/Near Miss Frequency, Lost Time Injury Frequency and All Injury Frequency**

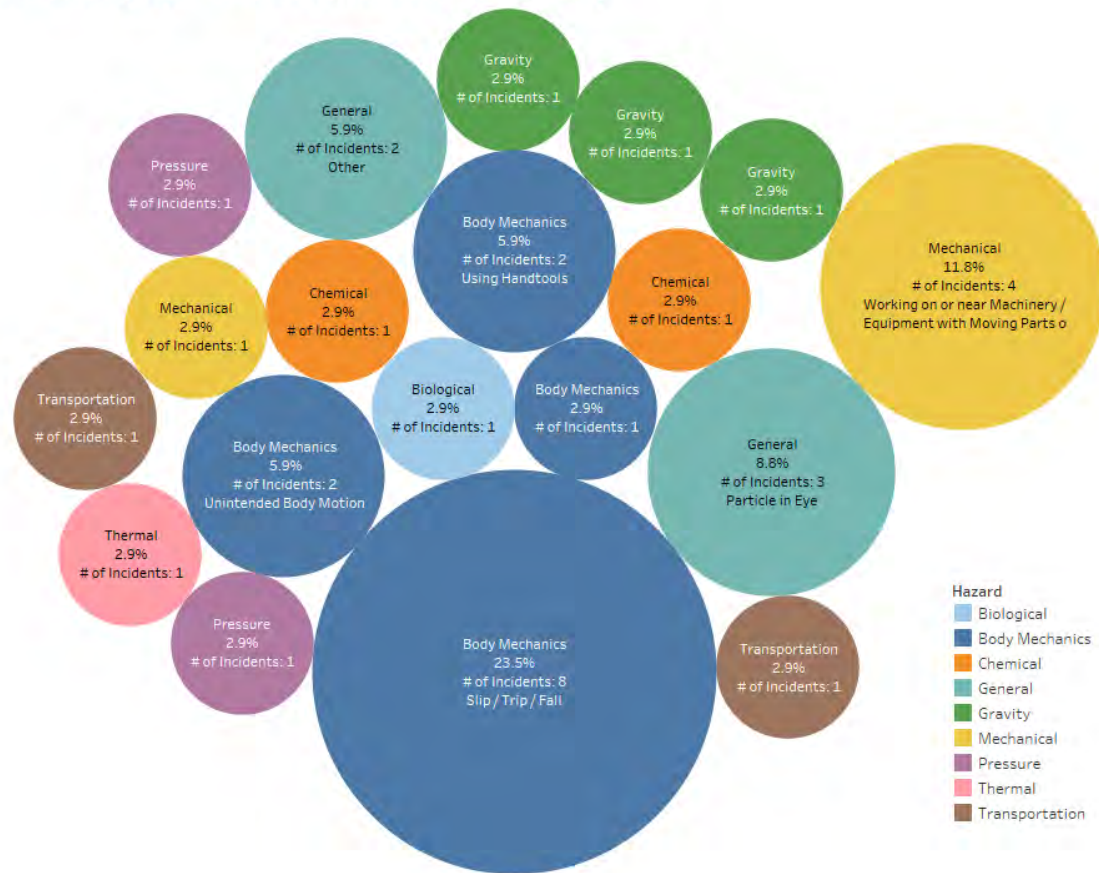


Figure B-2 illustrates a breakdown of the 34 All Injury Incidents (Lost Time Injuries and Medical Attention-Treatments). The top three recordable injuries in 2018 were (1) slips, trips, and falls, (2) working on or near machinery / equipment with moving parts or stored energy, and (3) particle in an eye. To manage these safety priorities, BC Hydro and our Prime Contractors have been focused on winter hazards,

investing effort in holding thorough joint senior management safety incident reviews, and reinforcing personal safety behaviors in job preparation and tailboard/toolbox meetings.

**Figure B-2 All Injury Incidents**

**2018 All-Injury by Hazard & Theme**  
(Lost Time Injury + Medical Attention - Treatment)



[Table B-1](#) lists the Regulatory Inspections and Orders received from January 2018 through December 2018.



**Table B-1 Regulatory Inspections and Orders**

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
<b>WorkSafeBC Inspections and Orders</b>			
<p><b>Inspection 2018 #1:</b> WorkSafeBC contacted the contractor as a result of a reported incident that presented a high risk of serious injury to a worker. The incident resulted from the inadvertent power tool contact to a previously exposed ground cable. The contact of this insulated 5kV electrical conductor caused a ground fault to the main breaker. No injuries were reported.</p>			
Low	Incident follow-up	No orders	January 2018
<p><b>Inspection 2018 #2:</b> WorkSafeBC discussed with the contractor their responsibilities to conduct a full investigation as a result of an injury that involved a worker who fractured their ankle while walking across the partially cleared snowy parking lot, then slipped resulting in a fall to the ground.</p>			
Low	Incident follow-up	No orders	March 2018
<p><b>Inspection 2018 #3:</b> WorkSafeBC conducted an inspection as part of the 2018 WorkSafeBC Forestry High Risk Strategy to reduce the serious injury and fatal injury rates in the top risk exposure categories in forestry harvesting and to assess compliance with the Workers Compensation Act and the Occupational Health and Safety Regulation. Focus was on prime contractor's responsibilities, manual tree falling activities and emergency response planning. No violations were observed during the inspection and no orders were issued.</p>			
Low	For information only	No orders	March 2018
<p><b>Inspection 2018 #4:</b> WorkSafeBC conducted an inspection at the Right Bank Drainage Tunnel jobsite. The controls on two pieces of equipment were either not identified, or damaged. At the time of the inspection there was no work underway in the tunnel as the ventilation was under repair. Most items discussed were in compliance, however two pieces of equipment had controls that were either not properly identified or damaged. Two orders were written to bring the controls into compliance.</p>			
Low	Mobile Equipment	<p><b>Order #1:</b> The Kubota driver's side actuator was missing the actuation knob and the stem of the actuator was bent. The contractor failed to ensure the manually activated fire suppression system was easily accessible at the operator's ground level station, from each side of the machine, and the activation of the system would cause the engine to shutdown.</p>	March 2018
Low	Mobile Equipment	<p><b>Order #2:</b> The contractor failed to ensure the operating controls displayed its function and is maintained to allow safe operation of the equipment.</p>	

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
<b>Inspection 2018 #5:</b> WorkSafeBC observed workers working near and around the hopper of the shotcrete machine that was directly below the 2 boom jumbo.			
High	Mobile Equipment	<b>Order #1:</b> The contractor failed to ensure the boom jumbo was shut down properly for maintenance.	March 2018
<b>Inspection 2018 #6:</b> WorkSafeBC conducted an inspection in the Mobile Equipment Maintenance Shop. BC Hydro must ensure that all areas under the control of the owner are being maintained in a manner that provides a safe workplace and that all prime contractors on the owner's property are given the information known to the owner that may be relayed to health and safety.			
Low	For information only	No orders	March 2018
<b>Inspection 2018 #7:</b> WorkSafeBC conducted an inspection at the Right Bank mobile equipment maintenance facility. At the time of the inspections, there were workers repairing several pieces of equipment.			
Low	General Condition (Storage Racks)	<b>Order #1:</b> The contractor failed to ensure the storage rack in the workplace is capable of safely supporting the items stored on it.	March 2018
High	Chemical and/or Biological Agents (Ventilation outdoors)	<b>Order #2:</b> The contractor failed to ensure the exhaust from an internal combustion engine, that is operated indoors, must be vented through to the outdoors.	
Low	General Condition (Safe Machinery and Equipment)	<b>Order #3:</b> The contractor failed to ensure that the equipment in the workplace is capable of safely performing the functions for which it is used.	
High	Ladders, Scaffold and Temporary Work Platforms (Inspection)	<b>Order #4:</b> The contractor failed to inspect the work platform before use on each shift and any condition that might endanger workers must be remedied before the equipment is used.	
Low	Tools, Machinery, Equipment (Fire extinguishers)	<b>Order #5:</b> The contractor failed to ensure the fire extinguisher locations are marked and made known to workers.	

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
Low	Cranes and Hoists	<b>Order #6:</b> The contractor failed to ensure each control for a crane or hoist has its function clearly identified and maintained in good condition.	
Low	Cranes and Hoists	<b>Order #7:</b> The contractor failed to ensure the crane or hoist operator inspects the equipment and tests the controls and safety devices before each work shift.	
Low	Cranes and Hoists	<b>Order #8:</b> The contractor failed to ensure the inspection and testing must be carried out in the manner specified by the manufacture.	
Low	Cranes and Hoists	<b>Order #9:</b> The contractor failed to ensure a crane or hoist is only to be operated by a qualified person who has been instructed to operate the equipment.	
Low	Tools, Machinery, Equipment	<b>Order #10:</b> The contractor failed to keep a maintenance, inspection, modification and repair record for each automotive lift.	
Low	Chemical and/or Biological Agents (Ventilation outdoors)	<b>Order #11:</b> The contractor failed to ensure the appropriate emergency washing facilities are provided within a work area where a worker's eyes or skin may be exposed to harmful or corrosive materials or other materials which may burn or irritate.	
High	Chemical and/or Biological Agents (Ventilation outdoors)	<b>Order #12:</b> The contractor failed to ensure the cabinet where flammable liquids are storage is vented properly. The vent must be a steel pipe at least 5 cm in diameter which is connected directly to the outdoors.	
<b>Inspection 2018 #8:</b> WorkSafeBC conducted an investigation of the contractor located at the left bank tunnel area because it was reported to WorkSafeBC that a worker sustained injuries on a June 2017 incident while riding on a crew bus at the site.			
High	Mobile Equipment	<b>Order #1:</b> The contractor failed to ensure workers were wearing their seat belts on the crew bus when the bus is in motion and could cause the bus to become unstable.	April 2018

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
<p><b>Inspection 2018 #9:</b> WorkSafeBC conducted an inspection in the underground work area of the right bank drainage tunnel. The contractor adopted the use of powered air respirators for the majority of the underground work activities. The contractor is reminded to continue to test the silica levels in the air to ensure that work activities do not produce concentrations of silica that are above the maximum for a powered air respirator.</p>			
Low	Silica	No orders	June 2018
<p><b>Inspection 2018 #10:</b> WorkSafeBC conducted an inspection on the operation of the Mobile Crane Tadano GR-1000-2-0010. The crane operator had a valid certificate and was conducting daily inspections. The outriggers were full extended as per the marks. The crane operator remained at the controls while the load was suspended.</p>			
Not applicable	Mobile Equipment	No orders	June 2018
<p><b>Inspection 2018 #11:</b> WorkSafeBC attended a pre-construction meeting for the Site C diversion tunnels. There were several topics discussed during the meeting but not limited to, rock bolting (dry), hours of work, ventilation, control of silica dust, de-contamination of worker, water source of water spray, layout of ventilation equipment, instruction to workers, hierarchy of controls, excavation profiles, sampling plan for silica, exposure control plan, atmospheric testing and testing the effectiveness of the ducting.</p>			
Not applicable	For information only	No orders	June 2018
<p><b>Inspection 2018 #12:</b> WorkSafeBC conducted an inspection on the Manitowoc 4600 Lattice Boom Crane.</p>			
High	Rigging	<p><b>Order #1:</b> The contractor failed to remove the wire rope permanently from service as there was evidence of kinking, bird-caging and other damage resulting in distortion of the rope structure.</p>	June 2018
High	Rigging	<p><b>Order #2:</b> The contractor's maintenance department failed to change a damage hoist line that was indicated it was damaged on the daily operator's inspection reports dating back May 13, 2018.</p>	
Low	Mobile Equipment	<p><b>Order #3:</b> The contractor failed to ensure their operator had a valid operator's certificate that is recognized by WorkSafeBC.</p>	

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
<p><b>Inspection 2018 #13:</b> WorkSafeBC contacted an inspection in the welding and allied process at Area 24 on-site shop. The shop has a concrete foundation, steel structure and metal cladding. The shop was built to build the turbines for Site C. During the site visit of the shop, it was noted that there were four vents at a height of approximately four feet from grade that exhaust un-filtered welding fume and other contaminants from welding, gouging and grinding. The fans were connected to various types of flexible ducting for the entire length. The ducting was stretched, kinked and necked down without proper connections.</p> <p>The contractor is also being requested to supply the following documents under its obligation to cooperate with the WorkSafeBC:</p> <ul style="list-style-type: none"> <li>- OSS-SWP-012, OSS-SWP-013, OSS-SWP-014, OSS-SWP-015, OSS-SWP-017, OSS-SWP-022;</li> <li>- Exposure Control Plan for welding; and</li> <li>- Respiratory Protection Plan.</li> </ul>			
Low	General Conditions	<b>Order #1:</b> The contractor failed to submit to WorkSafeBC drawings and/or specifications for the existing general ventilation system in Area 24 on-site shop.	June 2018
Low	Chemical and/or Biological Agents (Ventilation outdoors)	<b>Order #2:</b> The contractor failed to submit to WorkSafeBC drawings and/or specification for the existing local exhaust ventilation system.	
<p><b>Inspection 2018 #14:</b> WorkSafeBC conducted an inspection on the exhaust ventilation systems in the crushing plants A and B. During the inspections the two 45,000 cfm Hurricane Systems were observed with two 16" suction line and three 4" suction lines. One of the 16" suction line was observed that was necked down and a plastic flexible elbow was eroded down stream of the necked down ducting. Many of the 4" lines were observed between 10" to 16" away from the source. Some drop points were observed that were hoarded in and others were not. It does not appear to be a consistent design/construction standard for the ventilation system.</p>			
Low	Chemical and/or Biological Agents (Ventilation outdoors)	<b>Order #1:</b> The contractor failed to submit to WorkSafeBC the drawings and/or specifications for the existing exhaust ventilation system for all crushing plants at Site C.	June 2018
<p><b>Inspection 2018 #15:</b> WorkSafeBC conducted an inspection in Area 24 on-site shop on the overhead bridge cranes – Stahl Premium (PR17-16153A&amp;B).</p>			
Low	Occupational First Aid	<b>Order #1:</b> The contractor failed to provide a Mobile Treatment Centre utilized as a dressing station.	June 2018

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
High	Cranes and Hoists	<b>Order #2:</b> The contractor failed to ensure the capacity of a crane or hoist must not exceed the rated capacity of the structure supporting the crane or hoist.	
High	Ladders, Scaffold and Temporary Work Platforms	<b>Order #3:</b> The contractor failed to ensure the cantilevered brackets be installed and used in accordance with the instructions of a professional engineer.	
<b>Inspection 2018 #16:</b> WorkSafeBC conducted an inspection at the right bank drainage tunnel and the support facilities. At the time of the inspection the crew were getting ready to start rock bolting the area that was excavated earlier.			
Low	For information only	No orders	June 2018
<b>Inspection 2018 #17:</b> WorkSafeBC conducted an inspection in the welding and allied processes of Area 24. Prior to the site visit the contractor supplied drawings and specifications on their local exhaust ventilation system. It was reviewed along with the site observations.			
High	Chemical and/or Biological Agents (Ventilation outdoors)	<b>Order #1:</b> The contractor failed to ensure the ventilation system that discharges air from the work area was being discharged away from the building entry points and that there was a built-in air cleaner component within the exhaust system.	June 2018
High	Chemical and/or Biological Agents (Ventilation outdoors)	<b>Order #2:</b> The plasma and arc gouging does not have proper capture hoods due to the velocity of the process and the spatter would impact the ducting. The molten metal releases fume would impact the ducting integrity. Therefore, the contractor failed to ensure the ventilation system for controlling airborne contaminants in the workplace must be designed, installed and maintained using established engineering principles.	
High	Chemical and/or Biological Agents (Ventilation outdoors)	<b>Order #3:</b> The contractor failed to ensure the ventilation system used to control air contaminants in the workplace is regularly inspected and monitored to ensure that it remains effective.	

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
High	Personal Protective Clothing and Equipment	<b>Order #4:</b> The welder/boiler workers on site were wearing 3M half mask respirators. The qualitative fit tests were done at site but the tests did not meet the CSA requirements. Therefore, the contractor failed to ensure the fit tests were performing in accordance with procedures in CSA Standard CAN/CSA-Z94.4-02, selection, use and care of the respirators.	
<b>Inspection 2018 #18:</b> WorkSafeBC attended site in response to a reported failure of shotcrete support structure in bench -9 in the left bank inlet portal.			
Low	Workplace Inspection	<b>Order #1:</b> The contractor did not initiate a special inspection when bench -9 shotcrete wall support structure failed in the left bank inlet portal.	July 2018
<b>Inspection 2018 #19:</b> This inspection is part of WorkSafeBC's 2018 Construction High Risk Strategy Initiative which includes supervision, struck by, struck against and using the right tool for the job. The goal of this initiative is to increase the awareness of the health and safety responsibilities.			
Low	Mobile Equipment - Rock Truck	<b>Order #1:</b> Start of shift inspection, the operator failed to report defects and conditions affecting the safe operation of the equipment to the supervisor or contractor. The computer display screen which indicates slope for the Bell RNN710 rock truck was malfunctioning. The malfunction of the rock truck was not documented or reported prior to use of the equipment.	July 2018
Low	Mobile Equipment - Rock Truck	<b>Order #2:</b> The contractor failed to ensure the operation manual was available on location for the Bell RNN710 rock truck.	
<b>Inspection 2018 #20:</b> WorkSafeBC conducted an inspection in the Fire Hall building and river access location on the right bank. The general rescue practices implemented by the contractor on site were discussed.			
Low	Emergency Preparedness	<b>Order #1:</b> The contractor failed to conduct a risk assessment on how to perform a rescue of workers from water that may arise, utilizing the river boat.	July 2018
<b>Inspection 2018 #21:</b> WorkSafeBC conducted an inspection due to a reported equipment failure in the batch plant areas of roller-compacted concrete, refrigeration facility and conventional vibrated concrete refrigeration facility.			

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
High	Equipment Inspection	<b>Order #1:</b> The contractor failed to ensure and investigate the sight glass of the roller-compacted concrete batch plant refrigeration facility had led to an unplanned release of R-404A refrigerant. The contractor was advised to have a qualified person/contractor to inspect the roller-compacted concrete refrigeration facility to determine the cause of the failure, determine if the design of the facility meets local requirements and provide solutions to resolve any deficiencies.	August 2018
Low	Equipment Inspection	<b>Order #2:</b> The contractor failed to ensure and investigate the malfunction of the refrigerant pump in the conventional vibrated concrete batch plant refrigeration facility had led to an unplanned release of R-404A refrigerant. The contractor was advised to have a qualified person/contractor to inspect the conventional vibrated concrete refrigeration facility to determine the cause of the failure, determine if the design of the facility meets local requirements and provide solutions to resolve any deficiencies.	
<b>Inspection 2018 #22:</b> WorkSafeBC observed a partially uprooted tree leaning with 1.5 tree lengths of the roadway on the Septimus Road – Area 28.			
High	Risk Management	<b>Order #1:</b> The contractor failed to ensure any dangerous trees, loose rocks, stumps or other unstable materials that are hazardous to road users were removed or cleared a safe distance from roadsides or roadside banks.	August 2018
<b>Inspection 2018 #23:</b> WorkSafeBC observed two workers from another contractor that were mapping the rock wall which was in close proximity to rock drilling and rock scaling in the left bank diversion tunnel. The two activities were generating visible dust that is known to contain crystalline silica. The rock drill was using an ineffective dust collection system and was not using the water suppression system at the time of observation and the two workers were not using respiratory protection.			
High	Hazardous Materials Exposure Control	<b>Order #1:</b> The contractor failed to ensure that effective dust control is in place and that all workers present are following proper procedures.	September 2018



Risk Level	Theme	Inspection reports and orders received	Date of Inspection
<p><b>Inspection 2018 #24:</b> WorkSafeBC conducted an inspection in the gravel crushing operations area which is accessible to workers and had to be guarded to meet either CSA Z432-94 and ASME B20.1-1993. The contractor was cautioned that the plastic guarding in place may not be sufficient to contain failures and materials being ejected from the equipment.</p> <p>Due to the temperatures and equipment selection, WorkSafeBC advised the contractor that the crusher and other equipment must have proper mechanical ventilation, designed to good engineering principles. A suggested standard is "Industrial Ventilation - A manual of Recommended Practice". The contractor was also provided with local exhaust ventilation guidance.</p> <p>WorkSafeBC advised the contractor that guarding and ventilation must be in place in order for the equipment to run.</p>			
Low	Hazardous Materials Exposure Control	No orders	September 2018
<p><b>Inspection 2018 #25:</b> WorkSafeBC conducted an inspection on the erection and safe operation of two Potain MD560-M40 tower cranes, SN: 95492 and 95470 that were erected and placed into service in August / September 2018.</p>			
Low	Cranes and Hoists	<b>Order #1:</b> The contractor failed to ensure the certification documents are available at the workplace and the overload prevention system of the crane has been adjusted as required, including specifying the load limits set for the various devices.	October 2018
High	Cranes and Hoists	<b>Order #2:</b> The contractor failed to test the maximum capacity load moment limit for each crane before it is used on each shift.	
Low	Cranes and Hoists	<b>Order #3:</b> The contractor failed to ensure each crane or hoist must be erected, dismantled, operated, adjusted, inspected and maintained as specified by the manufacturer's manual unless otherwise approved by the original equipment manufacturer or a professional engineer.	
High	Rigging	<b>Order #4:</b> The contractor failed to ensure the load consisting of two or more pieces of material over three meters long must be slung using a two legged sling arrangement positioned to keep the load horizontal during the lift, and each sling must be choked around the load with a double wrap.	

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
<b>Inspection 2018 #26:</b> This inspection focused on the inspection and safe operation of the mobile crane and boom truck.			
Low	Cranes and Hoists	<b>Order #1:</b> The contractor failed to ensure the mobile crane or boom truck are inspected at least every 12 months in accordance with good engineering practice to meet the crane or boom truck manufacturer's specification, the requirements of the application design or safety standard specified and the requirements of the WorkSafeBC regulation.	October 2018
<b>Inspection 2018 #27:</b> WorkSafeBC conducted an inspection on the safe operation of the tower crane.			
Low	Cranes and Hoists	<b>Order #1:</b> The contractor failed to ensure a tower, hammerhead crane or self-erecting tower crane must meet the requirements of CSA Standard Z248-2004, Code for Tower Cranes.	October 2018
<b>Inspection 2018 #28:</b> WorkSafeBC conducted an inspection on the mobile crane operations in the roller-compacted concrete formwork area.			
Low	Cranes and Hoists	<b>Order #1:</b> The contractor failed to have written procedures developed and implemented for coordinating the operation of two Liebherr mobile cranes in the roller-compacted concrete formwork area to prevent physical equipment contact.	October 2018
<b>Inspection 2018 #29:</b> WorkSafeBC conducted an inspection on the safe operations of the mobile crane operation and a discussion was held with the contractor's Healthy, Safety and Environment Director and Structural Steel Superintendent.			
Low	Cranes and Hoists	No orders	October 2018
<b>Inspection 2018 #30:</b> WorkSafeBC notified BC Hydro that there were five inspection reports issued to the prime contractor and subcontractors on the tower and mobile crane erection, operation, inspection and safe use.			

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
Low	Cranes and Hoists	Information only and no orders	October 2018
<b>Inspection 2018 #31:</b> WorkSafeBC conducted an inspection on riggers offloading bundles of reinforcing steel from a flat deck delivery truck. The contractor confirmed that "double wrap" rigging practice is being communicated to the workers.			
Low	Equipment Inspection	No orders	October 2018
<b>Inspection 2018 #32:</b> WorkSafeBC conducted a general site inspection with the Generating Station and Spillways contractor's project team.			
Low	Occupational First Aid	<b>Order #1:</b> The contractor failed to keep up-to-date written procedures for providing first aid at the worksite.	November 2018
<b>Inspection 2018 #33:</b> WorkSafeBC conducted an inspection on the ventilations systems within the maintenance shop. The ventilation is intended to be installed prior to operations commencing inside the maintenance shop.			
Low	Chemical and/or Biological Agents (Ventilation)	<b>Order #1:</b> The contractor failed to install a ventilation system for the supply and distribution of air and removal of indoor air contaminants. The contractor must ensure that a ventilation system for the supply and distribution of air and removal of indoor air contaminants is designed, constructed and operated in accordance with established engineering principles.	November 2018
Low	Chemical and/or Biological Agents (Ventilation)	<b>Order #2:</b> The contractor failed to ensure the mobile LEV (smoke eater) is tested and that it is not recirculating welding fume components to a level less than 10% of the exposure limit.	
Low	General Duties of Employers	<b>Order #3:</b> The contractor failed to ensure the health and safety of all workers working for the contractor and other workers present at a workplace at which the contractor's work is being carried out.	
<b>Inspection 2018 #34:</b> WorkSafeBC conducted an inspection on the contractor's safety orientation and training.			
Low	Safety Orientation	<b>Order #1:</b> The contractor failed to provide a young or new worker with additional orientation and training to perform the work processes safely.	November 2018

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
Low	Safety Orientation	<b>Order #2:</b> The contractor failed to keep records of all orientation and training that was provided.	
Low	Safety Documentation	<b>Order #3:</b> The contractor failed to ensure the operator of the mobile equipment is operating the equipment (Ford F550) safely and complying with the laws governing the operations of the equipment.	
Low	Equipment Inspection	<b>Order #4:</b> The operator of the equipment (Ford F550) failed to report the defects and conditions affecting the safe operation of the equipment to the supervisor or contractor.	
Low	Equipment Inspection	<b>Order #5:</b> Any repair or adjustment necessary for the safe operation of the equipment must be made before the equipment is used.	
<p><b>Inspection 2018 #35:</b> WorkSafeBC conducted an inspection as a result of a reported incident that presented a high risk of injury to a worker.</p> <p>This incident resulted from a reinforced shotcrete wall section failure within a newly constructed right bank drainage tunnel gallery area. The contractor evacuated the workers and suspended all work activities within the underground main and gallery sections of the right bank drainage tunnel. The securement of the scene as per the WCA 172 has been implemented.</p> <p>The contractor is required to undertake an investigation into the wall failure, access has been only granted to qualified/engineer personnel within the right bank drainage tunnel to conduct an assessment of ground support to ensure the stability of the constructed support system within the main tunnel area. Upon completion and insurance of the stability of the main tunnel area, no re-entry will be granted to workers and work processes be permitted in the right bank drainage tunnel.</p>			
Low	Workplace Inspection	No orders	December 2018

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
<b>Ministry of Energy, Mines and Petroleum Resources Inspections and Orders</b>			
<b>Inspection 2018 #1:</b> The Ministry of Energy, Mines and Petroleum Resources conducted an inspection in the West Pine Quarry site, when the site was under construction and start-up phase, it operated under the 20 worker limit and the location was functioned under the umbrella of the Site C Health and Safety Committee. However, on the day of the visit, there were 13 dayshift and 10 or 11 nightshift workers at the site.			
Low	Safety Documentation	<b>Order #1</b> – The mine manager failed to establish a site specific Joint Health and Safety Council.	February 2018
n/a	Safety Documentation	<b>Warning #1</b> – The mine manager failed to ensure that tags for locks are available and used.	
<b>Inspection 2018 #2:</b> The Ministry of Energy, Mines and Petroleum Resources conducted an inspection at the Wuthrich Quarry site and there was a short one page version of the Mine Emergency Response Plan with a contact list, latitude, longitude and short description of directions to travel to site. The full version was not present at site.			
Low	Safety Documentation	<b>Order #1:</b> The mine manager failed to ensure a full copy of the Mine Emergency Response Plan is being kept at site and workers are aware of its location.	February 2018
High	Safety standards and codes	<b>Order #2:</b> The light stand / gen-set was not grounded in accordance with the Canadian Standard Association (M421) and the Canadian Electrical Code.	
<b>Inspection 2018 #3:</b> The Ministry of Energy, Mines and Petroleum Resources conducted an inspection at the Wuthrich Quarry and observed that the wheel loader parked without wheel chocks.			
High	Mobile Equipment	<b>Order #1:</b> The contractor failed to ensure that each piece of rubber tired mobile equipment over 7000 kg gvw shall have a minimum of two wheel chocks which shall be used whenever necessary.	May 2018
<b>Inspection 2018 #4:</b> The Ministry of Energy, Mines and Petroleum Resources conducted an inspection at the West Pine Quarry and observed a section of the berm was missing at the top of the main haul ramp, at the bottom of the jump ramp to the top bench. Trucks were hauling past this point. There was an excessive amount of dust at the mine and the dust was being produced by the heavy equipment operating and the crusher system. Large clouds were visible drifting across the highway.			
High	Silica	<b>Order #1:</b> The contractor failed to implement a system for dust suppression.	May 2018

Risk Level	Theme	Inspection reports and orders received	Date of Inspection
<b>Inspection 2018 #5:</b> The Ministry of Energy, Mines and Petroleum Resources conducted an inspection at the West Pine Quarry's fuel island, crusher plant, pit operation and haul roads.			
Low	Equipment Inspection	<b>Order #1:</b> The contractor failed to ensure the fuel island delivery hose for fueling equipment was equipped with a self-sealing break-away fitting to prevent a spill in the event the hose was inadvertently pulled apart.	July 2018
High	Log Out Tag Out	<b>Order #2:</b> The contractor failed to ensure the worker lock out and tag out procedures were in place before working on the haul truck.	
Low	Equipment Inspection	<b>Order #3:</b> The contractor failed to ensure that all accessible sections of the crusher's conveyor belt be provided with a pull cord to stop the conveyor in the event of an emergency.	
Low	Equipment Inspection	<b>Order #4:</b> The contractor failed to ensure the v-belts that operates the cooling fan on the generator is enclosed, covered and guarded.	
Low	Emergency Preparedness	<b>Order #5:</b> The contractor failed to ensure that all emergency exits are clearly marked and designed to provide a quick unobstructed exit.	
Low	Equipment Inspection	<b>Order #6:</b> The contractor failed to ensure all shoulder barriers are at least $\frac{3}{4}$ of the height of the largest tire on any vehicle hauling on the road.	
Low	Equipment Inspection	<b>Order #7:</b> The contractor failed to ensure all haul trucks on the mine site are being operated with their certified gross vehicle weight rating or manufacture's maximum permissible gross vehicle weight. In addition, the contractor failed to ensure that the installed side boards on the haulage trucks, which increases the volume of the material that could be hauled, have appropriate approved written procedure or the Chief Inspector's approval.	

**Site C Clean Energy Project**

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**Annual Progress Report No. 3  
(Combined with Quarterly Progress Report No. 14)**

**Appendix C**

**Workforce Review**

**Table C-1 Current Site C Jobs Snapshot  
 (January 2018 to December 2018)<sup>14</sup>**

	Number of BC Workers and Total Workers	Construction and Non-construction Contractors <sup>15</sup> (Including some Subcontractors). Excludes Work Performed outside of B.C. (e.g., Manufacturing)	Engineers and Project Team <sup>16</sup>	TOTAL
January 2018	BC Workers	983	515	1,498
	Total Workers	1,195	548	1,743
February 2018	BC Workers	1,309	494	1,803
	Total Workers	1,557	529	2,086
March 2018	BC Workers	1,331	473	1,804
	Total Workers	1,611	513	2,124
April 2018	BC Workers	1,421	469	1,890
	Total Workers	1,737	505	2,242
May 2018	BC Workers	1,765	593	2,358
	Total Workers	2,160	650	2,810
June 2018	BC Workers	1,867	664	2,531
	Total Workers	2,363	730	3,093
July 2018	BC Workers	2,054	571	2,625
	Total Workers	2,675	628	3,303
August 2018	BC Workers	2,262	594	2,856
	Total Workers	2,911	650	3,561
September 2018	BC Workers	2,426	548	2,974
	Total Workers	3,145	601	3,746
October 2018	BC Workers	2,395	549	2,944
	Total Workers	3,085	596	3,681
November 2018	BC Workers	2,168	559	2,727
	Total Workers	2,845	618	3,463
December 2018	BC Workers	1,882	536	2,418
	Total Workers	2,510	597	3,107

<sup>14</sup> Employment numbers are direct only and do not capture indirect or induced employment.

<sup>15</sup> Construction and Non-Construction Contractors includes work performed on Site C dam site, transmission corridor, reservoir clearing area, public roadwork, worker accommodation and services.

<sup>16</sup> Engineers and Project Team are comprised of both on site and off site workers. The Project Team includes BC Hydro construction management and other offsite Site C project staff. An estimate is provided where possible if primary residence is not given.



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

BC Hydro has contracted companies for major contracts, such as main civil works, who have substantial global expertise. During the month of November 2018<sup>17</sup>, there were six workers in a specialized position working for Site C construction and non-construction contractors, which were subject to the Labour Market Impact Assessment process under the Federal Temporary Foreign Worker Program. Additionally, there were 24 management and professionals working for Site C construction and non-construction contractors through the Federal International Mobility Program.

**Table C-2 Preliminary Site C Apprentices Snapshot  
(January 2018 to December 2018)**

Month	Number of Apprentices
January 2018	8
February 2018	17
March 2018	22
April 2018	29
May 2018	37
June 2018	56
July 2018	93
August 2018	132
September 2018	145
October 2018	167
November 2018	107
December 2018	121

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

<sup>17</sup> Due to timing of contractor reporting, the December 2018 data for international workers is not available for this reporting period.

**Table C-3 Current Site C Job Classification Groupings**

Biologists and laboratory	Carpenters	Inspectors	Construction managers/ supervisors	Crane operators	Electricians	Engineers
Foresters	Health care workers	Heavy equipment operators	Housing staff	Heating, ventilation, and air conditioning	Kitchen staff	Labourers
Mechanics	Millwrights	Office staff	Pipefitters	Plumbers	Sheet metal workers	Truck drivers
Underground mining	Welders	Surveyors	Security guards	Boilermakers	Cement Masons	Crane Operators
Ironworkers						

**Table C-4 Indigenous Inclusion Snapshot (January 2018 to December 2018)**

Month	Number of Indigenous Workers
January 2018	118
February 2018	190
March 2018	213
April 2018	163
May 2018	226
June 2018	240
July 2018	255
August 2018	297
September 2018	280
October 2018	270
November 2018	254
December 2018	256

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

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

As with any construction project, the number of workers, and the proportion from any particular location, will vary month-to-month and also reflects the seasonal nature of construction work. The number of workers will also vary as a contract's scope of work is completed by the contractor.

### Women

In 2018, the number of women working for the Site C construction and non-construction contractors increased throughout the year peaking in September 2018. At the peak the number of women working on site was 16 per cent. The number of women was provided by on-site construction and non-construction contractors and engineers that have a contractual requirement to report on the number of women in their workforce. The following table shows the numbers of women working on site at the end of each quarter for the 2018 calendar year.

**Table C-5      Number of Women Working for Site C Construction and Non-Construction Contractors**

	Number of Women Working for Site C Construction and Non-Construction Contractors
March 31, 2018	228 - 256
June 30, 2018	404
September 30, 2018	484
December 31, 2018	364

**Site C Clean Energy Project**

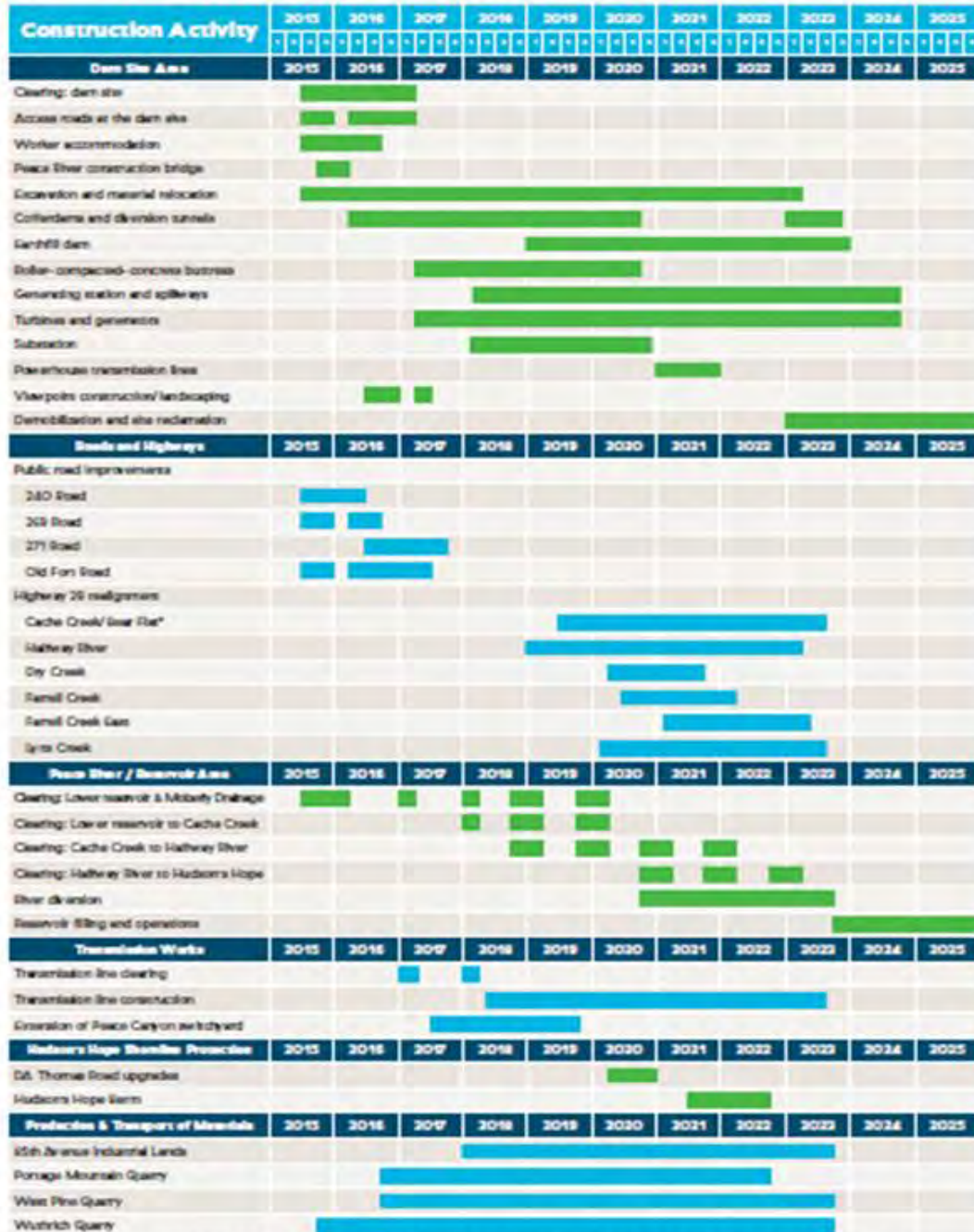
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**Appendix D**

**Site C Construction Schedule**

## Site C Construction Schedule



The construction schedule is illustrative only and subject to change. The purpose of this schedule is to illustrate the general sequence of construction activity, but the dates and activity may change. BC Hydro is exploring options for self-energy construction for various portions of the Catch Creek Dam. The approach will depend on the road alignment options.

**Site C Clean Energy Project**

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**Annual Progress Report No. 3  
(Combined with Quarterly Progress Report No. 14)**

**Appendix E**

**Technical Advisory Board Meeting  
Report Nos. 18 and 19**

## **Site C Clean Energy Project**

### **Technical Advisory Board Meeting No. 18**

#### **Report**

**(January 29 – February 2, 2018)**

**February 2018**

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## List of Attachments

- Attachment A – Meeting Agenda
- Attachment B – a List of Meeting Attendees



## 1. Introduction

The 18<sup>th</sup> meeting of the Site C Technical Advisory Board (TAB) was convened in Vancouver on January 29<sup>th</sup>, a site visit was conducted on January 30<sup>th</sup> and the remainder of the week, through February 2<sup>nd</sup>, entailed meetings, presentations and discussions in Vancouver. The primary objectives of the meetings were to address the revised schedule and risks associated with the completion of the anticipated work. In the process of the review, the technical aspects of the Main Civil Works (MCW) were reviewed. Namely the following areas were addressed:

- General Construction progress to date
- Left bank excavation progress and inlet portal progress
- Right bank excavation progress and RCC plans
- Aggregate processing and stockpiling
- Preparation and plans for the spring RCC placement

An overview of the construction progress was made during the morning of Monday January 29<sup>th</sup> with presentation of the various project features throughout the week. The construction and schedule recovery plans together with the associated risks and mitigation opportunities regarding both the right and left bank activities were presented and discussed.

The agenda for the meeting is included as Attachment A. Attachment B is a list of attendees during the meetings. A debriefing was conducted with the executives of BC Hydro and the Project Board on the afternoon of February 2<sup>nd</sup>, 2018.

Four questions were put to the TAB:

1. Does the recovery plan seem reasonable within the overall context of the project schedule?
2. What risks and challenges does the TAB see with this plan?
3. Does the TAB believe the construction and related mitigation measures will have sufficiently addressed the risks that have been identified so far?
4. With respect to risks/challenges that may be identified by the TAB in relation to the latest plan (over and above what BC Hydro has identified), what measures might be brought to avoid/mitigate those risks/challenges?

Discussion of additional items on the agenda is also included below. The TAB also wishes to record detailed notes were taken by the Project during the meeting which can amplify the technical discussions in this report.

The TAB wishes to acknowledge the excellent presentations that it received. It recognizes the substantial effort that goes into preparation for TAB meetings.

## **2. Site Visit**

On January 30<sup>th</sup>, 2018 the TAB travelled to Fort St. John. After introductory presentations the TAB visited the site.

Construction activities were scaled down because of snow cover and low temperature (-21°C on the occasion of the visit).

The visit started on the upper left bank where excavations were going on, in overburden and in rock. Work in the overburden had the purpose of unloading the upper reaches of the left bank slope and placing the so-called sliver fill. This fill has to accommodate an access road in its higher part and to provide toe load in its lower part. For flattening of the slope, excavation was taken down from the platform on top of the left abutment; but material was also being removed at an intermediate level, producing a wide bench with a steep, several meters high cut at its up-slope side. This is a temporary arrangement, but it disturbs the balance of masses in a way which is contrary to the concepts of the modifications of the slope geometry. The contractor should avoid creating such undesirable and unnecessary risks.

A bench was cut into the rock above the inlet portal. It exposed sound rock, less fractured than observed in the right bank cuts. For installation of the support, the cut was hoarded and heated. The location of slip movements in a nearby colluvial slope was pointed out.

Passing to the right bank, a stop was made to observe the conditions of the powerhouse excavation and buttress. The swinger for the RCC conveyor was installed but had not yet been in regular operation.

The next stop allowed inspection of the improvements made for the drainage wells at the powerhouse buttress. Pumps are now permanently installed, equipped to be automatically actuated and with heated discharge collector pipes.

Subsequently, the improvements on the RCC batching plant were demonstrated.

The last stop was at the aggregate plant where work was under way to raise its capacity.

The TAB returned to Vancouver on the evening of January 30<sup>th</sup>.

### 3. Response to Questions

It should be noted that in responding to the Questions put to the TAB, its perspective is one of concern for schedule and technical matters, particularly those associated with safety. It is not involved in advising on cost or other related business issues.

The current MCW Summary Construction Schedules, dated as of December 31, 2017, for both the "Handover Date of Buttress to GSS" (i.e. Right Bank Works – RBW) and the "Left Bank Critical Path up to Start of Diversion" (i.e. Left Bank Works – LBW) have been proposed by the Contractor and accepted by the Project. As such, they constitute the business case (BC) that underpins most of the issues of concern to the TAB at this meeting and addressed in the Questions put to the Board.

The TAB accepts the BC as reasonable. However, it is aspirational in that it embraces a number of risks that require identification, clarification and assessment with respect to schedule impact. This entails quantification of the risk to the degree practical and identification of opportunities or requirements for mitigation. The TAB proposes to deal with this challenge by focussing on the critical paths indicated in the two construction schedules, which are independent of each other, at least up to the Diversion in September 2020. The critical path for the RBW is governed by the prescribed dates for Handover of Buttress to GSS, while the critical path for the LBW is governed by the Start of River Diversion on September 1, 2020.

The TAB has identified the two kinds of risks:

1. Technical (stability) risks which have been assessed for the RBW by a Probable Failure Mode Analysis (PFMA). The TAB accepts the results of these analyses as a valuable input to the overarching schedule risk analysis to be undertaken.
2. Construction risks which dominate the risk profiles under consideration.

Following the identification of risks associated with the two Construction Schedules, the TAB recommends that they be incorporated into a probabilistic schedule risk analysis that will answer the questions:

- Given various risk scenarios, what is the probability of the RBW and LBW schedules meeting the schedule target?
- What mitigation measures might be adopted to maintain or improve schedule compliance?

The current business case for the RBW is based on the following assumptions:

- The current rate of advance of the drainage tunnel will increase from about 2.6m/day to 4m/day.
- There will be no delay in the excavation due to stability issues.
- RCC placement productivity will improve substantially to meet schedule requirements.

The TAB is pleased with the PFMA. It has demonstrated that the Project has a good understanding of the geotechnical risk profile but is generally optimistic about improved productivity of the RCC placement.

The following are of concern to the TAB, going forward:

- Geotechnical Stability: The likelihood is expressed in PFMA. Estimation of scale and time to mitigate is needed for the probabilistic schedule risk analysis. An alert level (TARP) system is being finalized to control in practice when schedule is being threatened and excavation should stop. Estimates of mitigation for several scenarios would help understand the schedule implications of such failures and the degrees of preparation that are warranted.
- Rate of Drainage Tunnel Advance: Assumption of less favourable tunnel advance should be made to assess impacts. It appears to the TAB that delayed completion would not affect the critical path, but could result in expanded risk to the spillway excavation.
- Excavation and RCC Placement: A considerable effort has been made to enhance RCC placement rate. This is embedded in the business case. However, the TAB is of the view that there is a high likelihood that placement rates will not meet target. This is due to the concern about reliability of new equipment, particularly the "swinger", past organizational issues and the need to train personnel. In the view of the Board, a placement rate of 75% of that forecast would be prudent to consider in the risk analysis. The most likely fallback position to enhance productivity, if proven necessary, is by truck placement. Contingency planning would lead to an assessment of how many trucks are needed and when might they become necessary.

Drainage of the right bank has been an integral part of design and original plans have required modification as a result of the adjustments made to construction schedule. Current drainage relies on the vertical well system which is operating in an approved manner and recommendations have been made to enhance drainage as much as practical. Studies to date have indicated that utilizing a surface membrane to inhibit infiltration is not a practical undertaking. The TAB accepts this finding and supports the view of the Project that enhanced drainage will utilize a horizontal drainage system

installed from both the exposed powerhouse slope and the spillway excavation slope. In addition, measures should be made to clear snow prior to the melt season. It is imperative to manage all surface run off and drainage at the top of the right bank to minimize infiltration.

The current business case for LBW entails three components: i) Inlet Works, ii) Tunnels and iii) Outlet Works. The following concerns have been identified:

- Inlet:
  - there is a need to manage the “sliver fill” slide.
  - the works entail slow excavation requiring reinforcement and shotcreting. As a result, progress on the critical path is slow. The TAB noted that excavation had involved cutting at the toe of a slope above the inlet cofferdam and this should be eliminated in the future. The current instability is being managed effectively.
- Diversion Tunnel:
  - tunnel productivity is a critical issue and may be compounded by the requirements for cleaning and grouting, as well as regulatory issues regarding silica dust.
  - experience in the Left Bank with previous underground excavations suggests that no abnormal conditions should impact productivity.
- Outlet:
  - slide management is also necessary here.

The schedule risk analyses should recognize the following:

- i. Inlet – The likelihood of a slide delaying the works has been quantified. There is also the potential for schedule relief if shotcreting is delayed until after completion of the excavation with mesh protection during the works. The schedule and logistics analysis should quantify the attraction associated with encouraging the contractor to make the potential change.
- ii. Tunnel Production – This is the dominant factor affecting the prospect of achieving the LBW goals. In particular, the excavation procedure has not yet been approved by the regulatory body and it is not clear how long this will take. Moreover, reliability and productivity have not yet been demonstrated. Various scenarios of delayed/reduced productivity should be investigated to determine when an alternate strategy needs to be adopted. Alternative strategies might be purchasing another road-header or converting to drill and blast procedures, as adopted at the RBW.

- iii. Outlet – Progress at the outlet is linked to excavation of the upper slope. Reschedule of some of the activities may lead to reduced pressure on the outlet schedule.

This constitutes the response of the TAB to the suite of questions that were presented.

## **4. Additional Technical Concerns**

### **4.1 RSEM Management**

The TAB was advised on the risk profile associated with the current and future management of PAG contact waters. While the objectives of the current management plans are generally met within the RSEM areas, active mitigation is anticipated in the future. This includes seeking regulatory variance and water treatment.

The TAB reminds the project that risk communication for these delicate subjects should also include a strategy for the long term when a site closure landscape has been established. Will this require perpetual care?

### **4.2 Quality Management**

The Quality Management, namely the timely response to Quality Control and Quality Assurance during construction have been somewhat lacking. As of January 18, 2018, a total of 727 NCR's have been raised:

- 50% of which were formally identified by BC Hydro and raised (officially logged) by ; and
- A remaining 125 NCRs have been formally identified but are yet to be raised (officially logged) by

Several instances of stop work have occurred due to non-conforming conditions:

- On July 5, 2017 BC Hydro initiated stop work on the RCC Powerhouse Buttress
- 2 weeks delay resulting from:
  - Failure to track time between batching and placement;
  - Contamination of RCC;
  - Failure to properly cure RCC; and
  - No notification for inspection.

Non-conformances were rectified prior to work recommencing.

BC Hydro initiated a stop work on the Right Bank Drainage Tunnel

- November 24, 2017 BC Hydro initiated stop work (letter # 1472)
- Approximately 1 week delay resulting from shotcrete spalling
- Inadequate shotcrete thickness from station 180m and onward

Non-conformances were rectified prior to work recommencing.

are currently implementing a new system for managing NCRs;

The following procedures identified by \_\_\_\_\_'s Quality Management System which have yet to be developed (as of the November 21, 2017 BC Hydro lead \_\_\_\_\_ quality audit):

- Training, Compliance and Awareness;
- Site Laboratory Testing;
- Material Identification and Traceability; and
- Key Performances Indicators.

There must be more attention given to QC and QA during construction and it must be seriously implemented, tracked and rectified in a timely manner.

The Path Forward as identified by BC Hydro is as follows:

- BC Hydro to continue to elevate quality issues within \_\_\_\_\_'s SR Management;
- BC Hydro to continue to elevate quality issues through an "independent" VP of \_\_\_\_\_;
- Continue to elevate quality issues to BC Hydro Site C's VP & Project Director;
- Continue to execute stop work orders as required to ensure quality;
- Continue to conduct independent quality audits of \_\_\_\_\_'s performance; and
- Maintain elevated RE staffing levels to ensure adequate coverage of construction activities.

The TAB wishes to emphasize the highest priority is to identify and reconcile issues in the field as and when they arise.

### **4.3 GSS**

The Design Team is considering a redesign of the spillway walls to incorporate a monolithic concrete placement by the GSS contractor. This would eliminate the present RCC placements at the spillway walls and the concern with the interface and bond of RCC and regular concrete along the walls. This would eliminate a Contractor interface problem as well as ensure the timely turnover of the spillway wall work.

The TAB sees benefit in this action and encourages further development and change if proven to be beneficial. However, it should be noted that this will require an assessment to be made of appropriate concrete mixes and placement methods and could require some modifications to the current concrete specification for the GSS Contract.

Detailed designs are still being produced for the GSS Contract and the TAB noted that some changes are being made to layouts and details which had been previously agreed, due to the preferences of the new team members. While changes can be made, for example by hazard analyses and using the "Safety by Design" principle, it is also vital that continuity is maintained of agreed, key technical requirements. This will become especially important once construction starts and requests for change come from the contractor on site.

The TAB recommends that "Design Features" memorandums be prepared and maintained for each part of the job, and in particular for the GSS components. This will encapsulate the reasons behind layouts and details and can be consulted if changes are proposed and to ensure they do not violate some agreed functionality of the area in question.

### **4.4 Debris Management**

The management of water born debris is still being studied by BC Hydro and comprises floating and submerged vegetation, principally trees. Debris booms are envisaged on the Peace River downstream of its confluence with the Halfway River, at the mouth of the Moberly River and on the Peace River about 3 km upstream of the dam. The first of these comprises shear (or guide) barriers coupled with a collection or "bag" boom. It will be installed later in 2018 and before the "Stage 2" river diversion into the diversion tunnels. The others are both collection booms and will be installed in readiness for Stage 2.

Immediately upstream of the diversion tunnel inlets a sump and a row of submerged piles or "posts" will be used to collect and trap submerged debris. The effectiveness of both this fence of posts and also the floating booms has been checked by BC Hydro using computational fluid dynamic (CFD) simulation modelling. The results were



demonstrated to the TAB and the TAB would commend the usefulness and standard of the work done.

For the floating booms the studies demonstrated that at flows of 500 and 1,000 m<sup>3</sup>/s and their associated water surface velocities of 1.6 and 1.4 m/s the floating debris booms may not be fully effective. However at those flows the associated upstream water elevations would be +409.4 m and +411.7 m and any floating trees would pass through the diversion tunnels. Flows of 2,000 and 3,170 m<sup>3</sup>/s have upstream water elevations of +419.2 m and +433.0 m. These water elevations are too high for floating trees to be drawn into the tunnels but the associated surface water velocities for these flows are 0.7 and 0.5 m/s respectively and evidence has shown that at velocities up to and less than 1.0 m/s debris entrapment by floating booms will be close to 99%.

This suggests that the concept being developed is potentially effective but precedent has also shown the unpredictability of flood and debris events, particularly when it comes to the formation of debris mats. Given this the availability of cranes to enable the regular removal of trapped debris will also be very important. This will also be the case at the post boom where the regular removal of trapped trees will be needed to avoid mat formation and the continued downstream movement of submerged trees due to over-topping.

The balance between investing in stronger and more resilient booms and alternatively in additional crane capacity is difficult to judge and would benefit from a risk analysis which considered a range of flood and debris events and combinations together with their likelihood and potential outcomes. This review should also consider transferring the focus of expenditure and retention away from the Halfway boom to the main boom nearer the dam and also maximizing crane capacity.

#### **4.5 Grouting**

The Design Team presented a report on the grouting works performed in two places:

1. at the contact of the diversion inlet portal cofferdam with the bedrock at the toe of the slope; and
2. at the upstream contact of the right bank cofferdam with the bedrock at the toe of the slope.

Primary holes were spaced at 6 m distance. To meet the closure criterion of less than 35 kg/m it became necessary in part of the curtains to go to quaternary holes, spaced at 0,75 m. With the dense spacing of the holes, the average grout consumption arrived at a moderate value of 30 kg/m. (For purpose of comparison, it would be useful to present the calculation for m<sup>2</sup> of curtain area.)

Check holes still found stretches notably exceeding the envisaged target of 3 Lugeon Units, with a maximum of 19 Lugeon Units (l/m/min of water injected at 10 bar).

The TAB concurs with the Design Team that:

- the curtain at the cofferdams does not need to meet stringent criteria as the main curtain under the core of the dam; and
- the geological conditions along these two curtains differ significantly from those expected along the main curtain.

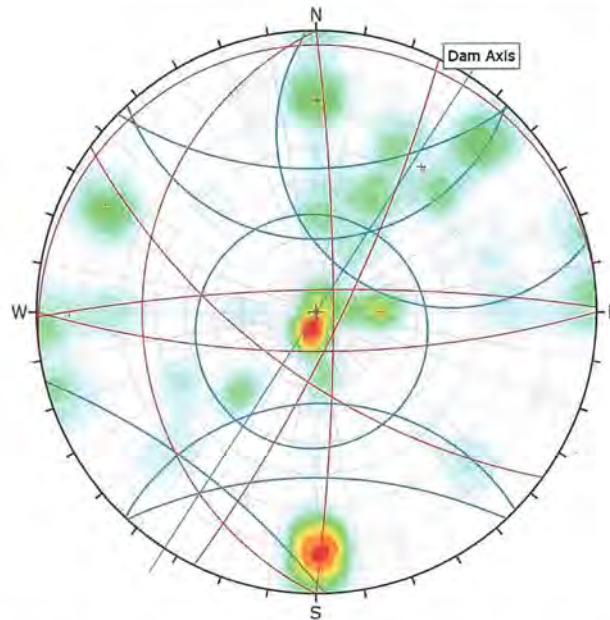
The deteriorated, notably decompressed rock with gaping relaxation joints will be removed under the core. With this condition, the average grout absorption on the main curtain will probably stay lower than at the cofferdams, but a highly penetrative grout and dense borehole spacing will be required to meet the closure criterion of 3 Lugeon Units.

Grout slurries with variation in the water/cement ratio and with addition of bentonite have been tested for bleed and Marsh viscosity. The TAB recommends carrying out additional tests, determining also the cohesion (or yield) of the slurry. Another important parameter is the grain size of the cement. A blaine of at least 4000 cm<sup>2</sup>/g is recommended.

Whereas a stiff slurry with high bentonite content may be suitable for sealing open relaxation joints, the addition of bentonite has an undesirable effect if penetration of rather tight joints is required. The effect derives from the circumstance that bentonite raises the cohesion of the slurry, which in consequence reduces the reach of the grout. It is necessary to find a mix, which combines a low bleed with low viscosity. Modern additives (superplasticizers) allow to obtain these properties without admixture of bentonite and its adverse effect on the cohesion.

A parameter which decisively assists in penetration of the grout and the efficiency of the grouting operations is the pressure. But the foundation rock at Site C is considered extremely sensitive to hydraulic pressure, as the monitoring on the right abutment has demonstrated. Therefore, to allow moderately increased pressures for the main line of the curtain, a slab of rock above the final foundation level could serve as a temporary grout cap.

To make efficient use of the boreholes, the holes should be angled such as to intercept the main discontinuities. The stereogram indicatively illustrates the situation at the dam site.



Stereogram of main discontinuities at dam site, cones with 45° opening.

Vertical holes will tend to miss the steeply dipping discontinuities that cross the dam axis. To catch these elements, boreholes would have to be inclined. In the valley center, one line is planned for curtain grouting, but the consolidation grout holes can be deepened as required. In addition, consolidation grout holes can be inclined as required. On the abutments, the main interest will be to intersect relaxation joints where there will be three curtain grout lines.

For the main curtain, the closure criterion of 35 kg/m remains to be reviewed. A more rigid criterion may be used to arrive at the 3 Lugeon Units. The main purpose of the curtain is to reduce pore pressures in the abutments and under the downstream shell of the dam. The foreseen drainage system will decisively assist in this task and will have to compensate for imperfections of the curtain.

#### 4.6 Long Term Dam Safety Management

Dam safety practice has been shaken by the recent occurrence of the failure of the Oroville Spillway preceded by the collapse of the two major tailings dams (Mount Polley in British Columbia and Samarco in Brazil). Considerable re-evaluation of site documentation to better inform future dam safety assessment is currently underway in

the industry and the TAB is of the view that the Site C Project should engage in these evaluations to be able to assert that it is adopting Best Available Practice.

A brief presentation from \_\_\_\_\_ who participated in the forensic inquiry into the Oroville Spillway event was helpful to initiate the discussion.

In order to advance preparedness for the future dam safety evaluation, the TAB is of the view that the following will be necessary:

- i. More detailed GIS based documentation of construction and operational history.
- ii. More detailed documentation of the as-built record.
- iii. More detailed accountability for any deviations from the specifications.
- iv. Sufficiently detailed DBM's to support future performance forecast of all observable elements based on as-built data.

The TAB recommends that the Project requirements for documentation be reviewed in this context.

#### **4.7 Hydro-Mechanical Equipment Contract Award**

One TAB Member was asked to review and comment on the decision process used by BC Hydro to evaluate the three bids received for the Hydromechanical Equipment Contract. Each bidder was required to prepare outline designs for all the main gates and associated equipment, fittings and winches, and to prepare workshop drawings for select built-in anchors. This was so that, whichever bidder was successful, the manufacture of these could begin immediately on contract award, for timely incorporation by the GSS Contractor. An honorarium was established to partially compensate non-successful bidders for the level of design BC Hydro asked them to produce during the RFP process.

The Member was advised that BC Hydro had evaluated the three bids using a matrix comparing such aspects as bid compliance, level of accuracy and quality, level of supplied detail in the bids, etc.

The TAB Member did not review the bids. The Member relied on the process information provided by BC Hydro. TAB member is satisfied that the process was fair, objective and followed an evidence based procedure.

#### **5. Future Meetings**

The Board recommends that the next TAB meeting be held in Vancouver the week of October 9 to 12<sup>th</sup>, 2018 and a conference call has been arranged for June 8. A site visit

**Site C Clean Energy Project  
Advisory Board Meeting No. 18 - Report**

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with several of the TAB members is recommended for summer 2018. Additional conference calls and activities are expected to be arranged in coming months as required by the Project.

Respectfully submitted,

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## **Attachment A – Meeting Agenda**



Power smart

**Site C Clean Energy Project  
 Technical Advisory Board Meeting No. 18  
 January 29 to February 2, 2018**

**Location: Construction Site Near FSJ and 6<sup>th</sup> floor 1055 Dunsmuir Street,  
 Vancouver, BC**

**Day 1 (Monday, January 29, 2018) Meeting Room #1, 6<sup>th</sup> floor 1055 Dunsmuir**

Time	Title	Presenter / Time Allocated
8:30am	Welcome and Safety Moment	
8:35 to 8:45	Agenda overview and scope of meeting	
8:45 to 9:25	Overview of Project <ul style="list-style-type: none"> <li>• Contract and Design Status</li> <li>• MCW Construction Schedule</li> <li>• GSS Construction Schedule</li> <li>• Update from Independent Engineer</li> <li>• TAB tracking log</li> </ul>	
9:25 to 9:45	Environment and RSEM Update	
9:45 to 10:30	Right Bank Drainage Tunnel Status	
10:30 to 10:45	Break	
10:45 to 12:00	Construction Plan, Risks and Mitigation Opportunities <ul style="list-style-type: none"> <li>• RCC</li> <li>• Left Bank and Inlet</li> <li>• Diversion</li> </ul>	
12:00 to 12:30	Lunch	
12:30 to 14:15	Right Bank RCC excavations analysis and sequence <ul style="list-style-type: none"> <li>• Monitoring results</li> <li>• Stability analysis</li> <li>• Spillway excavation</li> </ul>	
14:15 to 15:15	Left Bank Excavations Inlet Excavations	
15:15 to 15:30	Break	
15:30 to 16:30	Technical/Design Risk Analysis	
16:30 to 17:00	Open Discussions	



**Site C Clean Energy Project  
 Technical Advisory Board Meeting No. 18  
 January 29 to February 2, 2018**

**Location: Construction Site Near FSJ and 6<sup>th</sup> floor 1055 Dunsmuir Street,  
 Vancouver, BC**

**Day 2 (Tuesday, January 30, 2018) Construction Site**

Time	Title	Presenter / Time Allocated
720 am	Arrive at YVR	
08:20 to 11:04	Flight AC 8181 to FSJ	
11:04 to 11:45	Travel to Dam Site	
11:45 to 12:30	<ul style="list-style-type: none"> <li>• Discussion with Construction Manager and Quality Manager</li> <li>• Overview of activity on Site and tour logistics</li> </ul>	
12:30 to 1:00	Lunch and Tailboard	
13:00 to 15:30	Tour of <ul style="list-style-type: none"> <li>• Upper Left Bank</li> <li>• Lower Left Bank</li> <li>• Right Bank Cofferdam</li> <li>• RCC excavation</li> <li>• Conveyor/Swinger</li> <li>• Crusher &amp; Batch Plant Facilities</li> </ul>	
16:00 to 16:30	BC Hydro Construction Office	
16:30 to 16:50	Travel to FSJ Airport	
18:10 to 19:00	Flight AC 8186 to Vancouver	





**Site C Clean Energy Project  
 Technical Advisory Board Meeting No. 18  
 January 29 to February 2, 2018**

**Location: Construction Site Near FSJ and 6<sup>th</sup> floor 1055 Dunsmuir Street,  
 Vancouver, BC**

**Day 3 (Wednesday, January 31, 2018) Meeting Room #1, 6th floor 1055 Dunsmuir**

<b>Time</b>	<b>Title</b>	<b>Presenter / Time Allocated</b>
08:30 to 9:15am	GSS Civil Contract Design Overview	
9:15 to 9:30	Hydro-mechanical and Cranes	
9:30 to 10:00	Equipment Supply Contracts and Completions Contract	
10:15 to 10:30	Break	
10:15 to 10:30	Debris Management Update	
10:30 to 10:45	Diversion Debris Modelling Study Scope	
10:45 to 11:15	Halfway River Debris Study Scope	
11:15 to 11:45	Terrestrial LiDAR	
11:45 to 12:15	Grouting	
12:15 to 12:45	Lunch	
12:45 to 13:15	Cofferdams	
13:15 to 14:15	Geotech: Additional discussion on right bank monitoring results	
13:15 to 14:15	Hydraulics/Equipment: Hydromechanical discussion	
14:15 to 17:00	Open Discussion Time	



**Site C Clean Energy Project  
 Technical Advisory Board Meeting No. 18  
 January 29 to February 2, 2018**

**Location: Construction Site Near FSJ and 6<sup>th</sup> floor 1055 Dunsmuir Street,  
 Vancouver, BC**

**Day 4 (Thursday, February 1, 2018) Meeting Room #1, 6th floor 1055 Dunsmuir**

Time	Title	Presenter / Time Allocated
9:00 to 12:00	Open Discussion / TAB prepare report	
12:00 to 1:00	Lunch	
13:00 to 17:00	TAB prepare report	
19:00	TAB Dinner: KEG Steakhouse & Bar, 688 Dunsmuir St	

**Day 5 (Friday, February 2, 2018) Meeting Room #1, 6th floor 1055 Dunsmuir  
 and 333 Dunsmuir**

Time	Title	Presenter / Time Allocated
8:30 to 12:00pm	TAB prepare report	
12:00 to 13:00pm	Lunch	
14:00 to 16:00pm	Report out to Executive and Project Board 333 Dunsmuir	

## Attachment B - a List of Meeting Attendees

- Site C Owners Engineer and Engineering Division Manager
  - Site C Project Director
  - Site C Director of Operations and Project Manager
- Independent Engineer
  - Water Management Office, BC Ministry of Forests, Lands and Natural Resource

### Operations

- Construction Manager
    - Quality Manager Resident Engineering Team
    - Site C Owner's Engineer Site Representative
  - Resident Engineering Team
    - Manager, Estimating and Scheduling
      - Senior Construction Advisor
        - Owner's Design Rep – MCW, Booms and Reservoir
        - Owner's Design Rep – GSS Civil
      - Owner's Design Rep
      - Owner's Design Rep
      - Owner's Design Rep
    - Design Manager
  - Geotechnical Design Engineer
    - Geotechnical Risk Assessment Specialist
  - Geotechnical Design Engineer
    - Geotechnical Design Lead
    - Senior Geotechnical Engineer
  - Specialist Hydrotechnical Engineer, Civil Design
    - Geotechnical Design Engineer
    - Main Civil Works Design Manager
    - Project Manager, GSS
    - Design Manager, GSS
      - Design Manager Powerhouse
    - Concrete Specialist
  - (BGC Engineering) Geological Risk Management Specialist
    - (BGC Engineering) Slope Stability Specialist
- (E&Y)
- (E&Y)

## **Site C Clean Energy Project**

### **Technical Advisory Board Meeting No. 19**

#### **Report**

**(October 8 - 12, 2018)**

**October 2018**

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### List of Attachments

- Attachment A – Meeting Agenda
- Attachment B – a List of Meeting Attendees

## 1. Introduction

The 19<sup>th</sup> meeting of the Site C Technical Advisory Board (TAB) was convened in Fort St. John and Vancouver between October 8 and October 12, 2018. A briefing and site tour took place on October 9. The remainder of the week to the end of October 12 entailed meetings, presentations and discussions in Vancouver. The primary objectives of the meetings were to assess performance, major milestones at the dam site, potential design modifications, construction priorities and schedule. Technical considerations focussed primarily on the Main Civil Works (MCW) and the newly commissioned Generating Station and Spillways Civil Works (GSS) contract.

Following a brief overview of the Project on October 9, the site tour concentrated on critical locations that required special technical evaluation, as presented later in this report.

The agenda for the meeting is included as Attachment A. Attachment B is a list of attendees during the meetings. A debriefing was conducted with the executives of BC Hydro and the Project Assurance Board on October 12, 2018.

Three questions were put to the TAB:

- 1. Is the Board satisfied that the design team has made appropriate recommendations to BC Hydro regarding changes identified for the Spillway construction drawings?*
- 2. Does the Board have any comment on the performance and assessments of the project excavations?*
- 3. With respect to risks/challenges that may be identified by the Board in relation to the current construction plan and status (over and above what BC Hydro has identified); does the Board have any recommendations?*

Detailed responses to these questions are presented below.

The TAB wishes to acknowledge the excellent overview and presentations that it received. It recognizes the substantial effort that goes into preparation for the TAB meeting. The TAB also appreciates the frank and informative discussions that took place throughout the week.

## 2. Site Visit

The site visit took place under early winter conditions. It concentrated on locations of special technical interest relative to productivity, quality and geotechnical challenges.

The first stop was at the Right Bank to observe the substantial progress made with RCC placement, primarily in the Powerhouse buttress. Placement procedures were observed

and the TAB noticed some CVC delivery trucks traversing the RCC without washed tires. In addition, some seepage out of joints in the RCC was noted and the TAB recommends that under these circumstances, the location and source of water be recorded.

The second stop was at the Outlet Portal. The TAB was pleased to observe the safe advance of the excavation and the excellent bolted mesh slope protection in place to guard against surface sloughing and rockfall. A considerable excavation remains to be completed and the workplace was orderly.

The third stop was at the Inlet Portal. The TAB was not able to enter the tunnel due to operational restraints but was pleased to witness the early stages of this critical undertaking.

The fourth stop was at the Inlet-Contractor Designed Slopes along the access to the tunnels. This has been a troublesome location in the past and remains so. The TAB observed the soil nail stabilized slope. The location of proposed panel excavation and backfilling below it, the presence of inclinometers indicating significant movement rates and the location of cracks that have developed in the upper part of the reinforced slope were noted. This is a location of high risk to the Project and is discussed in more detail in the response to Question 2 below. To complicate matters, the TAB noticed that some of the grout used in the soil nailing procedure appeared to be too weak, raising questions of quality control that requires review.

The TAB also observed the location of the future Inlet Till Haul Road that will contain an MSE reinforced wall adjacent to the above slope, emphasizing the need for long term reliability in this part of the site.

The final scheduled stop was to observe active seepage zones in the left bank slope which will require permanently improved management, also discussed in detail below.

### **3. Action List**

The Project maintains an Action List, referred to as the TAB Comments and Recommendations Tracking Log, to record its response to past recommendations made by the TAB. This was reviewed and the TAB is content that the Project has responded to or is in the process of responding to all past recommendations in an appropriate manner.

### **4. Project Update**

The TAB was favourably impressed with the progress made in RCC placement rates since its last meeting. At that time there were considerable concerns over a substantial number of accumulated non-conformance reports that challenged the integrity of the

Quality Control system. The TAB was also pleased to see the progress made on this important issue. The safety record on site remains good and within industrial norms. Important milestones have been met related to gaining access to tunnel portals. The GSS contract is off to a good start. All Project metrics are generally positive and there is a substantial float still protecting the critical diversion milestone.

The TAB wishes to congratulate the Project team for the positive outcomes from their efforts over the last nine (+/-) months that are currently apparent to the TAB.

## **5. Technical Commentary**

### **5.1 Response to Question 1**

**1. Is the Board satisfied that the design team has made appropriate recommendations to BC Hydro regarding changes identified for the Spillway construction drawings?**

#### **5.1.1 General**

The designers have carried out a detailed review of the spillway works and have proposed modifications to the tender designs in several areas. One of these regarding the apron anchor system, should result in significant savings. Others will generally add cost. There are several underlying reasons for the changes. These include the designer's separation of conventional vibrated concrete (CVC) from roller compacted concrete (RCC) when analysing structural behaviour requirements, re-appraising hydrodynamic forces on the structures based on the hydraulic model tests and lastly an increased level of analytical sophistication including seismic effects compared to the tender design. These are discussed below by broad area.

#### **5.1.2 Headworks**

*Advice from the designers was that, "During tender design, the stability analysis of the headworks was employed using the rigid body method. The upstream-downstream direction stability analysis was performed and found satisfactory for all load cases. With the asymmetrical geometry of the spillway bays, during IFC design, the stability of combining the cross-flow and upstream-downstream directions were checked and resulted with tension at the base of the spillway bay for the normal case. Therefore, the base of spillway bays was lowered to satisfy the normal case of stability. The spillway bays modeled in the finite element software, ABAQUS was utilized to assist the two-direction stability analysis".*

During discussions with the TAB, the designers further confirmed that their modifications to the headworks also assumed that any structural footings need to be reinforced CVC rather than anchored RCC. This has required the upper 1 m layer of CVC to be extensively thickened replacing some of the RCC. As noted above, some



areas of local thickening using CVC resulted from the bi-directional analyses of the headworks. The enhanced level of analytical sophistication produced increased seismic response of the structure as compared to the tender design. This was necessary due to the need for the works to remain operable after an MDE.

The TAB accepts the approach being adopted by the designers in their structural reassessment of the spillway headworks but notes reservations below when applied to the walls (see Section 5.1.4).

### 5.1.3 Stilling Basin Aprons

The stilling basin aprons comprise an upper 1 m layer of reinforced CVC overlaying varying depths of RCC. The upper CVC slab is anchored down into the RCC by a grid of anchor bars which also serves to reinforce the layers of RCC below. In assessing requirements for this arrangement, the designers have made three main changes to tender design assumptions:

- Based on reviewing the results from the hydraulic model tests, they have reduced some of the hydrodynamic loads from instantaneous peak values to average values.
- For the purposes of analysis, they have broken down the apron into smaller areas than used for the tender design assessments. This has “fine-tuned” requirements and enabled some local reduction in anchor bars.
- The designers have assumed the use of 500 MPa steel for the anchors rather than 400 MPa which has also reduced total numbers.

The hydraulic model testing indicated mean pressures varying from approximately 15 m to 30m over the basin floor. Instantaneous local peak fluctuations in these areas varied from +35 m to -20 m. None of these pressures would be sufficient to break the natural tensile bonds at the inter-concrete layers of RCC which are currently being measured from site cores as typically 0.7 to 1.7 MPa and averaging 1.1 MPa. This is the equivalent of between 70 and 170 m of water head and with an average of 110 m. The bond between the upper concrete slab and the lower RCC will likely achieve similar values.

Furthermore, the only way hydrodynamic pressures could reach those areas from the stilling basin would be via floor joints which will not only be very tight, but which will also be sealed by water stops. Neither are there any underdrains in the basin floor slabs which could facilitate pressure transmission. It is far more likely that any basin sub-pressures will only occur in the jointed rock mass below the RCC and be dominated by mean pressures from downstream tailwaters at around +415 to +419 m, or about 20 m

above equivalent basin floor level. Above the basin floor, locally low-pressure fluctuations may occur however they would be averaged over the area of a typical slab.

In view of all this the TAB consider that the anchor bar reductions proposed by the designers are valid. However, the Contractor should be asked to confirm that he will not claim additional costs for using the higher-grade steel anchors. If his proposed costs difference is significant, then savings can still be made by adopting the first two changes but by retaining the currently tendered type of anchor bar. Should the newly proposed 500 MPa threaded bars be adopted then further clarification is needed on the connection detail between the anchors and the upper slab rebar.

#### 5.1.4 Walls

The stilling basin side walls include: left and right-side walls upstream, left and right-side walls downstream and internal dividing walls. Each type required separate consideration with the stability of some dominated by hydrodynamic load cases and others by seismic loadings. Where stability deficiencies were identified various solutions were discussed during the meetings between the TAB and the designers. These generally involved enhanced structural mass using additional RCC, the use of long anchor bars into the RCC foundations or both. Where modifications to the tender design result from hydrodynamic loading, the TAB accepts the designer's need for change. In the case of changes due to seismic loading the TAB considers some further review is appropriate. Requirements were often controlled by the Design Basis Memorandum (DBM) requirements for the spillway which specify a reservoir lowering capability following a 1 in 10,000-year seismic event and so for the spillways works to remain operable after such an event.

Pseudo-dynamic analyses of the side walls have produced significantly amplified seismic responses. In some cases, this has produced transitory force resultants which, for some microseconds, move beyond the footprint of the walls. Under such extreme loading, CDA guidelines require the resultant to fall within the base of the structure but without the requirement being linked to the specific form of analysis.

In the TAB's experience, current industry practice for such extreme and oscillating seismic loading is to accept over-stress and instead to assess net residual displacement of the structure and residual structural capacity after movement. In the case of the walls at Site C the TAB suspect that a more sophisticated dynamic time-history analysis may show the walls to displace slightly but still fulfil the DBM requirement of stilling basin operability after an MDE event. The TAB recommends that the designers review the designs of the various walls where seismicity has proved to be the factor controlling stability in the light of such dynamic and displacement considerations.

## **5.2 Response to Question 2**

### **2. Does the Board have any comment on the performance and assessments of the project excavations?**

#### **5.2.1 Spillway Stability Reassessment**

The stability of the Right Bank structure is controlled by sliding along pre-defined bedding planes of weakness characterized by the extensive site investigations, laboratory tests and analytical studies conducted over many years in the past. Instrumentation is installed in the Right Bank to monitor deformations to validate that movements remain within tolerable limits consistent with the prescribed strength associated with the various active bedding planes and no failure mechanism develops. In general, such movements reduce with placement of the RCC buttress and ultimately stop. The final resistance along bedding planes must be compatible with the Factor of Safety required by the design criteria, or tolerable deformations associated with the MCE earthquake loads.

During the first phase of spillway excavation, prior to buttress construction, slip along several bedding planes was encountered. This was generally as anticipated except for slip at a depth below the deepest bedding plane (BP 33) that had been considered to be of concern. This slip on its own so far is not consequential. However, if slip along this plane is considered in a stability analysis with conservative design parameters, the design Factor of Safety is violated. Remedial measures are available but are costly and could impact schedule. Therefore, a substantial investigation is warranted to validate the extent of this plane of weakness, improve its strength characterization, and evaluate mitigation measures, if they prove necessary. There is some urgency associated with this undertaking since mitigation, if needed, may be costly and might impact schedule associated with spillway construction.

To this end, the TAB recommends the following:

1. Continue with observations as planned during the excavation of the spillway which is assumed to proceed in a top-down manner.
2. Conduct a 3D stability analysis with the same inputs as used in the conservative 2D analysis.
3. Develop a more realistic seepage pattern in the foundation consistent with the drainage boundary conditions.
4. Synthesize past data for borings, televiewer logs and laboratory tests.

5. Obtain undisturbed samples of core over the length of interest to evaluate visual characteristics and shear strength on the bedding plane(s); triple tube coring is likely necessary.
6. Evaluate the spatial variability along the bedding plane by means of all available data.
7. Review outcomes and evaluate whether design changes are necessary and, if so, what mitigative measures are appropriate.

The TAB further recommends that following this review, a meeting be convened by teleconference to discuss the results and their implications.

#### **5.2.2 Inlet Tunnel Portal Access Stability**

The area surrounding the Inlet Portals is a very active area. The north side of the access to Tunnel 1 and adjacent to the Inlet Cofferdam is especially busy due to the present stabilization of the slopes by soil nailing. This area is particularly vulnerable to sliding since it is part of an earlier slide that occurred in February 2017. At present the lower area continued to move 30 to 40 mm in a southerly direction and must be stabilized. The Contractor and its Engineer have proposed a stabilizing solution using soil nails along the upper area and an "excavate and replace" method to stabilize the lower slopes. Following concerns raised by the TAB, it is understood that BC Hydro is working with the Contractor to develop a more positive stabilizing system of pipe piles dowelled into the rock to ensure the long-term stability of this area.

This area is particularly important since it is in the pathway to both diversion tunnels and must not affect access and schedule of the critical diversion tunnel work and schedule. In addition, the areas being stabilized will also provide the support for the major haul road for the glacial till materials for the dam.

The TAB recommends that BC Hydro perform a detailed review and analysis of the Contractors stabilization proposal and measures, including:

- The design of the Contractor proposed methods;
- The design of the soil nails;
- The performance requirements;
- The Quality Control testing; and
- The instrumentation requirements.



Severely shrinking grout at rock dowel in soil nail slopes

### 5.2.3 Tunnel Outlet Portal

The portal cut in rock has descended to approximately elevation 430 m.

The piles installed in soils of the upper slope perform well. Inclinerometers located adjacent to them indicate minor deformations parallel to the wall.

The cut in rock in the upper ranges is supported by rock bolts and Tecco mesh. The lower cut is supported by rock bolts and fibre reinforced shotcrete. Visual impression of quality and adhesion of the shotcrete is favorable.

The TAB understands that a design for collection and conveyance of surface water is being prepared.

Dewatering achieves sharply progressing drawdown of piezometric levels.

The situation is satisfactory, but the importance of this area requires close monitoring. In addition to instrument readings, periodic controls of the steep slope by drone photography to evaluate performance of the rock bolt / mesh system will be valuable.

### 5.2.4 Left Bank Slope in Glacio-Lacustrine Sediments

The excavation in the western segment has approached the final stage. Currently, two features remain to be treated:

1. Over-steepened edges at benches have to be trimmed.



2. An inclinometer on Bench 3 detected shallow movements (at about 10 m depth), related with an argillaceous horizon in the ICS unit. Water perched on this horizon drives this movement. Where the water seeps out of the slope, soil locally started flowing. On the occasion of the site visit, the ground was frozen and the seepage was blocked. The Engineering Design Team (EDT) suggests to drain the perched water down to the highly permeable BGS unit, using vertical gravel drains. The TAB concurs with the concept of vertical drainage but recommends to consider possible adjustments as, for instance, trench drains applying DeWind technology, which would be more effective than wells. The fill of the drains has to be designed meeting filter criteria and preventing fines migration.

The EDT presented a design for collecting and conveying the surface water, which includes concrete channels, baffles and cascades. The assumed flows of up to 11 m<sup>3</sup>/s would justify such structures. Where more moderate flows have to be handled, Reno mattresses placed on a membrane would offer an alternative.



Reno mattresses lining creek on Cairnmuir landslide (New Zealand).

The criteria for acceptance and handover of this part of the site needs to be defined.

### 5.3 Response to Question 3

3. With respect to risks/challenges that may be identified by the Board in relation to the current construction plan and status (over and above what BC Hydro has identified); does the Board have any recommendations?

#### 5.3.1 General

The TAB was pleased and impressed with the presentation summarising the on-going monitoring and risk control of key costs and schedule aspects of the Project. It was clear that this covered not only the global programme but incorporated significant detail

as well as Contractor resource inputs and specific issues emerging at site on a real-time basis. Projections extended through to project completion and it was noted that the critical path currently runs through the dam. Over and above, or perhaps as a part of this, the following issues were noted by the TAB as worthy of comment; RCC production rates required for 2019, proposals to modify the RCC mix, further clarity with regard to grouting beneath left bank dam core, and the recent proposals from the designer to change the power intakes to essentially mass concrete structures. These are discussed in more detail below.

### **5.3.2 RCC Production Rates**

The TAB visited the recently completed Powerhouse buttress, completed on October 5, 2018. The focus of the RCC activities is now placing RCC in the Spillway Apron, which is to be completed by the end of October and will complete the 2018 RCC season at 445,000 m<sup>3</sup>. The RCC placement rates have been slowly increasing over the past few months to reach a maximum daily placement rate of 8,900 m<sup>3</sup>/day, with a daily average at about 5,000 m<sup>3</sup>/day. The spillway RCC buttress will require 619,000 m<sup>3</sup> in 2019 and work will likely start in 2019 with some new operatives with the associated need for training and also implying a learning curve. Thus, starting as early as possible in the spring of 2019 will be necessary to minimise the risk of not meeting targets. The Contractor should take care that he has adequate resources in his stockpile.

### **5.3.3 Proposed Changes to the RCC Mix Design**

The recent strength testing of the RCC indicates 180-day strengths of 35 MPa; the design requirement is 25 MPa. Two cores of the in-situ RCC from the Powerhouse buttress were taken and cores were prepared and tested for strength. Tested samples from the cores resulted in strengths of 26.7 and 28.2 MPa. This reduction in strength from laboratory cylinder samples to field cored samples is more than is normally experienced. This comparison should be repeated on several cored samples and studied in the future.

The RCC thermal considerations have been studied and presented. The heat rise, as measured by thermistors in the RCC, is higher than expected. Extended winter insulation and protection will be necessary for the thermal protection of the Powerhouse buttress; perhaps as much as three winter seasons to meet temperature differential requirements. Concerns over the same conditions regarding the spillway buttress are driving considerations of utilizing a lower cement content mix at the spillway. The presently used 80C – 130 FA is too hot and considerations of using a 60C – 150 FA mix in the 2019 RCC season are under way. This mix is thought to yield lower temperature rises and limit the winter protection at the spillway to just two years or less. However, the TAB cautions about making such a change without careful study given the differences found between RCC core strengths as compared to those of prepared test specimens.

#### **5.3.4 Consolidation and Curtain Grouting for the Dam Core Foundation on the Left Abutment**

have proposed methods for excavation and grouting on the left abutment of the dam. The concepts are still under review. Some aspects stand out which give reasons for concern. This assessment primarily refers to the foundation treatment. Differing from the Technical Specifications, intend to advance with the grouting works on the left abutment descending together with the excavation. With the geological conditions prevailing at Site C, this sequencing is objectionable because the application of grouting pressure in the upper reaches of the free slope risks to open up the stress relief joints, affecting the efficiency of the grouting operation and potentially damaging the rock mass. Therefore, the foundation treatment, including grouting, should climb up the left abutment shortly preceding the fill placement, as in the Specifications.

Another suggestion offered by is to do the grouting before reaching the final foundation level, using a 1 m thick layer of rock to substitute for a grout cap. The TAB prefers a shotcreted grout cap as already identified in the Specification.

tested three slightly differing grout mixes. The batching follows modern technology but remains open to improvement, especially as regards Marsh viscosity. The indicated value of 35 sec is high. A slight increase in the water content could improve on this value. Additional testing for optimization is required.

Although modern practice tends to use only one type of mix for rock grouting, at Site C an additional mix, perhaps even with addition of sand, would be appropriate if decompression cracks or sprung bedding planes with substantial opening are encountered.

#### **5.3.5 Power Intakes**

The tender designs for the power Intakes feature highly reinforced side walls approximately 2.5 m thick. The designers are concerned that any micro-cracking in these walls will tend to saturate due to ingress from internal intake water and that the external ambient temperature ranges at Site C, typically down to -20°C in winter, will penetrate deeply and lead to freeze-thaw degradation of the concrete. They feel unable to guarantee the required 100-year design life of the structure under these conditions. The designers' preferred alternative is to form these blocks instead in much thicker mass concrete. Another suggested alternative could be to make provision, by pier strengthening, for the later addition of an upstream intake closure facility for internal inspection and maintenance. This would be coupled with provision for future external insulation if needed.

The designer's concern seems to stem largely from their experience in northern Quebec augmented by a research study in Sweden. The TAB is not as alarmed about this issue



as the designer. It is noted for example, that a similar thickness upper rear intake wall at the Peace Canyon project immediately upstream of the project site, has been in place for 40+ years with gate well (reservoir) water internally and full climatic exposure externally. It does not appear to show any sign of distress. Discussions with others in the Norwegian hydropower sector also raised no concerns regarding the tender design arrangement.

Nevertheless, the designer's concerns are sincere and must be taken seriously. In fact, modifying the intakes to mass concrete will save considerable amounts of rebar albeit offset by additional concrete requirements. Such a change would have a number of other advantages including; simplified construction, reduced construction quality control requirements, and a generally more robust solution. It would also eliminate the doubt raised by the designers as well as possible long-term surveillance and maintenance requirements and costs. An associated issue is whether the Contractor will use such a change as an opportunity to claim. The TAB considers either option would be acceptable and so has already urged BC Hydro to obtain an agreement and financial commitment from the Contractor as part of making such a decision to change. This matter is understood to be urgent if associated drawing production is not to be delayed.

#### **5.3.6 Hydro-Mechanical Equipment – Gates**

Following an earlier recommendation by the TAB, the detailed designs for certain gates are currently being confirmed and finalised by the successful gate Contractor using additional model tests. Over recent months the TAB has monitored the progress of these tests and commented as required. Model testing of the Diversion gates was carried out by the La Salle Laboratory in Montreal and that of the main, Low-Level Outlet, Spillway gates at the EPFL Laboratories in Lausanne, Switzerland.

Both sets of testing were successful. In the case of the Diversion gates small profile modifications to the water passage soffits were needed to control downstream surging which was in turn causing gate vibrations. It was also noted that flow instability occurred at gate openings of approximately 50 to 60%, a restriction which will be reflected in the gate operation rules. Lastly it was noted that with the gates raised 107.5% they are completely unaffected by diversion flows, even surging flows. Again, the gate arrangements will be modified slightly to accommodate this requirement.

Some small detailed modifications were made to the Low-Level Outlet, Spillway gates, including sill beam re-profiling and adjustments to the lower gate lip details. The latter change was to ensure operational stability for the gates over their full range, including at small openings.

The gate box-out arrangements were also discussed. The TAB would draw the designers' attention to the importance of correctly detailing the second stage gate box outs and any associated anchorages, especially those at the side wall gate slots. One option used by some has been to continue first stage rebar through into the second stage concrete to ensure a good connection between the two concretes. The proposal at Site C follows normal BC Hydro practise and with which BC Hydro have had good prior experience which is to ensure good surface preparation of the first stage box-out concrete and to rely on the gate built-in-parts, location bolts and anchors to also form that structural connection. This is not unusual however the TAB would urge the need for careful attention to the details produced. It will also be important to ensure that the quality achieved on site adequately reflects the assumptions that these fixings will indeed work appropriately as structural connectors. The TAB is aware of at least two projects where gate box-outs have failed with a very recent (2018) case in Africa flooding the power station.

#### **5.3.7 Spillway Wall Facings**

The large gravity walls in the stilling basin generally comprise RCC cores placed by the MCW Contractor and subsequent 1m thick reinforced concrete facings of CVC placed by the GSS Contractor. The facings are secured by horizontal anchor bars and the tender designs also indicate the need for water stops at horizontal lift joints.

The separation of responsibility is clear, the works have been priced in the respective contracts and indications are that the Spillways are not currently on the critical path. Nevertheless, the TAB noted areas on the project where CVC facing zones are being placed concurrently with RCC and achieving an acceptable surface finish. The TAB would draw BC Hydro's attention to other projects where a richer and concurrently placed facing zone on RCC also incorporates face rebar. Constructing the spillway walls in such a combined, single operation should be simpler, theoretically less expensive and produce a superior end product. The TAB is not advocating such a change at Site C but only making BC Hydro aware of this option should future events prove it to have some cost or schedule benefit. In that event the change would require careful negotiation with both Contractors to ensure that potential benefits are realized.

**6. Future Meetings**

The TAB recommends that the next TAB meeting be held in Vancouver the week of May 28 to 31, 2019.

Respectfully submitted,

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**Attachment A – Meeting Agenda**



**Site C Clean Energy Project  
 Technical Advisory Board Meeting No. 19  
 October 9 to 12, 2018**

**Location: Construction Site near FSJ and  
 6<sup>th</sup> floor 1055 Dunsmuir Street, Vancouver, BC**

**Day 1 (Monday, October 8, 2018) Travel to Site C Construction Site**

19:15	Flight to Fort St. John (AC8187)	
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**Day 2 (Tuesday, October 9, 2018) Construction Site**

Time	Title	Presenter / Time Allocated
7:00	Respirator Fitting	
7:30 to 7:45	Safety Moment, Welcome and TAB Agenda	
7:45 to 8:20	Construction Update	
8:20 to 8:45	Update from the Independent Engineer	
8:45 to 9:30	Geotechnical overview <ul style="list-style-type: none"> <li>• Left Bank</li> <li>• Right Bank</li> </ul>	
9:30 to 10:00	Overview, RCC Production and Status	
10:00 to 10:30	Quality Management	
10:30 to 11:00	Silica Awareness	
11:00 to 11:30	Lunch and Safety	
11:30 to 16:00	Tour of Site (Left, Right Bank)	
16:30 to 17:00	Travel to FSJ Airport	
18:00	Flight to YVR WS3203	



**Site C Clean Energy Project  
 Technical Advisory Board Meeting No. 19  
 October 9 to 12, 2018**

**Location: Construction Site near FSJ and  
 6<sup>th</sup> floor 1055 Dunsmuir Street, Vancouver, BC**

**Day 3 (Wednesday, October 10, 2018) Meeting Room #1, 6<sup>th</sup> floor 1055 Dunsmuir**

Time	Title	Presenter / Time Allocated
8:00	Welcome	
8:10 to 8:30	TAB Tracking Log	
8:30 to 9:00	GSS Update	
9:00 to 9:20	Option for Infill Concrete at Intake Piers	
9:20 to 10:30	Spillway IFC Design	
10:30 to 10:45	Break	
10:45 to 11:45	Spillway IFC Design	
11:45 to 12:30	Thermal Modelling of RCC	
12:30 to 13:00	Lunch	
13:00 to 15:15	Performance of Site Excavations Left Bank: <ul style="list-style-type: none"> <li>• Inlet Portal excavations</li> <li>• Outlet Portal progress</li> <li>• Tunnel progress</li> </ul> Excavations Right Bank <ul style="list-style-type: none"> <li>• Drainage measures</li> <li>• Powerhouse Buttress performance</li> <li>• Spillway Buttress performance</li> </ul> Earthfill Dam, Cofferdam and Grouting	
15:15 to 15:30	Break	
15:30 to 15:40	Debris Management Update	
15:40 to 16:15	Construction Sequence for the Dam and Core Buttresses	
16:15 to 17:30	Open Discussion	



**Site C Clean Energy Project  
 Technical Advisory Board Meeting No. 19  
 October 9 to 12, 2018**

**Location: Construction Site near FSJ and  
 6<sup>th</sup> floor 1055 Dunsmuir Street, Vancouver, BC**

**Day 3 (Thursday, October 11, 2018) Meeting Room #1, 6th floor 1055 Dunsmuir**

Time	Title	Presenter / Time Allocated
8:00 to 10:00	Open Discussion / TAB Report	
10:00 to 10:30	Recent Old Fort slide inspection	BGC Engineering
10:30 to 12:00	Open Discussion / TAB Report	
12:00 to 1:00	Lunch	
13:00 to 17:00	TAB prepare Report	
18:00 to 20:00	The KEG Steakhouse & Bar <sup>®</sup> , 688 Dunsmuir	

**Day 4 (Friday, October 12, 2018) Meeting Room #1, 6th floor 1055 Dunsmuir  
 and 333 Dunsmuir**

Time	Title	Presenter / Time Allocated
8:30 to 12:00	TAB prepare Report	
12:00 to 13:00	Lunch	
14:00 to 16:00	Report out to Executive and Project Board 333 Dunsmuir	

**Attachment B - a List of Meeting Attendees**



**Site C Clean Energy Project**

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**Annual Progress Report No. 3  
(Combined with Quarterly Progress Report No. 14)**

**Appendix F**

**Environmental Management Plans and Report**

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](http://www.sitecproject.com) as they are issued. This appendix contains a list of all issued documents as at December 31, 2018.

**Table F-1 Mitigation, Management and Monitoring Plans**

Aboriginal Plant Use Mitigation Plan	<a href="https://www.sitecproject.com/sites/default/files/Aboriginal_Plant_Use_Mitigation_Plan.pdf">https://www.sitecproject.com/sites/default/files/Aboriginal_Plant_Use_Mitigation_Plan.pdf</a>
Aboriginal Training and Inclusion Plan	<a href="https://www.sitecproject.com/sites/default/files/Aboriginal_Training_and_Inclusion_Plan.pdf">https://www.sitecproject.com/sites/default/files/Aboriginal_Training_and_Inclusion_Plan.pdf</a>
Accidents and Malfunctions Plan	<a href="https://www.sitecproject.com/sites/default/files/Accidents_and_Malfunctions_Plan.pdf">https://www.sitecproject.com/sites/default/files/Accidents_and_Malfunctions_Plan.pdf</a>
Agricultural Mitigation and Compensation Plan	<a href="https://www.sitecproject.com/sites/default/files/site-c-agricultural-mitigation-compensation-plan-final-september-2017.pdf">https://www.sitecproject.com/sites/default/files/site-c-agricultural-mitigation-compensation-plan-final-september-2017.pdf</a>
Agricultural Mitigation and Compensation Plan Framework	<a href="https://www.sitecproject.com/sites/default/files/SiteC-Agriculture-Mitigation-Compensation-Framework.pdf">https://www.sitecproject.com/sites/default/files/SiteC-Agriculture-Mitigation-Compensation-Framework.pdf</a>
Agricultural Monitoring and Follow-up Program	<a href="https://www.sitecproject.com/sites/default/files/Agricultural%20Monitoring%20and%20Follow-up%20Program.pdf">https://www.sitecproject.com/sites/default/files/Agricultural%20Monitoring%20and%20Follow-up%20Program.pdf</a>
Business Participation Plan	<a href="https://www.sitecproject.com/sites/default/files/BPP-20150605.pdf">https://www.sitecproject.com/sites/default/files/BPP-20150605.pdf</a>
Construction Environmental Management Plan	<a href="https://www.sitecproject.com/sites/default/files/construction-environmental-management-plan-aug-2.pdf">https://www.sitecproject.com/sites/default/files/construction-environmental-management-plan-aug-2.pdf</a>
Construction Environmental Management Plan Appendix A : Smoke Management Plan	<a href="https://www.sitecproject.com/sites/default/files/cemp-appendix-a-smoke-management-plan.pdf">https://www.sitecproject.com/sites/default/files/cemp-appendix-a-smoke-management-plan.pdf</a>
Construction Environmental Management Plan Appendix B : Air Quality Monitoring Program	<a href="https://www.sitecproject.com/sites/default/files/cemp-appendix-b-air-quality-monitoring-program.pdf">https://www.sitecproject.com/sites/default/files/cemp-appendix-b-air-quality-monitoring-program.pdf</a>
Construction Environmental Management Plan Appendix C : Construction Communications Plan	<a href="https://www.sitecproject.com/sites/default/files/cemp-appendix-c-construction-communications-plan.pdf">https://www.sitecproject.com/sites/default/files/cemp-appendix-c-construction-communications-plan.pdf</a>
Construction Environmental Management Plan Appendix D : Aboriginal Group Communication Plan	<a href="https://www.sitecproject.com/sites/default/files/cemp-appendix-d-aboriginal-group-communication-plan.pdf">https://www.sitecproject.com/sites/default/files/cemp-appendix-d-aboriginal-group-communication-plan.pdf</a>
Construction Environmental Management Plan Appendix E : Acid Rock Drainage and Metal Leachate Management Plan	<a href="https://www.sitecproject.com/sites/default/files/cemp-appendix-e-acid-rock-drainage-metal-leachate-plan.pdf">https://www.sitecproject.com/sites/default/files/cemp-appendix-e-acid-rock-drainage-metal-leachate-plan.pdf</a>

Construction Environmental Management Plan Appendix F : Water Licence Leaves to Commence Construction Process	<a href="https://www.sitecproject.com/sites/default/files/cemp-appendix-f-water-licence-leaves-to-commence-construction.pdf">https://www.sitecproject.com/sites/default/files/cemp-appendix-f-water-licence-leaves-to-commence-construction.pdf</a>
Construction Environmental Management Plan Appendix G : Mitigation, Management and Monitoring Plans	<a href="https://www.sitecproject.com/sites/default/files/cemp-appendix-g-mitigation-mgmt-monitoring-plans.pdf">https://www.sitecproject.com/sites/default/files/cemp-appendix-g-mitigation-mgmt-monitoring-plans.pdf</a>
Construction Environmental Management Plan Appendix H : Soil Management, Site Restoration and Revegetation Plan	<a href="https://www.sitecproject.com/sites/default/files/cemp-appendix-h-soil-mgmt-site-restoration-and-reveg-plan.pdf">https://www.sitecproject.com/sites/default/files/cemp-appendix-h-soil-mgmt-site-restoration-and-reveg-plan.pdf</a>
Construction Environmental Management Plan Appendix I : Erosion and Sediment Control Plan	<a href="https://www.sitecproject.com/sites/default/files/CEMP-Appendices-2-2-0160708.pdf">https://www.sitecproject.com/sites/default/files/CEMP-Appendices-2-2-0160708.pdf</a>
Construction Safety Management Plan	<a href="https://www.sitecproject.com/sites/default/files/Construction%20Safety%20Management%20Plan.pdf">https://www.sitecproject.com/sites/default/files/Construction%20Safety%20Management%20Plan.pdf</a>
Cultural Resources Mitigation Plan	<a href="https://www.sitecproject.com/sites/default/files/Cultural_Resources_Mitigation_Plan_0.pdf">https://www.sitecproject.com/sites/default/files/Cultural_Resources_Mitigation_Plan_0.pdf</a>
Del Rio Pit Development Plan	<a href="https://www.sitecproject.com/sites/default/files/Del%20Rio%20Pit%20Development%20Plan.pdf">https://www.sitecproject.com/sites/default/files/Del%20Rio%20Pit%20Development%20Plan.pdf</a>
Emergency Services Plan	<a href="https://www.sitecproject.com/sites/default/files/Emergency_Services_Plan.pdf">https://www.sitecproject.com/sites/default/files/Emergency_Services_Plan.pdf</a>
Fisheries and Aquatic Habitat Management Plan	<a href="https://www.sitecproject.com/sites/default/files/Fisheries_and_Aquatic_Habitat_Management_Plan.pdf">https://www.sitecproject.com/sites/default/files/Fisheries_and_Aquatic_Habitat_Management_Plan.pdf</a>
Fisheries and Aquatic Habitat Monitoring and Follow-up Program	<a href="https://www.sitecproject.com/sites/default/files/Fisheries%20and%20Aquatic%20Habitat%20Monitoring%20and%20Follow-up%20Program.pdf">https://www.sitecproject.com/sites/default/files/Fisheries%20and%20Aquatic%20Habitat%20Monitoring%20and%20Follow-up%20Program.pdf</a>
Health Care Services Plan	<a href="https://www.sitecproject.com/sites/default/files/Health_Care_Services_Plan.pdf">https://www.sitecproject.com/sites/default/files/Health_Care_Services_Plan.pdf</a>
Heritage Resources Management Plan	<a href="https://www.sitecproject.com/sites/default/files/Heritage_Resources_Management_Plan_0.pdf">https://www.sitecproject.com/sites/default/files/Heritage_Resources_Management_Plan_0.pdf</a>
Housing Plan and Housing Monitoring and Follow-up Program	<a href="https://www.sitecproject.com/sites/default/files/Housing-Plan-Housing-Monitoring-and-Follow-up-Program-Rev2.pdf">https://www.sitecproject.com/sites/default/files/Housing-Plan-Housing-Monitoring-and-Follow-up-Program-Rev2.pdf</a>
Labour and Training Plan	<a href="https://www.sitecproject.com/sites/default/files/Labour_and_Training_Plan.pdf">https://www.sitecproject.com/sites/default/files/Labour_and_Training_Plan.pdf</a>
Outdoor Recreation Mitigation Plan	<a href="https://www.sitecproject.com/sites/default/files/site-c-outdoor-recreation-mitigation-plan_0.pdf">https://www.sitecproject.com/sites/default/files/site-c-outdoor-recreation-mitigation-plan_0.pdf</a>
Recreation Program	<a href="https://www.sitecproject.com/sites/default/files/Recreation%20Program.pdf">https://www.sitecproject.com/sites/default/files/Recreation%20Program.pdf</a>
Vegetation and Wildlife Mitigation and Monitoring Plan	<a href="https://www.sitecproject.com/sites/default/files/Veg_and_Wildlife_Mit_and_Mon_Plan.pdf">https://www.sitecproject.com/sites/default/files/Veg_and_Wildlife_Mit_and_Mon_Plan.pdf</a>
Vegetation Clearing and Debris Management Plan	<a href="https://www.sitecproject.com/sites/default/files/Veg_Clearing_and_Debris_Mgmt_Plan.pdf">https://www.sitecproject.com/sites/default/files/Veg_Clearing_and_Debris_Mgmt_Plan.pdf</a>

West Pine Quarry Development Plan	<a href="https://www.sitecproject.com/sites/default/files/West_Pine_Quarry_Development_Plan.pdf">https://www.sitecproject.com/sites/default/files/West_Pine_Quarry_Development_Plan.pdf</a>
Wuthrich Quarry Development Plan	<a href="https://www.sitecproject.com/sites/default/files/Wuthrich_Quarry_Development_Plan.pdf">https://www.sitecproject.com/sites/default/files/Wuthrich_Quarry_Development_Plan.pdf</a>
85th Avenue Industrial Lands Detailed Operations Plan	<a href="https://www.sitecproject.com/sites/default/files/Final-Detailed-Operations-Plan-85th%20Ave%20Industrial%20Lands-20161122.pdf">https://www.sitecproject.com/sites/default/files/Final-Detailed-Operations-Plan-85th%20Ave%20Industrial%20Lands-20161122.pdf</a>

**Table F-2 Site C Project Reports**

Aboriginal Group Communication Plan 2015-2016 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Report-annual-Aboriginal-Group-Communication-Plan-2015-2016-20160705.pdf">https://www.sitecproject.com/sites/default/files/Report-annual-Aboriginal-Group-Communication-Plan-2015-2016-20160705.pdf</a>
Aboriginal Group Communications Plan 2016-2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/aboriginal-group-communications-plan-2016-2017-annual-report.pdf">https://www.sitecproject.com/sites/default/files/aboriginal-group-communications-plan-2016-2017-annual-report.pdf</a>
Aboriginal Group Communications Plan 2017-2018 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Aboriginal-Group-Communications-Plan-2017-2018-Annual-Report.pdf">https://www.sitecproject.com/sites/default/files/Aboriginal-Group-Communications-Plan-2017-2018-Annual-Report.pdf</a>
Aboriginal Plant Use Mitigation Plan 2015-2016 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Report-annual-Aboriginal-Plant-Use-Mitigation-Plan-2015-2016-20160705.pdf">https://www.sitecproject.com/sites/default/files/Report-annual-Aboriginal-Plant-Use-Mitigation-Plan-2015-2016-20160705.pdf</a>
Aboriginal Plant Use Mitigation Plan 2016-2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/aboriginal-plant-use-mitigation-plan-2016-2017-annual-report.pdf">https://www.sitecproject.com/sites/default/files/aboriginal-plant-use-mitigation-plan-2016-2017-annual-report.pdf</a>
Aboriginal Plant Use Mitigation Plan 2017-2018 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/aboriginal-plant-use-mitigation-plan-2017-2018-annual-report_0.pdf">https://www.sitecproject.com/sites/default/files/aboriginal-plant-use-mitigation-plan-2017-2018-annual-report_0.pdf</a>
Aboriginal Training and Inclusion Plan 2015-2016 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Report-annual-Aboriginal-Training-Inclusion-Plan-2015-2016-20160705.pdf">https://www.sitecproject.com/sites/default/files/Report-annual-Aboriginal-Training-Inclusion-Plan-2015-2016-20160705.pdf</a>
Aboriginal Training and Inclusion Plan 2016-2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/aboriginal-training-inclusion-plan-2016-2017-annual-report.pdf">https://www.sitecproject.com/sites/default/files/aboriginal-training-inclusion-plan-2016-2017-annual-report.pdf</a>
Aboriginal Training and Inclusion Plan 2017-2018 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Aboriginal-Training-and-Inclusion-Plan-2017-2018-Annual-Report.pdf">https://www.sitecproject.com/sites/default/files/Aboriginal-Training-and-Inclusion-Plan-2017-2018-Annual-Report.pdf</a>
Accidents and Malfunctions Plan 2015 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Annual-Update-Accidents-and-Malfunctions-Plan-2015.pdf">https://www.sitecproject.com/sites/default/files/Annual-Update-Accidents-and-Malfunctions-Plan-2015.pdf</a>
Accidents and Malfunctions Plan 2016 Annual Update	<a href="https://www.sitecproject.com/sites/default/files/accidents-malfunctions-plan-2016.pdf">https://www.sitecproject.com/sites/default/files/accidents-malfunctions-plan-2016.pdf</a>
Accidents and Malfunctions Plan 2017 Annual Update	<a href="https://www.sitecproject.com/sites/default/files/accidents-malfunctions-plan-annual-update-2017_0.pdf">https://www.sitecproject.com/sites/default/files/accidents-malfunctions-plan-annual-update-2017_0.pdf</a>
Acid Rock Drainage and Metal Leachate Management Plan – Water Quality Annual Report 2015	<a href="https://www.sitecproject.com/sites/default/files/Annual-Update-Water-Quality-2015-FDS-Condition-7-5_0.pdf">https://www.sitecproject.com/sites/default/files/Annual-Update-Water-Quality-2015-FDS-Condition-7-5_0.pdf</a>
Acid Rock Drainage and Metal Leachate Management Plan – Water Quality Annual Report 2016	<a href="https://www.sitecproject.com/sites/default/files/acid-rock-drainage-metal-water-quality-annual-report-2016.pdf">https://www.sitecproject.com/sites/default/files/acid-rock-drainage-metal-water-quality-annual-report-2016.pdf</a>
Acid Rock Drainage and Metal Leachate Management Plan – Water Quality Annual Report 2017	<a href="https://www.ceaa.gc.ca/050/documents/p63919/122317E.pdf">https://www.ceaa.gc.ca/050/documents/p63919/122317E.pdf</a>

Agricultural Monitoring and Follow-up Program 2016 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Agricultural-Monitoring-Annual-Report-2016.pdf">https://www.sitecproject.com/sites/default/files/Agricultural-Monitoring-Annual-Report-2016.pdf</a>
Agriculture Monitoring and Follow-up Program 2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/agriculture-monitoring-annual-report-2017.pdf">https://www.sitecproject.com/sites/default/files/agriculture-monitoring-annual-report-2017.pdf</a>
Agriculture Monitoring and Follow-up Program 2018 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Ag-Monitoring-Annual-Report-2018.pdf">https://www.sitecproject.com/sites/default/files/Ag-Monitoring-Annual-Report-2018.pdf</a>
Air Quality Management Plan 2015 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Appendix-A-RWDI-Site-C-Climate-and-Air-Quality-Monitoring-Annual-Report-2015.pdf">https://www.sitecproject.com/sites/default/files/Appendix-A-RWDI-Site-C-Climate-and-Air-Quality-Monitoring-Annual-Report-2015.pdf</a>
Air Quality Management Plan 2016 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Climate-Air-Quality-Annual-Report-2016.pdf">https://www.sitecproject.com/sites/default/files/Climate-Air-Quality-Annual-Report-2016.pdf</a>
Air Quality Management Plan 2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Air-Quality-Management-Plan-2017-Annual-Report.pdf">https://www.sitecproject.com/sites/default/files/Air-Quality-Management-Plan-2017-Annual-Report.pdf</a>
Annual Compliance Report - Status of Compliance with EAC Conditions and Schedule B – 2015-2016	<a href="https://projects.eao.gov.bc.ca/api/document/5b0722d24972950024b6e21c/fetch">https://projects.eao.gov.bc.ca/api/document/5b0722d24972950024b6e21c/fetch</a>
Annual Compliance Report – Status of Compliance with EAC Conditions and Schedule B – 2016-2017	<a href="https://projects.eao.gov.bc.ca/api/document/5a9dc9f66f07af0024d5a246/fetch">https://projects.eao.gov.bc.ca/api/document/5a9dc9f66f07af0024d5a246/fetch</a>
Annual Compliance Report – Status of Compliance with EAC Conditions and Schedule B -2017-2018	<a href="https://projects.eao.gov.bc.ca/api/document/5b328d38d46d3f002426863f/fetch">https://projects.eao.gov.bc.ca/api/document/5b328d38d46d3f002426863f/fetch</a>
Business Participation Plan 2015-2016 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/business-participation-plan-annual-report-july-29-2016.pdf">https://www.sitecproject.com/sites/default/files/business-participation-plan-annual-report-july-29-2016.pdf</a>
Business Participation Plan 2016 – 2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/business-participation-plan-annual-report-year-two-july-2017.pdf">https://www.sitecproject.com/sites/default/files/business-participation-plan-annual-report-year-two-july-2017.pdf</a>
Business Participation Plan 2017 - 2018 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Business-Participation-Plan-Annual-Report-July-27-2018.pdf">https://www.sitecproject.com/sites/default/files/Business-Participation-Plan-Annual-Report-July-27-2018.pdf</a>
Construction Communications 2015-2016 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Site-C-Construction-Communications-Annual-Report-2016.pdf">https://www.sitecproject.com/sites/default/files/Site-C-Construction-Communications-Annual-Report-2016.pdf</a>
Construction Communications 2016 – 2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/site-c-construction-communications-annual-report-july-2017.pdf">https://www.sitecproject.com/sites/default/files/site-c-construction-communications-annual-report-july-2017.pdf</a>
Construction Communications 2017 - 2018 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Site-C-Construction-Communications-Annual-Report-July-2018.pdf">https://www.sitecproject.com/sites/default/files/Site-C-Construction-Communications-Annual-Report-July-2018.pdf</a>
Cultural Resources Mitigation Plan 2015 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Report-annual-Cultural-Resources-Mitigation-Plan-2015-2016-20160705.pdf">https://www.sitecproject.com/sites/default/files/Report-annual-Cultural-Resources-Mitigation-Plan-2015-2016-20160705.pdf</a>
Cultural Resources Mitigation Plan 2016-2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/cultural-resources-mitigation-plan-2016-2017-annual-report.pdf">https://www.sitecproject.com/sites/default/files/cultural-resources-mitigation-plan-2016-2017-annual-report.pdf</a>
Cultural Resources Mitigation Plan 2017-2018 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Cultural-Resources-Mitigation-Plan-2017-2018-Annual-Report.pdf">https://www.sitecproject.com/sites/default/files/Cultural-Resources-Mitigation-Plan-2017-2018-Annual-Report.pdf</a>
Fisheries and Aquatic Habitat Management Plan 2015-2016 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Annual-Report-Fisheries-Aquatic-Habitat-Management-Plan-2015-2016.pdf">https://www.sitecproject.com/sites/default/files/Annual-Report-Fisheries-Aquatic-Habitat-Management-Plan-2015-2016.pdf</a>

Fisheries and Aquatic Habitat Management Plan 2016-2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/fisheries-aquatic-habitat-management-plan-annual-report-2016.pdf">https://www.sitecproject.com/sites/default/files/fisheries-aquatic-habitat-management-plan-annual-report-2016.pdf</a>
Fisheries and Aquatic Habitat Management Plan 2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/fisheries-aquatic-habitat-management-plan-annual-report-2017_0.pdf">https://www.sitecproject.com/sites/default/files/fisheries-aquatic-habitat-management-plan-annual-report-2017_0.pdf</a>
Fisheries and Aquatic Habitat Monitoring and Follow Up Program 2015-2016 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/fisheries-aquatic-habitat-monitoring-follow-up-program-annual-report.pdf">https://www.sitecproject.com/sites/default/files/fisheries-aquatic-habitat-monitoring-follow-up-program-annual-report.pdf</a>
Fisheries and Aquatic Habitat Monitoring and Follow up Program 2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/report-annual-fahmfp-2017-20180301.pdf">https://www.sitecproject.com/sites/default/files/report-annual-fahmfp-2017-20180301.pdf</a>
Heritage Resources Management Plan 2015 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Report-annual-BCH-to-CEAA-Heritage-Rsrcs-Mgt-Plan-20160705.pdf">https://www.sitecproject.com/sites/default/files/Report-annual-BCH-to-CEAA-Heritage-Rsrcs-Mgt-Plan-20160705.pdf</a>
Heritage Resources Management Plan 2016 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/heritage-resource-management-plan-annual-report-2016.pdf">https://www.sitecproject.com/sites/default/files/heritage-resource-management-plan-annual-report-2016.pdf</a>
Heritage Resource Management Plan 2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/Heritage-Resource-Management-Plan-2017-Annual-Report.pdf">https://www.sitecproject.com/sites/default/files/Heritage-Resource-Management-Plan-2017-Annual-Report.pdf</a>
Vegetation and Wildlife Mitigation and Monitoring Plan 2015 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/vegetation-and-wildlife-mitigation-and-monitoring-plan-annual-report-2015.pdf">https://www.sitecproject.com/sites/default/files/vegetation-and-wildlife-mitigation-and-monitoring-plan-annual-report-2015.pdf</a>
Vegetation and Wildlife Mitigation and Monitoring Plan 2015 Annual Report Appendices Part 1	<a href="https://www.sitecproject.com/sites/default/files/vegetation-and-wildlife-mitigation-and-monitoring-plan-annual-report-2015-appendices-part-1.pdf">https://www.sitecproject.com/sites/default/files/vegetation-and-wildlife-mitigation-and-monitoring-plan-annual-report-2015-appendices-part-1.pdf</a>
Vegetation and Wildlife Mitigation and Monitoring Plan 2015 Annual Report Appendices Part 2	<a href="https://www.sitecproject.com/sites/default/files/vegetation-and-wildlife-mitigation-and-monitoring-plan-annual-report-2015-appendices-part-2.pdf">https://www.sitecproject.com/sites/default/files/vegetation-and-wildlife-mitigation-and-monitoring-plan-annual-report-2015-appendices-part-2.pdf</a>
Vegetation and Wildlife Mitigation and Monitoring Plan 2016 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-2016.pdf">https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-2016.pdf</a>
Vegetation Wildlife Mitigation and Monitoring Plan 2017 Annual Report	<a href="https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-annual-report-2017.pdf">https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-annual-report-2017.pdf</a>
Vegetation and Wildlife Mitigation and Monitoring Plan 2017 Annual Report Appendices Part 1	<a href="https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-annual-report-2017-appendices-part-1_0.pdf">https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-annual-report-2017-appendices-part-1_0.pdf</a>
Vegetation and Wildlife Mitigation and Monitoring Plan 2017 Annual Report Appendices Part 2	<a href="https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-annual-report-2017-appendices-part-2_0.pdf">https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-annual-report-2017-appendices-part-2_0.pdf</a>
Vegetation and Wildlife Mitigation and Monitoring Plan 2017 Annual Report Appendices Part 3	<a href="https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-annual-report-2017-appendices-part-3.pdf">https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-annual-report-2017-appendices-part-3.pdf</a>
Vegetation and Wildlife Mitigation and Monitoring Plan 2017 Annual Report Appendices Part 4	<a href="https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-annual-report-2017-appendices-part-4.pdf">https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-annual-report-2017-appendices-part-4.pdf</a>
Vegetation and Wildlife Mitigation and Monitoring Plan 2017 Annual Report Appendices Part 5	<a href="https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-annual-report-2017-appendices-part-5.pdf">https://www.sitecproject.com/sites/default/files/vegetation-wildlife-mitigation-monitoring-plan-annual-report-2017-appendices-part-5.pdf</a>

**Site C Clean Energy Project**

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**Annual Progress Report No. 3  
(Combined with Quarterly Progress Report No. 14)**

**Appendix G**

**Environmental Assessment Certificate  
Annual Compliance Report**



# Environmental Assessment Certificate #14-02 Annual Compliance Report

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*Site C Clean Energy Project*

*March 29, 2018*



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

March 29, 2018

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### Background

The Site C Clean Energy Project (the Project) will be the third dam and generating station on the Peace River that will 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. On October 14, 2014, the BC Provincial Minister of Environment and Minister of Forests, Lands and Natural Resource Operations decided that the Project is in the public interest and that the benefits identified by the Project outweigh the risks of significant adverse environmental, social and heritage effects. The assessment leading to the conclusion noted that the effects of the Project will largely be mitigated through careful, comprehensive mitigation programs and ongoing monitoring during construction and operation.

The Ministers issued Environmental Assessment Certificate (EAC) #14-02 setting 77 conditions under which the Project can proceed. EAC #14-02 also requires that BC Hydro 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 ... on or before March 31 in each year during construction and operation phases of the Project."

The following report is being submitted in accordance with this requirement, and covers the period April 1, 2017 to March 31, 2018.

EAC #14-02 contains 77 conditions which comprise 593 unique requirements relating to the following areas:

- Aquatic Environment
- Fish and Fish Habitat
- Vegetation and Ecological Communities
- Wildlife Resources
- Current Use of Lands and Resources for Traditional Purposes
- Land and Resource Use
- Transportation
- Outdoor Recreation
- Community
- Human Health
- Heritage Resources
- Environmental Protections and Management
- Environmental Management Plans, Follow-up and Monitoring
- Dam Safety

BC Hydro has assessed compliance of conditions as a whole, as well as with the individual requirements of each condition. This assessment is based on evidence collected through a comprehensive compliance program which requires monitoring and reporting by contractors, an Independent Environmental Monitor, and by BC Hydro.

### **Summary of Compliance with 77 Conditions:**

Of the 77 Conditions in EAC #14-02:

- No conditions have been assessed as being in non-compliance
- No conditions have been assessed as being in partial-compliance
- 14 conditions have not yet required implementation – all of the requirements in these conditions are in an initial planning stage and will be implemented at a future time, such as during reservoir filling or operations
- 63 conditions are underway and have been assessed as having requirements that are “in compliance” and are in various stages of implementation. The requirements in these conditions have either been completed, are ongoing, or are not yet required to have started, but are deemed in compliance

### **Summary of Compliance with 593 Requirements:**

Table 1 summarizes the status of compliance with each of the requirements in the 77 conditions of EAC #14-02. The table shows that the total 593 requirements are assessed as being in compliance.

### **Summary of Inspections by EAO:**

BC Hydro was inspected by Regulatory Agencies multiple times during the reporting period, including six inspections by the Environmental Assessment Office. While no written orders were received during this period, the Environmental Assessment Office has issued written inspection reports for four of the six inspections conducted during the reporting period. These written inspection reports included 12 separate findings of non-compliance related to site specific and often isolated issues, such as missing spill trays, deficient erosion and sediment control, and garbage management. BC Hydro responded to each finding of non-compliance, corrected the deficiency and provided evidence of this correction to the Environmental Assessment Office.

### **Conclusion**

BC Hydro is committed to meeting all the conditions of its Environmental Assessment Certificate for the Site C Clean Energy Project, including the 77 EAC Conditions and the 593 unique requirements.

In this 2018 Annual Compliance Report, BC Hydro has provided evidence to demonstrate compliance with all EAC #14-02 Conditions.

**Table 1. Summary of Compliance with Requirements of EAC Conditions**

<b>Area</b>	<b>Category</b>	<b># of Conditions</b>	<b>Total # of Requirements</b>	<b># of Future Requirements</b>	<b># of Requirement “in Compliance” (Completed or Ongoing)</b>	<b># of Requirements “in Non-Compliance”</b>
<b>Aquatic Environment</b>	Hydrology	1	11	11	0	0
	Fluvial Geomorphology and Sediment	1	16	0	16	0
	Water Quality	1	12	0	12	0
<b>Fish and Fish Habitat</b>	Fish and Fish Habitat	4	51	27	24	0
<b>Vegetation and Ecological Communities</b>	Vegetation and Ecological Communities	7	66	0	66	0
<b>Wildlife Resources</b>	Wildlife Resources	10	64	1	63	0
<b>Current Use of Lands and Resources for Traditional Purposes</b>	Current Use of Lands and Resources for Traditional Purposes	4	20	2	18	0
<b>Land and Resource Use</b>	Harvest of Fish and Wildlife	1	1	0	1	0
	Agriculture	2	25	0	25	0
	Other Resource Industries	3	13	6	7	0
<b>Transportation</b>	Transportation	4	41	0	41	0
<b>Outdoor Recreation and Tourism</b>	Outdoor Recreation and Tourism	3	15	3	12	0
<b>Community</b>	Community Infrastructure and	6	31	6	25	0

Area	Category	# of Conditions	Total # of Requirements	# of Future Requirements	# of Requirement "in Compliance" (Completed or Ongoing)	# of Requirements "in Non-Compliance"
	Services					
	Housing	2	18	0	18	0
	Regional Economic Development	6	34	1	33	0
<b>Human Health</b>	Potable and Recreational Water Quality	1	3	1	2	0
	Ambient Air Quality	1	11	1	10	0
	Noise and Vibration	2	14	1	13	0
	Methylmercury	1	13	13	0	0
<b>Heritage Resources</b>	Visual Resources	1	4	0	4	0
	Physical Heritage and Cultural Heritage	3	22	6	16	0
<b>Environmental Protection and Management</b>	GHG Monitoring	1	7	7	0	0
<b>Environmental Management Plans, Follow-up and Monitoring</b>	Environmental Management Plans, Follow-up and Monitoring	10	98	31	67	0
<b>Dam Safety</b>	Dam Safety	2	3	3	0	0
<b>TOTAL</b>		<b>77</b>	<b>593</b>	<b>121</b>	<b>472</b>	<b>0</b>



### Acronyms and Abbreviations

APUMP	Aboriginal Plan Use Mitigation Plan
CEAA	Canadian Environmental Assessment Act
CEMP	Construction Environmental Management Plan
CMHC	Canada Mortgage and Housing Corporation
CRMP	Cultural Resources Mitigation Plan
CSMP	Construction Safety Management Plan
DFO	Department of Fisheries and Oceans Canada
EAC	Environmental Assessment Certificate
EAO	Environmental Assessment Office
EPP	Environmental Protection Plan
FAHMFP	Fisheries and Aquatic Habitat Management Follow-up Program
FAHMP	Fisheries and Aquatic Habitat Management Plan
FLNR	Ministry of Forests, Lands and Natural Resource Operations
FNHA	First Nations Health Authority
GHG	Greenhouse Gas
HRMP	Heritage Resources Management Plan
IEM	Independent Environmental Monitor
IWMAMP	Invasive Weed Mitigation and Adaptive Management Plan
MOE	Ministry of Environment
MOTI	Ministry of Transportation and Infrastructure
MOU	Memorandum of Understanding
NHA	Northern Health Authority
OEMP	Operations Environmental Management Plan
OHWM	Ordinary High Water Mark
PAG	Potentially Acid Generating
PRRD	Peace River Regional District
QEP	Qualified Environmental Professional
QP	Qualified Professional
SARA	Species at Risk Act
RAA	The Regional Assessment Area
RSEM	Relocated Surplus Excavated Material
RVMA	Riparian Vegetation Management Area
TSFA	Terrain Stability Field Assessments
TSS	Total Suspended Solids
TU	Treatment Unit
VCDMP	Vegetation Clearing and Debris Management Plan
VWMMP	Vegetation and Wildlife Mitigation and Monitoring Plan
VWTC	Vegetation and Wildlife Technical Committee
WHIMS	Workplace Hazardous Materials Information System

**Site C Clean Energy Project**  
**Annual Compliance Report for Environmental Assessment Certificate #14-02**  
**March 29, 2018**

No.	EAC Condition	Implementation Status	Compliance Status	Description
<b>AQUATIC ENVIRONMENT</b>				
<b>Hydrology</b>				
EAC 01	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:	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. BC Hydro has entered into agreements with the downstream communities that identify potential infrastructure impacts and establish commitments to either monitor and mitigate or mitigate- such as the District of Taylor Water intake. Additionally, BC Hydro continues to collect present state field data to inform and future changes and associate downstream impact assessments.
EAC 01	· The Holder must maintain a minimum release of 390 cubic metres per second from the Site C dam	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. BC Hydro has included this requirement within the design of the generating station and spillways and overall operation of the dam. BC Hydro will be developing an Owner's Operation, Maintenance and Surveillance Manual that will also include this requirement during the operating period.
EAC 01	· 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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. BC Hydro has included this requirement within the design of the generating station and spillways and overall operation of the dam. BC Hydro will be developing an Owner's Operation, Maintenance and Surveillance Manual that will also include this requirement
EAC 01	· 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	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. BC Hydro continues to collect present state field data to inform and future changes and associate downstream impact assessments and future discussion with the Government of Alberta.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	infrastructure must include water intakes, ferry crossings and any other activities identified by the Proponent and the Government of Alberta.			
EAC 01	<ul style="list-style-type: none"> <li>· The Plan must include at least the following:                             <ul style="list-style-type: none"> <li>o Provisions for assessing potential risks to infrastructure caused by low water flows as a result of the Project;</li> </ul> </li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 01	<ul style="list-style-type: none"> <li>o Provisions for obtaining baseline and operational flow information;</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 01	<ul style="list-style-type: none"> <li>o Provisions for obtaining information on any current impacts to infrastructure attributable to low water flows caused by the Project;</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 01	<ul style="list-style-type: none"> <li>o Identification of any impacts to infrastructure attributable to low water flows caused by the Project; and</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 01	<ul style="list-style-type: none"> <li>o 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.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 01	The EAC Holder must submit the plan to EAO a minimum of 30 days prior to reservoir filling.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 01	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	<b>Fluvial Geomorphology and Sediment Transport</b>			
EAC 02	The Erosion Prevention and Sediment Control Plan must be developed by a Qualified Environmental Professional (QEP).	Completed	In Compliance	<p>The Erosion and Sediment Control Plan is described in Section 4.4 of the Construction Environmental Management Plan (CEMP). Section 6.0 of the CEMP lists the Qualified Environmental Professionals (QEP) who prepared the plan.</p> <p>The final CEMP (Revision 1) was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. Revision 2 of the CEMP was issued in February 2016 and Revision 4 in July 2016 (Revision 3 was not formally published). Revision 4 of the CEMP contains a new Appendix, Appendix I, which provides details on the Project's erosion and sediment control requirements, including the requirement for Contractors to retain their own Erosion and Sediment Control QPs. Appendix I sets out the credential requirements of the Erosion and Sediment Control QPs and requires that QPs approve and oversee the implementation of site-specific erosion and sediment control plans.</p>
EAC 02	The Plan must identify areas of high erosion and sediment potential. The Erosion Prevention and Sediment Control Plan must include at least the following:	Ongoing	In Compliance	<p>The CEMP requires that contractors identify and isolate work areas to prevent sediment from entering the downstream environment. BC Hydro audits compliance with this requirement by reviewing contractor Environmental Protection Plans (EPPs) and conducting environmental audits during construction to verify implementation of EPPs.</p>
EAC 02	· Manage water (e.g. rainfall, snowmelt,) to control runoff and direct it away from work areas where excavation, spoil placement, and staging activities occur.	Ongoing	In Compliance	<p>The CEMP requires that Contractor EPPs identify water management plans to control runoff and direct it away from work areas where excavation, soil placement and staging activities occur. BC Hydro audits compliance with these requirements by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.</p>
EAC 02	· Adjust the timing of construction activities to coincide with periods of high	Ongoing	In Compliance	<p>The CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this</p>



No.	EAC Condition	Implementation Status	Compliance Status	Description
	background sediment levels.			requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of the EPP.
EAC 02	· Use clean rock materials for riprap construction.	Ongoing	In Compliance	The CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of the EPP.
EAC 02	· Manage equipment production rates during construction to reduce sediment generation.	Ongoing	In Compliance	The CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of the EPP.
EAC 02	· Identify and isolate work areas to prevent sediment from entering the downstream environment.	Ongoing	In Compliance	<p>BC Hydro is implementing and adhering to the final Erosion Prevention and Sediment Control Plan as well as additional commitments including quality inspections and regular reporting on plan progress. To date, many of the areas that experienced high rates of erosion in 2017 have been restored, revegetated, and in some cases augmented with additional ditching, sediment control ponds or other measures to prevent erosion and reduce sediment loading from runoff.</p> <p>This program involves Qualified Erosion and Sediment Control Professionals who review work areas for Erosion and Sediment Control risks, author prescriptions with due dates based on risk, oversee the implementation of these prescriptions, prescribe re-inspection dates, and have overall responsibility for Erosion and Sediment Control measures in their work areas. This Program was initiated in October 2016 and its results were reported to the EAO weekly up to late 2017 and have been reported monthly since then. From the start of the program to February 9, 2018, QEPs have completed 8,351 inspections and re-inspections of up to 348</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
				individual prescription locations. The total number of prescription locations fluctuates over time as new sites are added and deemed to be complete. There were 178 individual prescription locations as of February 3, 2018.
EAC 02	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	<p>The CEMP requires contractors to leave stumps in place to reduce soil disturbance, and erosion and sediment transport in the headpond during reservoir clearing. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.</p> <p>Note that stumps are removed for road construction associated with reservoir clearing as described in the Project's Environmental Impact Statement and Vegetation Clearing and Debris Management Plan (VCDMP). BC Hydro has determined that stump removal associated with road construction is consistent with this condition.</p>
EAC 02	<ul style="list-style-type: none"> <li>· Manage vegetation and soil stripping, taking into consideration proximity to sensitive habitats as determined by a QEP (e.g. wetlands) and slope stability.</li> </ul>	Ongoing	In Compliance	The CEMP requires contractors to manage vegetation and soil stripping, taking into consideration proximity to sensitive habitat and slope stability as determined by a QEP. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 02	<ul style="list-style-type: none"> <li>· Salvage and stockpile clean surface soils for site restoration.</li> </ul>	Ongoing	In Compliance	The CEMP requires contractors to salvage and stockpile clean surface soils for site restoration. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs. To date, several soil stockpiles have needed to be relocated due to construction modifications, and the relocation and preservation of these piles is audited by BC Hydro.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 02	<ul style="list-style-type: none"> <li>Establish vegetative cover on the soils stockpiled to prevent erosion.</li> </ul>	Ongoing	In Compliance	<p>The CEMP requires contractors to establish vegetative cover on the soils stockpiled to prevent erosion.</p> <p>BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.</p> <p>Main Civil Work Contractor, Peace River Hydro Partner's (PRHP) has hydro seeded and hand seeded new soil stockpiles in 2017 and has seeded many of the existing pre-2017 stockpile locations. Signage has been installed at larger stockpile areas to prevent disturbance. Topsoil stockpiles are monitored to assess the re-vegetation success as well as invasive occurrences by both BC Hydro and PRHP's QEP's. No offsite stripping of topsoil by contractors other than PRHP occurred in 2017.</p>
EAC 02	<ul style="list-style-type: none"> <li>Develop construction schedules such that reservoir clearing in the winter is maximized.</li> </ul>	Ongoing	In Compliance	<p>To date, reservoir clearing has coincided with winter conditions. The final stages of lower reservoir and Moberly River clearing have been scheduled for completion in fall/winter 2018.</p>
EAC 02	<ul style="list-style-type: none"> <li>Isolate in-stream work areas from flowing water except as permitted by the on-site environmental monitor.</li> </ul>	Ongoing	In Compliance	<p>BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.</p> <p>Some instream work has occurred on the Project in compliance with the Project's Fisheries Act Authorizations (both early works and dam construction). This work has not always been completed in isolation of the Peace river but was conducted under the supervision of the on-site environmental monitor, and was monitored for compliance with the Fisheries Act Authorizations' severity of ill effects limits.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 02	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.	Completed	In Compliance	The Erosion Prevention and Sediment Control Plan is described in Section 4.4 of the CEMP for the Project. The Draft CEMP was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014.
EAC 02	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 and District of Hudson's Hope a minimum of 30 days prior to commencement of construction activities.	Completed	In Compliance	The final CEMP (Revision 1) was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. Revision 2 of the CEMP was issued in February 2016 and Revision 4 in July 2016 (Revision 3 was not formally published).
EAC 02	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).	Ongoing	In Compliance	<p>The Erosion and Sediment Control Plan is described in Section 4.4 of the Construction Environmental Management Plan (CEMP).</p> <p>As part of the Erosion and Sediment Control Program, Qualified Erosion and Sediment Control Professionals review work areas for Erosion and Sediment Control risks, author prescriptions with due dates based on risk, oversee the implementation of these prescriptions, prescribe re-inspection dates, and have overall responsibility for Erosion and Sediment Control measures in their work areas. This Program was initiated in October 2016 and its results were reported to the EAO weekly up to late 2017 and have been reported monthly since then. From the start of the program to February 9 2018, QPs have completed 8,351 inspections and re-inspections of up to 348 individual prescription locations. The total number of prescription locations fluctuates over time as new sites are added and deemed to</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
				be complete. There were 178 individual prescription locations as of February 3, 2018.
<b>Water Quality</b>				
EAC 03	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.	Ongoing	In Compliance	<p>Section 4.14 and Appendix E of the CEMP sets out the water quality management program that contractors are required to adhere to, including associated measures to address potential effects of acid generation and metal leaching.</p> <p>BC Hydro audits compliance with Section 4.14 and Appendix E of the CEMP by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.</p>
EAC 03	<p>The water quality monitoring program must include:</p> <ul style="list-style-type: none"> <li>· Identification of water quality parameters to be monitored;</li> </ul>	Ongoing	In Compliance	<p>CEMP Appendix E identifies water quality parameters to be monitored based on the source and type (e.g., surface water, groundwater, sediment pond water) of Potentially Acid Generating (PAG) contact water. The plan describes the monitoring frequency, duration, and parameters, which vary by monitoring sub-program.</p> <p>Parameters of interest for Relocated Surface Excavated Material (RSEM) discharges containing PAG have currently been identified as Cd, Co, Cu, Zn, TSS, and pH (CEMP Appendix E, Table 2), in addition to a requirement for acute toxicity testing. These parameters are subject to reassessment as the Project gathers additional information from water quality and toxicity assessments.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 03	· Identification of the geographic extent and duration of the monitoring;	Ongoing	In Compliance	Appendix E of the CEMP identifies the geographic extent and duration of the water quality monitoring requirements based on the source and type of potential PAG contact water (e.g., surface water, groundwater, sediment pond water). The plan describes the monitoring frequency, duration, and parameters, which vary by monitoring sub-program. For example, the geographic extent of the monthly Peace River water quality monitoring program extends from a control point upstream of the construction footprint to a far-field location downstream of all RSEM discharges where the Peace River and RSEM discharge is completely mixed. The duration of the monitoring corresponds with the duration of RSEM sediment pond operation and discharge, except when monitoring poses an undue risk to worker health and safety.
EAC 03	· Baseline sampling of parameters;	Ongoing	In Compliance	Baseline sampling is specific to each type of monitoring program. For example, a quarterly baseline water quality monitoring program at sampling locations in the Peace River commenced in 2015 and is ongoing. Baseline sampling at groundwater wells installed at PAG-contact RSEM facilities was conducted prior to placement of PAG at those RSEMs.
EAC 03	· Monitoring of parameters;	Ongoing	In Compliance	Surface water monitoring in the Peace River, at runoff locations at the dam site, and in PAG-contact RSEM sediment ponds (as required by the CEMP, Appendix E) is ongoing.  Installation of groundwater wells at RSEM Areas R5a and R5b occurred between September and November 2016, with baseline monitoring completed shortly after installation and quarterly monitoring ongoing through 2017.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 03	<ul style="list-style-type: none"> <li>· Identification of potential mitigation measures if water quality impacts observed; and</li> </ul>	Ongoing	In Compliance	<p>Potential mitigation measures to be implemented if water quality impacts are observed are described in CEMP Appendix E, Section 7.4.</p> <p>For the reporting period, PAG-contact water quality exceedance events were noted associated with RSEM sediment pond discharges (at RSEM R5b and RSEM R6) and dam site road cuts (at River Road). Mitigations have been and continue to be implemented in response to these exceedances as per QP (ARD) recommendations.</p>
EAC 03	<ul style="list-style-type: none"> <li>· Process for implementing mitigation measures to address water quality impacts.</li> </ul>	Ongoing	In Compliance	<p>The process for implementing mitigation measures if water quality impacts are observed is described in CEMP Appendix E, Section 7.4.</p> <p>For the reporting period, PAG-contact water quality exceedance events were noted associated with RSEM sediment pond discharges (at RSEM R5b and RSEM R6) and dam site road cuts (at River Road). Mitigations have been and continue to be implemented in response to these exceedances as per QP (ARD) recommendations.</p>
EAC 03	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.	Completed	In Compliance	The Water Quality Monitoring Program is described in Section 4.14 and Appendix E - Section 7.3 of the CEMP. The draft CEMP was provided to regulatory agencies, governments and Aboriginal Groups on October 17, 2014.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 03	The EAC Holder must file the final water quality monitoring program with EAO, Environment Canada, Natural Resources Canada, MOE, FLNR, Aboriginal Groups, Peace River Regional District and City of Fort St. John a minimum of 30 days prior to commencement of construction.	Completed	In Compliance	The final (Revision 1) of the CEMP was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. Revision 2 of the CEMP was issued in February 2016 and Revision 4 in July 2016 (Revision 3 was not formally published).
EAC 03	The EAC Holder must report on the results annually to the EAO every June 1.	Ongoing	In Compliance	A water quality report covering 2016 construction activities was submitted to the EAO on March 31, 2017. The next report (covering 2017 construction activities) will be submitted to the EAO on or before June 1, 2018.
EAC 03	The final water quality monitoring program must be detailed in the Acid Rock Drainage and Metal Leachate Management Plan,	Completed	In Compliance	The water quality monitoring program is described in Section 4.14 and Appendix E - Section 7.0 of the CEMP (Revision 4).
EAC 03	and the EAC Holder must develop, implement and adhere to the final water quality monitoring program, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	<p>The water quality monitoring program, as outlined in Appendix E of the CEMP, is being implemented and adhered to, with responsibilities specific to BC Hydro and the Contractor as outlined.</p> <p>Water quality monitoring reports have been submitted annually on June 1 of each year to cover monitoring conducted in conjunction with construction in the preceding year. The next report (covering 2017 construction activities) will be submitted to the EAO on or before June 1, 2018.</p>
<b>FISH AND FISH HABITAT</b>				
EAC 04	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.	Ongoing	In Compliance	BC Hydro developed a Fisheries and Aquatic Habitat Management Plan and is implementing measures in accordance with the plan.
EAC 04	The Fisheries and Aquatic Habitat Management Plan must be developed by a QEP.	Completed	In Compliance	Section 8.0 of the Fisheries and Aquatic Habitat Management Plan (FAHMP) lists the QEPs who prepared the plan.



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 04	The Fisheries and Aquatic Habitat Management Plan must include at least the following: <ul style="list-style-type: none"> <li>Remove temporary structures as soon as they are no longer required.</li> </ul>	Ongoing	In Compliance	Section 4.5 of the CEMP (Fisheries and Aquatic Habitat Management) requires that Contractor Environmental Protection Plans (EPPs) identify how the Contractor will remove temporary structures as soon as they are no longer required. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 04	<ul style="list-style-type: none"> <li>Maintain a 15 m machine free zone adjacent to watercourses during reservoir clearing (as measured from the Ordinary High Water Mark).</li> </ul>	Ongoing	In Compliance	Section 4.5 of the CEMP (Fisheries and Aquatic Habitat Management) requires that Contractor EPPs identify that the Contractor will maintain a 15 m machine free zone adjacent to watercourses during reservoir clearing. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 04	<ul style="list-style-type: none"> <li>Place material relocation sites (R5a, R5b, and R6) 15 m back from the mainstem to avoid affecting Peace River fish habitat.</li> </ul>	Ongoing	In Compliance	Material relocation sites (R5a, R5b and R6) were designed to be at least 15 m from the mainstem of the Peace River as required by this condition.
EAC 04	<ul style="list-style-type: none"> <li>Contour mainstream bars to reduce potential for fish stranding, as advised by FLNR.</li> </ul>	Ongoing	In Compliance	Section 6.2.1.1 of the FAHMP (Peace River Channel Contouring and Side Channel Enhancement) describes the contouring of mainstream bars associated with this condition. Initial stages of mainstem channel contouring are underway with completion expected by 2021.
EAC 04	<ul style="list-style-type: none"> <li>Incorporate fish habitat features into the final capping of material relocation sites upstream of the dam.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 04	<ul style="list-style-type: none"> <li>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.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 04	<ul style="list-style-type: none"> <li>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</li> </ul>	Completed	In Compliance	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 was completed in the Spring of 2016.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	River.			
EAC 04	Incorporate fish habitat features into the final design of the Highway 29 roadway that would border the reservoir, east of Lynx Creek.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. Section 6.2.3.2 of the FAHMP (Highway 29 Realignment Fish Habitat) describes this requirement.
EAC 04	· 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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 04	· Contour Highway 29 borrow sites prior to decommissioning to provide littoral fish habitat in the reservoir.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 04	· Cap material repositioning areas with gravel and cobble, and contour to enhance fish habitat conditions.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 04	· 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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 04	· Increase wetted habitat by creating new wetted channels and restoring back channels on the south bank island downstream of the dam.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. Section 6.2.1.1 of the FAHMP (Peace River Channel Contouring and Side Channel Enhancement) describes new and restored back channels on the south bank island downstream of dam, associated with this condition.
EAC 04	· Enhance side channel complexes between the dam site and the confluence of the Peace and Pine rivers during low flows.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. Section 6.2.1.1 of the FAHMP (Peace River Channel Contouring and Side Channel Enhancement) describes the enhancement of side channels, associated with this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 04	· Manage reservoir fluctuation within a 1.8 m maximum normal operating range from the maximum operating level of 461.8 m.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 04	· If the reservoir deviates from the normal operating range, the EAC Holder must report the event in accordance with water licence requirements.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 04	· Develop a feasible strategy for the salvage and relocation of stranded fish in habitats that are at risk of dewatering.	Ongoing	In Compliance	Section 4.5 (Fisheries and Aquatic Habitat Management) of the CEMP requires that Contractor EPPs contain a feasible strategy for the salvage and relocation of stranded fish in habitats that are at risk of dewatering. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 04	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.	Ongoing	In Compliance	Construction footprints to reduce the harmful Project effects on fish and fish habitat are being managed in accordance with Fisheries Act authorizations 15-HPAC-00170 for site preparation activities and 15-HPAC-01160 for dam construction, reservoir preparation and filling, as well as any direction provided by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development.
EAC 04	This draft Plan must be provided to FLNR, MOE and Aboriginal Groups for review a minimum of 90 days prior to commencement of construction.	Completed	In Compliance	The Draft Fisheries and Aquatic Habitat Management Plan was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014.
EAC 04	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.	Completed	In Compliance	The Final Fisheries and Aquatic Habitat Management Plan was submitted to regulatory agencies, governments, and Aboriginal Groups on June 1, 2015.
EAC 04	The EAC Holder must develop, implement and adhere to the Final Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	The Fisheries and Aquatic Habitat Management Plan is being implemented as planned.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 05	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:	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 05	· Minimize levels of total dissolved oxygen gas in the tailwater;	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 05	· Minimize levels of dissolved gas super-saturation	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 05	These operational procedures must be developed in consultation with FLNR and MOE prior to reservoir filling, and include monitoring activities.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 06	The Fish Passage Management Plan must be developed by a QEP.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 06	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 06	· Address genetic differences exceeding beyond a pre-defined threshold (to be determined through discussion with the agencies) by implementing a translocation program.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 06	· Design the installation and use of a trap and haul facility.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 06	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 06	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 06	The EAC Holder must develop, implement and adhere to the final Fish Passage Management Plan, and any amendments, to the satisfaction of EAO.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 07	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.	Ongoing	In Compliance	<p>A Fisheries and Aquatic Habitat Monitoring and Follow-up Program (FAHMFP) was submitted to the EAO on December 22, 2015.</p> <p>The FAHMFP provides for: a) monitoring fish and fish habitat during construction and operation of the Site C Clean Energy Project (the Project), and b) an outline for a procedure to evaluate and implement future mitigation and compensation options during operation of the Project. The types of monitoring and the outline of procedures for evaluation and implementation required by Condition 7 of the EAC are provided for in this FAHMFP. The monitoring will provide information that can be used to assess the effectiveness of the mitigation measures described in the Fisheries and Aquatic Habitat Management Plan.</p>
EAC 07	The Fisheries and Aquatic Habitat Monitoring and Follow-up Program must be developed by a QEP.	Completed	In Compliance	Section 7.0 of the FAHMFP lists the QEPs who prepared the program.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 07	The Program must include monitoring during construction for at least the following: <ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	These requirements are addressed in Mon-3 Peace River Physical Habitat Monitoring and Follow-up Program, and Mon-12 Site C Fish Stranding Monitoring Program, which are included in the FAHMFP as Appendices C and M, respectively. Data collection/monitoring for Mon-3 is scheduled to occur in future years. Monitoring of fish stranding sites is ongoing for Mon-12, the fish stranding monitoring program.
EAC 07	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. This requirement is addressed in Mon-3 Peace River Physical Habitat Monitoring Program, which is included as Appendix C of the FAHMFP. Data collection/monitoring for Mon-3 is scheduled to occur in future years.
EAC 07	<ul style="list-style-type: none"> <li>· 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 procedures.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. This requirement is addressed in Mon-3 Peace River Physical Habitat Monitoring Program, which is included as Appendix C of the FAHMFP. Data collection/monitoring for Mon-3 is scheduled to occur in future years.
EAC 07	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	These requirements are addressed in Mon-3 Peace River Physical Habitat Monitoring, and Mon-12 Site C Fish Stranding Monitoring, included as Appendices C and M of the FAHMFP. Data collection/monitoring for Mon-3 is scheduled to occur in future years. Monitoring of fish stranding sites is ongoing for Mon-12, the fish stranding monitoring program.
EAC 07	<ul style="list-style-type: none"> <li>· Total dissolved gas.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. This requirement is addressed in Mon-11 Site C Total Dissolved Gas Monitoring Program, which is included as Appendix L of the FAHMFP. Data collection/monitoring for Mon-11 is scheduled to occur in future years.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 07	<p>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:</p> <ul style="list-style-type: none"> <li>· Continued effectiveness of environmental protection measures undertaken during construction to mitigate effects on fish and fish habitat.</li> </ul>	Ongoing	In Compliance	This requirement will be met through implementation of the Site C FAHMFP as described in FAHMFP Section 6 and the supporting monitoring plans, which are included as Appendices A - Q of the FAHMFP.
EAC 07	<ul style="list-style-type: none"> <li>· Total dissolved gas.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. This requirement is addressed in Mon-11 Site C Total Dissolved Gas Monitoring Program, which is included as Appendix L of the FAHMFP. Data collection/monitoring for Mon-11 is scheduled to occur in future years.
EAC 07	<ul style="list-style-type: none"> <li>· Meeting monitoring commitments as per the Fish Passage Management Plan.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. This requirement is addressed in: 1) Mon-13 Site C Fishway Effectiveness Monitoring; 2) Mon-14 Site C Trap and Haul Fish Release Location Monitoring Program; and 3) MON-15 Site C Small Fish Species Translocation Monitoring Program. These monitoring plans are included as Appendices N – P of the FAHMFP. Data collection/monitoring for Mon-13, Mon-14, and Mon-15 are scheduled to occur in future years.
EAC 07	<ul style="list-style-type: none"> <li>· Implement on-site monitoring of fish habitat areas in the side channel and mainstream margins, resulting from water fluctuations.</li> </ul>	Ongoing	In Compliance	These requirements are addressed in Mon-3 Peace River Physical Habitat Monitoring, and Mon-12 Site C Fish Stranding Monitoring, included as Appendices C and M of the FAHMFP. Data collection/monitoring for Mon-3 is scheduled to occur in future years. Monitoring of fish stranding sites is ongoing for Mon-12, the fish stranding monitoring program.
EAC 07	<ul style="list-style-type: none"> <li>· Fish and fish habitat productivity, for reservoir, reservoir tributaries, and for downstream Peace River.</li> </ul>	Ongoing	In Compliance	This requirement is addressed in the following programs (status in parenthesis): 1) Mon-1a Site C Reservoir Fish Community Monitoring Program (scheduled to occur in future years)

No.	EAC Condition	Implementation Status	Compliance Status	Description
				2) Mon-1b Site C Reservoir Tributaries Fish Community and Spawning Monitoring Program (Peace River Bull Trout Spawning Assessment is ongoing; Site C Reservoir Tributaries fish population indexing survey has been completed) 3) Mon-2 Peace River Fish Community Monitoring Program (ongoing) 4) Mon-3 Peace River Physical Habitat Monitoring Program (scheduled to occur in future years) 5) Mon-4 Site C Reservoir Riparian Vegetation Monitoring Program (scheduled to occur in future years) 6) Mon-5 Peace River Riparian Vegetation Monitoring Program (scheduled to occur in future years) 7) Mon-6 Site C Reservoir Fish Food Organisms Monitoring Program (scheduled to occur in future years) 8) Mon-7 Peace River Fish Food Organisms Monitoring Program (scheduled to occur in future years) 9) Mon-8 Site C Reservoir Water and Sediment Quality Monitoring Program (general water and sediment quality monitoring, temperature monitoring, and turbidity monitoring are ongoing). 10) Mon-9 Peace River Water and Sediment Quality Monitoring Program (scheduled to occur in future years) The monitoring plans are included as Appendices A – J of the Fisheries and Aquatic Habitat Monitoring and Follow-up Program.
EAC 07	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.	Completed	In Compliance	This requirement is addressed in Section 7.0 of the FAHMF (Framework to Implement Future Compensation Actions).



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 07	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).	Ongoing	In Compliance	BC Hydro submits Annual Reports for the FAHMFP on March 1 each year, with the first report submitted March 1, 2017, and the most recent on March 1, 2018 These reports describe the status of each component of the FAHMFP.
EAC 07	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.	Completed	In Compliance	The draft FAHMFP was submitted to regulatory agencies and Aboriginal Groups on June 1, 2015.
EAC 07	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.	Completed	In Compliance	The final FAHMFP was submitted to regulatory agencies and Aboriginal Groups on December 22, 2015.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 07	The EAC Holder must develop, implement and adhere to the final Fisheries and Aquatic Habitat Monitoring and Follow-up Program, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	<p>BC Hydro submitted the 2015-2016 Annual Report for the FAHMFP on March 1, 2017. The report describes the status of each component of the FAHMFP.</p> <p>All of the monitoring programs that were scheduled to occur in 2016 were implemented.</p> <p>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 Fisheries and Oceans Canada (DFO) staff to:</p> <ul style="list-style-type: none"> <li>- review the approach and outcome of mitigation and monitoring plans, provide technical recommendations to BC Hydro and regulatory agencies, and endorse relevant plans,</li> <li>- provide technical advice during plan implementation,</li> <li>- provide recommendations for adaptive management where needed, and</li> <li>- provide a mechanism to resolve areas of disagreement on technical or policy matters.</li> </ul>

No.	EAC Condition	Implementation Status	Compliance Status	Description
<b>VEGETATION AND ECOLOGICAL COMMUNITIES</b>				
EAC 08	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.	Completed	In Compliance	<p>The Soil Management, Site Restoration, and Re-vegetation Plan is described in Section 4.12 of the CEMP for the Project. The final CEMP (Revision 1) was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. Revision 2 of the CEMP was issued in February 2016 and Revision 4 in July 2016 (Revision 3 was not formally published). As of February 2018 Revision 4 remains applies to the project. Revision 4 added new soil management and site restoration requirements in response to changes requested by the Vegetation and Wildlife Technical Committee (VWTC) (established in support of meeting conditions related to Vegetation and Wildlife).</p> <p>In addition to improving the CEMP requirements regarding soil management and site restoration, in July 2017 BC Hydro retained a new QEP responsible for site restoration and invasive weed management, based out of the Construction Office at site.</p>
EAC 08	The Soil Management, Site Restoration, and Re-vegetation Plan must be developed by a QEP.	Completed	In Compliance	<p>The Soil Management, Site Restoration, and Re-vegetation Plan is described in Section 4.12 of the Construction Environmental Management Plan (CEMP). Section 6.0 of the CEMP lists the QEPs who prepared the plan. In 2016, the Soil Management, Site Restoration, and Re-vegetation Plan was reviewed and revised by the VWTC composed of members from the MOE, the FLNR and Canadian Wildlife Services. No revisions to this plan were issued in 2017.</p> <p>In addition to improving the CEMP requirements regarding soil management and site restoration, in July 2017 BC Hydro retained a new QEP responsible for site restoration and invasive weed management, based out of the Construction Office at site.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 08	The Soil Management, Site Restoration, and Re-vegetation Plan must include at least the following: <ul style="list-style-type: none"> <li>· Soil storage and handling measures that will maximize native soil use in restoration efforts, and manage incidental introduction and spread of invasive species.</li> </ul>	Ongoing	In Compliance	Section 4.12 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs. BC Hydro also developed the Invasive Weed Mitigation and Adaptive Management Plan (Rev 6 August 2017) and it has been issued to contractors to incorporate into their plans.
EAC 08	<ul style="list-style-type: none"> <li>· Manage run-off so that it is directed around soil stockpiles and areas where excavation, spoil placement, and staging activities occur.</li> </ul>	Ongoing	In Compliance	Section 4.3 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 08	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	Section 4.12 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 08	<ul style="list-style-type: none"> <li>· Identify native seed mixes used for site restoration and revegetation purposes.</li> </ul>	Ongoing	In Compliance	Appendix H of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 08	<ul style="list-style-type: none"> <li>· Identify traditional use plants for revegetation purposes, in consultation with Aboriginal Groups.</li> </ul>	Ongoing	In Compliance	Plant species of high traditional Aboriginal value are being identified (per EAC 25) and will be included in the mix of species considered for re-vegetation activities conducted under the Soil Management, Site Restoration and Revegetation Plan (Appendix H of the CEMP). See EAC conditions 25 and 26 below.
EAC 08	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	Completed	In Compliance	The Soil Management, Site Restoration, and Re-vegetation Plan is described in Section 4.12 of the CEMP for the Project. The Draft CEMP was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014

No.	EAC Condition	Implementation Status	Compliance Status	Description
	a minimum of 90 days prior to the commencement of construction.			
EAC 08	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.	Completed	In Compliance	The final (Revision 1) of the CEMP was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. Revision 2 of the CEMP was issued in February 2016 and Revision 4 in July 2016 (Revision 3 was not formally published).
EAC 08	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.	Ongoing	In Compliance	Appendix H of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 09	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.	Ongoing	In Compliance	Section 4.15 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 09	The Vegetation and Invasive Plant Management Plan must be developed by a QEP.	Completed	In Compliance	The Vegetation and Invasive Plant Management Plan is described in Section 4.15 of the Construction Environmental Management Plan (CEMP). Section 6.0 of the CEMP lists the QPs who prepared the plan.  In addition to improving the CEMP requirements regarding soil management and site restoration, in July 2017 BC Hydro retained a new staff QEP person responsible for site restoration and invasive weed management, based out of the Construction Office at site.
EAC 09	The Vegetation and Invasive Plant Management Plan must include at least the following: <b>Invasive Species</b>	Completed	In Compliance	Surveys of existing invasive species populations are required as part of all EPPs, and therefore before all works that may involve disturbing soil or vegetation.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	<ul style="list-style-type: none"> <li>Surveys of existing invasive species populations prior to construction.</li> </ul>			
EAC 09	<ul style="list-style-type: none"> <li>Invasive plant control measures to manage established invasive species populations and to prevent invasive species establishment.</li> </ul>	Ongoing	In Compliance	<p>Section 4.15 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.</p> <p>The Invasive Weed Mitigation and Adaptive Management Plan (IWMAMP) includes herbicide based invasive plant management in the dam site area, and the expansion of the vehicle cleanliness program, including the use of vehicle inspection forms. Rev 6 of the IWMAMP was completed and has been rolled out to some contractors.</p> <p>To date, contractors have completed the following: invasive plant removal through hand pulling, on-going inventories of invasive plant locations, extensive hydroseeding of exposed slopes across the Project area, regular vehicle inspections and cleaning through various methods to ensure vehicles are clean and free of dirt and invasive plants when transitioning between sites and into the Project area. BC Hydro implemented an Invasive Species Management Contractor that completed a control program across the dam site in September and October 2017.</p> <p>The Main Civil Works contractor has retained an invasive plant species specialist to advise on invasive plant species management. BC Hydro installed two temporary wash stations at Gate A and Gate B in July 2017. The temporary wash stations were decommissioned at the onset of winter conditions in 2017 and procurement is ongoing for a permanent wash station to be installed for spring 2018. The procurement process is ongoing for an Invasive Species Management Contractor to be sourced by BC Hydro and</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
				utilized on the dam site, transmission line, reservoir, Hwy 29 realignment and other off-site locations to begin/continue invasive species management for the remainder of the project lifespan.
EAC 09	<b>Rare Plants and Sensitive Ecosystems</b> · 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	Completed	In Compliance	Field surveys in support of expanding modelling to improve the identification of rare and sensitive plant communities were completed in 2015. The results of these field surveys are described in the 2015 Annual Report for the VWMMP, provided to agencies on January 22, 2016.
EAC 09	· 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.	Ongoing	In Compliance	Field surveys for rare plants along access roads, the Highway 29 realignment corridors, and portions of the transmission line not previously surveyed were conducted in 2017.  The complete 2017 program report will be provided in the 2017 Annual Report for the VWMMP, which will be provided to agencies by 31 March 2018.
EAC 09	These pre- construction surveys must target rare plants as defined in Section 13.2.2 of the EIS —including vascular plants, mosses, and lichens.	Ongoing	In Compliance	Pre-construction surveys are targeting rare plants as defined in Section 13.2.2 of the EIS. The complete 2017 program report will be provided in the 2017 Annual Report for the VWMMP, which will be provided to agencies by 31 March 2018.
EAC 09	· 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.	Ongoing	In Compliance	A spatial database of rare plant occurrences in the vicinity of Project Components is captured on the Environmental Features Map. The Environmental Features Map was updated with the 2017 rare plant data in January 2018 and provided to contractors for use in planning.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 09	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.	Ongoing	In Compliance	A spatial database of rare plant occurrences in the vicinity of Project Components is captured on the Environmental Features Map. The Environmental Features Map was updated with the 2017 rare plant data in January 2018 and provided to contractors for use in planning. The 2017 rare plant data were submitted to the Program Botanist at the BC Conservation Data Center, MOE on 2 November 2, 2017 and February 6, 2018.
EAC 09	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.	Ongoing	In Compliance	BC Hydro finalized the layout of transmission line tower pads, access roads and laydown areas to avoid as many rare plant occurrences as feasible. In 2017, a "no disturbance" buffer was established around a rare plant occurrence located close to a planned access road within the transmission line ROW. This buffer was established to avoid impacting this occurrence, and resulted in the access road being moved.
EAC 09	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.	Ongoing	In Compliance	No incidents of tufa seeps were recorded for areas cleared in winter 2016/2017 or 2017/2018. Tufa seeps are located on the south bank of the eastern reservoir. This area will be cleared in the fall of 2018. At the time of clearing, signage flagging will be installed to indicate boundaries of the exclusion area.
EAC 09	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).	Ongoing	In Compliance	BC Hydro engaged the services of two rare plant biologists to design the rare plant translocation program. Development of the program began in 2016 following the steps outlined in the VWMMP (June 5, 2015) and in "Guidelines for Translocation of Plant Species at Risk in British Columbia", by C. Maslovat, C. 2009. The 2017 Annual Report for the VWMMP, submitted to regulatory agencies and Aboriginal Groups by March 31, 2018, outlines the status of the program as of December 2017.



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 09	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.	Completed	In Compliance	The Vegetation and Invasive Plant Management Plan is described in Section 8.1 of 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.
EAC 09	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 prior to construction and operation phases.	Completed	In Compliance	The final Vegetation and Invasive Plant Management Plan was submitted to regulatory agencies and Aboriginal Groups on June 5, 2015.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 09	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.	Ongoing	In Compliance	<p>Section 4.15 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.</p> <p>The IWMAMP includes herbicide based invasive plant management in the dam site area, and the expansion of the vehicle cleanliness program, including the use of vehicle inspection forms. Rev 6 of the IWMAMP was completed and rolled out to some contractors onsite</p> <p>To date, contractors have completed the following: invasive plant removal through hand pulling, on-going inventories of invasive plant locations, extensive hydroseeding of exposed slopes across the Project area, regular vehicle inspections and cleaning through various methods to ensure vehicles are clean and free of dirt and invasive plants when transitioning between sites and into the Project area. BC Hydro implemented an Invasive Species Management Contractor that completed a control program across the dam site in September and October 2017. The Main Civil Works contractor has retained an invasive plant species specialist to advise on invasive plant species management. BC Hydro installed two temporary wash stations at Gate A and Gate B in July 2017. These were removed at the onset of winter conditions in 2017 and procurement is ongoing for a permanent wash station to be installed for spring 2018. The procurement process is ongoing for an Invasive Species Management Contractor to be sourced by BC Hydro and utilized on the dam site, transmission line, reservoir, Hwy 29 realignment and other off-site locations to begin/continue invasive species management for the remainder of the project lifespan.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 10	The EAC Holder must fund or undertake directly with the use of a Rare Plant Botanist the following, during construction: <ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	The requirement for targeted surveys in the Regional Assessment Area (RAA) is addressed in Section 7.4.7 Part B Supplemental Regional Rare Plant Surveys (see also S. 8.2.2) of the VWMMP.  Targeted surveys in the RAA began in 2016 and were completed in 2018. The final report of the targeted rare plant surveys in the RAA will be included in the 2017 Annual Report for the VWMMP, submitted to regulatory agencies and Aboriginal Groups by March 31, 2018.
EAC 10	<ul style="list-style-type: none"> <li>· A study focused on clarifying the taxonomy of Ochroleucus bladderwort (<i>Utricularia ochroleuca</i>), including field, herbaria, and genetic work in consultation with FLNR and the MOE (BC Conservation Data Centre).</li> </ul>	Completed	In Compliance	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.
EAC 10	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.	Completed	In Compliance	Results of the targeted surveys are provided to FLNR and MOE in the 2017 Annual Report for the VWMMP. The 2017 rare plant data were submitted to the Program Botanist at the BC Conservation Data Center, MOE on 2 November 2017 and 6 February 2018. As noted above, no further work is required on taxonomy of Ochroleucus bladderwort.
EAC 11	The 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: <ul style="list-style-type: none"> <li>· Assistance (financial or in-kind) to the managing organization of suitable habitat enhancement projects in the RAA (RAA as defined in the amended EIS).</li> </ul>	Ongoing	In Compliance	BC Hydro is finalizing an experimental rare plant translocation program, which will enhance habitat by increasing the density of rare plants in suitable habitat, using propagules that were salvaged from areas that will be impacted by the Project. Work to salvage rare plants under a draft version of this program occurred in summer 2017.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 11	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.	Ongoing	In Compliance	In 2014 BC Hydro purchased the Marl Fen property, located outside Hudson's Hope. This property supports several rare plant species. This property is being managed to maintain rare plants along with other wildlife and vegetation values. Results of surveys documenting species that are using the property are provided in the 2015 Annual Reports for the VWMMP.
EAC 11	The EAC Holder must engage with FLNR, MOE and Aboriginal Groups with regard to the development of the compensation program.	Ongoing	In Compliance	The compensation plan is described in the VWMMP, Section 7.4.4 Part D. 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 regulatory agencies and Aboriginal Groups on June 5, 2015.
EAC 12	The EAC Holder must develop a Wetland Mitigation and Compensation Plan.	Ongoing	In Compliance	The Wetland Mitigation and Compensation Plan is described in Section 7.3 (see also Section 8.4) of the VWMMP.
EAC 12	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).	Ongoing	In compliance	Drafts of the assessment of wetland function were provided in the 2015 and 2016 Annual Report for the VWMMP. A revised assessment of wetland function is provided in the 2017 Annual Report for the VWMMP.
EAC 12	The Wetland Mitigation and Compensation Plan must be developed by a QEP with experience in wetland enhancement, maintenance and development.	Completed	In Compliance	The Wetland Mitigation and Compensation Plan is described in Section 7.3 (see also Section 8.4) of the VWMMP. Section 2.3 of the Plan lists the QPs who prepared the plan.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 12	The Wetland Mitigation and Compensation Plan must include at least the following: <ul style="list-style-type: none"> <li>· Information on location, size and type of wetlands affected by the Project;</li> </ul>	Ongoing	In Compliance	Data on wetland location, size and type gathered during baseline surveys are summarized in Section 7.3.3 of the VWMMP.  To gather additional site specific data on wetlands within the Project footprint, BC Hydro, in cooperation with Ducks Unlimited, is developing a wetland monitoring plan as a component of the assessment of wetland function. Wetland monitoring has been occurring in various aspects of the Local Assessment Area (as defined in the Project's Environmental Impact Statement) prior to and during construction, but this monitoring plan will provide additional structure to identify and fill key information gaps needed to better understand Project impacts to wetlands and to help inform the determination of appropriate compensation. The wetland monitoring plan will be completed by Spring of 2018.
EAC 12	<ul style="list-style-type: none"> <li>· If roads cannot avoid wetlands, culverts will be installed under access roads to maintain hydrological balance, and sedimentation barriers will be installed;</li> </ul>	Ongoing	In Compliance	Culverts are installed under access roads where necessary to maintain hydrological balance, and sedimentation barriers installed as required, as described in Section 4.4 of the CEMP.
EAC 12	<ul style="list-style-type: none"> <li>· Stormwater management will be designed to control runoff and direct it away from work areas where excavation, spoil placement, and staging activities occur.</li> </ul>	Ongoing	In Compliance	Stormwater across the site is managed by contractors under the Erosion and Sediment Control Program. Management includes installation of sedimentation ponds and interception ditches. Interception ditches capture and divert stormwater away from construction areas into the sedimentation ponds. Water from the sedimentation ponds is discharged into surrounding environment.
EAC 12	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	BC Hydro has engaged a forestry consultant to design access roads and clearing prescriptions along the transmission line. A hydrologist on staff with the forestry consultant has reviewed the design to ensure that the hydrology of wetlands along the transmission line is maintained. Transmission line clearing is expected to be complete by fall 2018 with the balance of access road construction works are

No.	EAC Condition	Implementation Status	Compliance Status	Description
				expected to be complete by fall 2018.
EAC 12	<ul style="list-style-type: none"> <li>· 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).</li> </ul>	Ongoing	In Compliance	Section 4.13 of the CEMP requires contractors to follow approved work practices and BMPs with regard to potentially harmful or toxic substances. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 12	<ul style="list-style-type: none"> <li>· A defined mitigation hierarchy that prioritizes mitigation actions to be undertaken, including but not limited to:                             <ul style="list-style-type: none"> <li>o Avoid direct effects where feasible;</li> <li>o Minimize direct effects where avoidance is not feasible;</li> <li>o Maintain or improve hydrology where avoidance is not feasible;</li> <li>o Replace like for like where wetlands will be lost, in terms of functions and compensation in terms of area;</li> <li>o Improve the function of existing wetland habitats; and</li> <li>o Create new wetland habitat</li> </ul> </li> </ul>	Ongoing	In Compliance	<p>The CEMP describes how impacts to wetlands are avoided or minimized to the degree feasible, including through the maintenance or improvement of hydrology.</p> <p>In 2016 BC Hydro and Ducks Unlimited initiated the process of identifying wetland mitigation opportunities that could become components of the wetland mitigation plan. To date, BC Hydro has secured 2 properties for wetland compensation and is in negotiations to secure a third property to contribute towards fulfilling the plan requirements. Other properties are also being investigated.</p> <p>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 the 8 year construction period, and will contribute toward wetland compensation requirements.</p>
EAC 12	The EAC Holder must monitor construction and operation activities that could cause changes in wetland functions.	Ongoing	In Compliance	BC Hydro requires its contractors to describe in their EPPs construction activities that could cause changes in wetland functions, including how those construction activities will be monitored and at what frequency. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 12	The EAC Holder must provide this draft Wetland Mitigation and Compensation 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 any activity affecting the wetlands.	Completed	In Compliance	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.
EAC 12	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.	Completed	In Compliance	The final VWMMP was submitted to regulatory agencies and Aboriginal Groups on June 5, 2015.
EAC 12	The EAC Holder must develop, implement and adhere to the final Wetland Mitigation and Compensation Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	BC Hydro has partnered with Ducks Unlimited and procured property to start fulfilling the Plan's wetland compensation requirements. BC Hydro is also currently reviewing the wetland mitigation and compensation plan with the VWTC with the goal of improving the Plan. Work on completing reviews of the Plan and implementing more work related to wetland compensation is ongoing
EAC 13	The EAC Holder must develop the Vegetation Clearing and Debris Management Plan.	Completed	In Compliance	Revision 1 of the VCDMP was submitted to regulatory agencies and Aboriginal Groups on June 5, 2015.
EAC 13	The Vegetation Clearing and Debris Management Plan must be developed by a QEP.	Completed	In Compliance	Section 11.0 of the VCDMP lists the QPs who prepared the plan.
EAC 13	The Vegetation Clearing and Debris Management Plan must ensure that clearing would be conducted in the approved Project Activity Zone only,	Ongoing	In Compliance	BC Hydro prepares the clearing plans for all work on the Site C Project. As part of this plan preparation, BC Hydro ensures that clearing boundaries are within the Project activity Zone.
EAC 13	and construction would be monitored by the QEP to prevent any unnecessary clearing.	Ongoing	In Compliance	BC Hydro requires its contactors to prepare EPPs that include an explanation of environmental monitoring effort and that this monitoring occur by a QEP or under the supervision of a

No.	EAC Condition	Implementation Status	Compliance Status	Description
				QEP.
EAC 13	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.	Ongoing	In Compliance	BC Hydro acknowledges and understands this condition. Only areas within the new road development footprint have been grubbed during all transmission clearing completed to-date.
EAC 13	· Where conductor clearance allows, the EAC Holder must not remove riparian vegetation along watercourses or waterbodies crossed by the transmission corridor.	Ongoing	In Compliance	BC Hydro acknowledges and understands this condition. A special prescription is in place for transmission line clearing that requires retention of willow species.
EAC 13	To reduce erosion along steep or unstable slopes, the EAC Holder must apply best management practices for reservoir clearing along riparian areas and watercourses.	Ongoing	In Compliance	The Riparian Vegetation Management Area (RVMA) buffer is established 15m back from the Ordinary High Water Mark(OHWM). Terrain Stability Field Assessments (TSFAs) are done by a terrain specialist to ensure any clearing on or near Terrain Class V (high likelihood of landslide initiation following timber harvesting or road construction) areas will not increase slope instability. Areas of potential instability will be removed until a TSFA can be completed. Steep areas will be handfelled (fall and leave) where safe to do so. Areas deemed unsafe or unstable will be left standing until inundation occurs. Boundary limits for clearing activities are flagged (orange ribbon) in the field.
EAC 13	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.	Ongoing	In Compliance	Clearing plans for the dam site area Moberly River drainage, and eastern reservoir have all had extensive Terrain Stability Field Assessments completed. All layout has incorporated the recommendations of a geotechnical specialist and a spreadsheet recording recommendations and how they have been addressed in the field (with associated map references) has been developed by our forestry consultant. BC Hydro has also been provided the clearing plans and TSFA reports to review as the owner's geotechnical specialists.



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 13	Retention of non-merchantable trees and vegetation in riparian areas within a 15 m buffer from the Ordinary High Water Mark.	Ongoing	In Compliance	Clearing prescriptions include descriptions on how Riparian Vegetation Management Area clearing is to be conducted and the level of Riparian Vegetation Management Area (RVMA) retention within each treatment unit (TU). Handfalling within the 15m RVMA buffer will occur where equipment can't reach in to remove trees. RVMA buffer is flagged in the field, 15m back from the Ordinary High Water Mark (OHWM) (as per the Approved Work Practices for Managing Riparian Vegetation Guide, 26 Oct 2003). Site specific prescriptions for allowing limited machine access into certain parts of the RVMA will be done by a QEP. Road and skid trail crossings allowing access through the RVMA will be at predetermined locations and shown on the clearing plan maps.
EAC 13	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.	Ongoing	In Compliance	Clearing prescriptions include descriptions on how RVMA clearing is to be conducted and the level of RVMA retention within each treatment unit (TU). Handfalling within the 15m RVMA buffer will occur where equipment can't reach in to remove trees. In TU 1 (clear merchantable timber only) areas, only merchantable trees will be removed from the RVMA. Non-merchantable timber and shrubs will be retained where feasible to do so. In TU2 (clear all), TU3 (cable), TU4 (helicopter) and TU5 (handfall & pile/burn) areas, no conservation is planned above 448m elevation.
EAC 13	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.	Completed	In Compliance	The draft VCDMP was submitted to regulatory agencies, governments, and Aboriginal Groups October 17, 2014.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 13	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.	Completed	In Compliance	The final VCDMP was submitted to regulatory agencies, governments, and Aboriginal Groups on June 5, 2015, respectively.
EAC 13	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	Ongoing	In Compliance	The VCDMP is being implemented as planned. In late 2017 BC Hydro identified the need for several revisions to the VCDMP and initiated a thorough review of this Plan. As of Feb 2018 the Plan revisions were not yet complete.
EAC 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.	Completed	In Compliance	This requirement is addressed in Section 7.4.4, Part C of the VWMMP.
EAC 14	The Vegetation and Ecological Communities Monitoring and Follow-up Program must be developed by a QEP.	Completed	In Compliance	The Vegetation and Ecological Communities Monitoring and Follow-up Program is described in Section 7.4.4, Part C of the VWMMP. Section 2.3 of the VWMMP lists the QPs who prepared the plan.
EAC 14	The Vegetation and Ecological Communities Monitoring and Follow-up Program must include at least the following: <ul style="list-style-type: none"> <li>· Definition of the study design for the rare plant translocation program (see condition 9).</li> </ul>	Ongoing	In Compliance	Development of the Rare Plant Translocation program began in 2016. The 2017 Annual Report for the VWMMP, to be submitted by March 31, 2018, provides an update on the status of the translocation program.
EAC 14	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	Development of the Rare Plant Translocation program began in 2016. The 2017 Annual Report for the VWMMP, to be submitted by March 31, 2018, provides an update on the status of the translocation program.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 14	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	The monitoring program will document a suite of measurable parameters designed to evaluate the efficacy of translocation methods and management in relation to the stated objectives of the program. The monitoring program is in development and will not be required until after planting of propagated rare translocated plants. The rare plant translocation program is currently continuing to collect propagules (seeds, whole plants) and identify suitable planting sites in 2017 and 2018.
EAC 14	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.	Ongoing	In Compliance	BC Hydro provided the 2015 Annual Report on the implementation of the VWMMP on January 22, 2016. The 2016 Annual Report for the VWMMP was submitted to regulatory agencies and Aboriginal Groups on March 31, 2017. The 2017 Annual Report for the VWMMP will be submitted by March 31, 2018.
EAC 14	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.	Completed	In Compliance	This requirement is addressed in Section 7.4.4, Part C of 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.
EAC 14	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.	Completed	In Compliance	The final VWMMP was submitted to regulatory agencies and Aboriginal Groups on June 5, 2015.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 14	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.	Ongoing	In Compliance	BC Hydro is adhering to the Vegetation and Ecological Communities Monitoring and Follow-up Program, as shown by activities described in the Annual Report for the VWMMP. The 2017 Annual Report for the VWMMP will be submitted by March 31, 2018.
<b>WILDLIFE RESOURCES</b>				
EAC 15	The EAC Holder must develop a Wildlife Management Plan.	Completed	In Compliance	The Wildlife Management Plan is described in Sections 3.0 and 4.17 of the CEMP and Section 8.6.2 of the VWMMP.
EAC 15	The Wildlife Management Plan must be developed by a QEP.	Completed	In Compliance	The Wildlife Management Plan is described in Sections 3.0 and 4.17 of the CEMP and Section 8.6.2 of the VWMMP. Section 6.0 of the CEMP and Section 2.3 of the VWMMP lists the QEPs who prepared the plans.
EAC 15	The Wildlife Management Plan must include at least the following: <ul style="list-style-type: none"> <li>· 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.</li> </ul>	Completed	In Compliance	Results of the field work completed to verify the modelled results for surveyed species at risk was included in the 2015 Annual Report for the VWMMP.
EAC 15	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.	Completed	In Compliance	Resulting data were used to update the models and the ranking of habitats. BC Hydro is using this information to assess habitat losses and plan for mitigation efforts.
EAC 15	<ul style="list-style-type: none"> <li>· Measures to avoid, if feasible, constructing in sensitive wildlife habitats. If avoiding sensitive wildlife habitats is not feasible, condition 16 applies.</li> </ul>	Ongoing	In Compliance	<p>BC Hydro is avoiding, where feasible, construction in sensitive wildlife habitats.</p> <p>For example, BC Hydro relocated work zones within the Portage Mountain quarry to avoid known bat hibernacula. BC Hydro also implemented buffer zones and no-activity windows to avoid disturbing hibernating bats adjacent to the quarry. Required general measures for mitigating impacts to sensitive wildlife habitat features are described in Section</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
				4.17 of the CEMP.
EAC 15	<ul style="list-style-type: none"> <li>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.</li> </ul>	Ongoing	In Compliance	<p>Section 4.18 of the CEMP requires contractors to identify Restricted Activity and Work Avoidance Zones and the implementation of buffer zones.</p> <p>BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.</p>
EAC 15	<ul style="list-style-type: none"> <li>Protocol for the application of construction methods, equipment, material and timing of activities to mitigate adverse effects to wildlife and wildlife habitat.</li> </ul>	Ongoing	In Compliance	<p>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.</p> <p>BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.</p>
EAC 15	<ul style="list-style-type: none"> <li>Protocol to ensure that lighting is focused on work sites and away from surrounding areas to manage light pollution and disturbance to wildlife.</li> </ul>	Ongoing	In Compliance	<p>The requirement to focus lighting into work areas is included in Section 4.17 of the CEMP.</p> <p>BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs. Lighting was focused on the work site in all construction locations.</p>
EAC 15	<ul style="list-style-type: none"> <li>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.</li> </ul>	Ongoing	In Compliance	<p>The requirement to focus lighting into work areas is included in Section 4.17 of the CEMP.</p> <p>BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs. Lighting was focused on the work site in all construction locations.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 15	<p>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.</p>	Completed	In Compliance	<p>The requirement for all workers to receive environmental training is included in Section 3.0 of the CEMP V4. Section 4.17 of the CEMP V4 clarifies some of the activities that are prohibited and the training that is required:</p> <p>"Project workers shall be prohibited from hunting while on construction sites, Project built roads or worker housing sites, Cleaning game at construction sites Project built roads or worker housing sites. All workers are required to attend both a BC Hydro 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."</p>
EAC 15	<p>The EAC Holder must ensure that all workers are familiar with the Wildlife Management Plan.</p>	Ongoing	In Compliance	<p>Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation EPPs.</p>
EAC 15	<p>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.</p>	Completed	In Compliance	<p>The Wildlife Management Plan is described in Section 4.17 of the CEMP and Section 8.6.2 of the VWMMP. The Draft CEMP was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014. 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.</p>
EAC 15	<p>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.</p>	Completed	In Compliance	<p>The final (Revision 1) of the CEMP was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. The final VWMMP was submitted to regulatory agencies and Aboriginal Groups on June 5, 2015.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 15	The EAC Holder must develop, implement and adhere to the final Wildlife Management Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 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.	Ongoing	In compliance	All required measures of EAC condition 16 are identified in the VWMMP, as described below.
EAC 16	The Vegetation and Wildlife Mitigation and Monitoring Plan must include the following compensation measures: <ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	Section 8.7.2 of the VWMMP sets out the specifications for the new wetland area (Area A of the dam site area), which is to include fish-free areas. Additional compensation options for wetlands, still in development, will also include fish-free areas.
EAC 16	<ul style="list-style-type: none"> <li>· Mitigation for the loss of snake hibernacula, artificial dens must be included during habitat compensation.</li> </ul>	Ongoing	In Compliance	BC Hydro is currently negotiating a contract to develop and implement construction and monitoring of artificial snake hibernacula. The plan developed by the consultant will be reviewed by the VWTC. Implementation is planned to occur in 2018 after review by the VWTC is complete.
EAC 16	<ul style="list-style-type: none"> <li>· Management of EAC Holder-owned lands adjacent to the Peace River suitable as breeding habitat for Northern Harrier and Short-eared Owl.</li> </ul>	Ongoing	In Compliance	BC Hydro continues to manage three BC Hydro owned properties identified for retention and wildlife management. All three properties provide suitable habitat for non-wetland birds, including the northern harrier and short-eared owl. Surveys in 2016 documented short-eared owl on one property and northern harrier on all three properties.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 16	<ul style="list-style-type: none"> <li>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.</li> </ul>	Ongoing	In Compliance	The establishment of nest boxes for cavity-nesting waterfowl is addressed in the Section 7.3.6 of the VWMMP (Wetland compensation). An expanded nest box program to mitigate for the loss of nesting sites for cavity nesting bird species has been developed based on discussions with the VWTC. Implementation began in 2017 after review by the VWTC.
EAC 16	<ul style="list-style-type: none"> <li>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.</li> </ul>	Ongoing	In Compliance	BC Hydro continues to work with the BC Ministry of Transportation and Infrastructure (MOTI) on including roosting structures for bats in bridges. In 2016 MOTI identified preliminary locations for bat boxes on the Cache Creek Bridge. The Cache Creek bridge is currently being re-designed, and bat boxes are being incorporated into the revised design.
EAC 16	<ul style="list-style-type: none"> <li>Following rock extraction at Portage Mountain, creation of hibernating and roosting sites for bats.</li> </ul>	Ongoing	In Compliance	The Portage Mountain Quarry development plan has been altered to avoid impacting bat hibernacula, through the VWTC. Section 4.2 of the CEMP states that blasting will be prohibited within 300 m of bat hibernacula from September 15 to May 15. A monitoring plan has also been developed through the VWTC to detect any changes to bat use of the hibernacula at Portage Mountain due to quarrying activity, if any. Quarry activity (including test blasts) is expected to occur in spring of 2018, after the restricted activity period that was established to mitigate impacts to bat use of the hibernacula (i.e., after May 15).
EAC 16	<ul style="list-style-type: none"> <li>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.</li> </ul>	Ongoing	In Compliance	Twenty-five (25) coarse woody debris piles for fisher were created within the dam site area in 2016. A map of the CWD piles created is included in the 2016 Annual Report for the VWMMP. BC Hydro is currently installing signs that advise people to remain distant from the piles. . Additional fisher resting sites will be installed along the Transmission Line as works progress.



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 16	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.	Completed	In Compliance	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.
EAC 16	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.	Completed	In Compliance	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.
EAC 16	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.	Ongoing	In Compliance	The 2015 Annual Report for the VWMMP describes implementation of the plan to date. Please refer to EAC Condition 19 for measures specific to injury and mortality to amphibians and snakes, with regard to implementation of the VWMMP.
EAC 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: <ul style="list-style-type: none"> <li>· Songbirds: May 1 through July 31;</li> <li>· Trumpeter swan, raptors and owls: April 1 through July 31; and</li> <li>· Sharp-tailed grouse: mid-April and mid-July (lek to nesting to hatching).</li> </ul>	Ongoing	In Compliance	Section 3.5 of the VCDMP and Section 4.17 of the CEMP describe the requirements outlined in Condition 17. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of the EPP.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 17	The EAC Holder must first develop and implement a nest and lek search protocol, in consultation with the FLNR and MOE.	Ongoing	In Compliance	The nest search protocol was revised in 2016, was included as Appendix 2 of the 2016 Annual Report for the VWMMP, and submitted to regulatory agencies and Aboriginal Groups on March 31, 2017. An expanded Sharp-tailed Grouse lek mitigation program was developed based on discussions with the VWTC and provided in Section 4.17 of CEMP Revision 4 issued July 26, 2016. The Sharp-tailed Grouse lek mitigation program has been revised in discussions with the VWTC and will be included in Rev 5 of the CEMP (forthcoming)
EAC 17	The EAC Holder must provide FLNR and MOE with all known nest and lek locations.	Ongoing	In Compliance	BC Hydro provides FLNR and MOE with all known nest and lek locations annually. All 2017 data on known nest locations will be provided to FLNR and MOE by March 31, 2018. No new leks were identified in 2017.
EAC 17	The EAC Holder must flag these sites and require employees and contractors to avoid these sites.	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 17	The nest and lek search protocol must include specifications for buffers around active nest sites and flagging, as required by FLNR.	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 18	The EAC Holder must avoid human-wildlife conflicts during the construction phase by implementing measures detailed in a Human-Wildlife Conflict Management Plan.	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 18	The Human-Wildlife Conflict Management Plan must include at least the following: <ul style="list-style-type: none"> <li>· Prior to the commencement of work, the EAC Holder must ensure that all crews have participated in Bear Aware or a similar</li> </ul>	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	training program.			
EAC 18	· Prohibit feeding of wildlife at work sites.	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 18	· 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 bear-proof containers or removed from site.	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs. These inspections have identified on several occasions the presence of non-animal proof waste containers; in all cases these containers were either removed entirely or replaced with animal-proof containers within 2-weeks.
EAC 18	· Prohibit work crews from hunting while on any work sites, Project built roads and worker housing sites.	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 18	· Prohibit work crews from cleaning game at construction sites. Project built roads and worker housing sites.	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 18	· Measures to minimize road mortality, including posted speed limits, provision of alternative transportation options including, for example, carpooling,	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 18	· Procedures for reporting dangerous human-wildlife incidents and incidents of wildlife mortality.	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to

No.	EAC Condition	Implementation Status	Compliance Status	Description
				verify implementation of EPPs.
EAC 18	· 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.	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 18	· Review of effectiveness of measures to manage dangerous human-wildlife interactions.	Ongoing	In Compliance	Section 4.17 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 18	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.	Completed	In Compliance	The Human Wildlife Conflict Management Plan is described in Section 4.17 of the CEMP for the Project. The Draft CEMP was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014
EAC 18	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.	Completed	In Compliance	The final (Revision 1) of the CEMP was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. Revision 2 of the CEMP was issued in February 2016 and Revision 4 in July 2016 (Revision 3 was not formally published).
EAC 18	The EAC Holder must develop, implement and adhere to the final Human-Wildlife Conflict Management Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of the EPP.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 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	Ongoing	In Compliance	<p>BC Hydro is using reasonable efforts to avoid and reduce injury and mortality to amphibians and snakes.</p> <p>Section 4.17 of Rev 4 of the CEMP outlines some mitigation for amphibians. For amphibian salvage and relocation, BC Hydro has obtained Wildlife Act permit FJ16-226024, which is valid until 31 December 2023.</p> <p>BC Hydro developed the Site C Western Toad Management Procedure, which describes a protocol for conducting amphibian assessments within and adjacent to work sites, halting work when necessary, and translocating migrating toads along their way and past dangerous work areas. The Site C Western Toad Management Procedure was developed through and deemed complete by the VWTC. This Procedure has been passed to all relevant contractors since its completion 21 July 2017, for inclusion in appropriate EPPs. In addition, the Procedure will be included in Rev 5 of the CEMP. Also, BC Hydro implemented barrier fencing to prevent migration of toads across roads at Portage Mountain quarry, and also incorporated special amphibian crossing culverts into the design of the road to the quarry, which is expected to be completed in 2018.</p> <p>Amphibian salvage and translocation activities in 2017 are described in the 2017 Annual Report for the VWMMP, to be submitted by March 31, 2018.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 19	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.	Ongoing	In Compliance	BC Hydro has developed a protocol to salvage amphibians where they are observed along roads adjacent to wetlands and in other areas where they are known to migrate across roads. The protocol calls for installation of crossing structures after 3 years of documenting amphibian migration across a road in the same location. At this time no migration areas across roads have been identified through this protocol. The precautionary installation of crossing mitigation structures is planned across roads at Portage Mountain quarry, and may be considered elsewhere in the Project area. BC Hydro will consult with Environment Canada, FLNR and MOE with regard to the size and number of the proposed structures prior to construction.
EAC 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 Environmental Management Plan.	Ongoing	In Compliance	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 audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 20	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.	Ongoing	In Compliance	The final VWMMP was developed and submitted to regulatory agencies, governments and Aboriginal Groups on June 5, 2015.
EAC 21	The Vegetation and Wildlife Mitigation and Monitoring Plan must be developed by a QEP.	Completed	In Compliance	Section 2.3 of the VWMMP lists the QEPs who prepared the plan.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 21	The Vegetation and Wildlife Mitigation and Monitoring Plan must include at least the following: <ul style="list-style-type: none"> <li>Monitor Bald Eagle nesting populations adjacent to the reservoir, including their use of artificial nest structures.</li> </ul>	Ongoing	In Compliance	Monitoring of the Bald Eagle nesting population occurred three times over May and June in 2017. Thirty four (34) bald eagle nests were identified as active in 2017, although of those only 24 nests were observed containing chicks. The annual bald eagle nest monitoring report will be provided in the 2017 Annual Report of the VWMMP, which will be submitted by March 31, 2018.
EAC 21	<ul style="list-style-type: none"> <li>Monitor waterfowl and shorebird populations and their use of natural wetlands, created wetlands, and artificial wetland features.</li> </ul>	Ongoing	In Compliance	Spring and fall waterfowl and shorebird (i.e., waterbird) surveys were conducted along the Peace River and adjacent large lakes in 2017. The annual waterbird monitoring report will be provided in the 2017 Annual Report of the VWMMP, which will be submitted by March 31, 2018.
EAC 21	<ul style="list-style-type: none"> <li>Monitor amphibian use of migration crossing structures installed along Project roads.</li> </ul>	Ongoing	In Compliance	No amphibian crossing structures were installed in 2017. BC Hydro incorporated special amphibian crossing culverts into the design of the road to the Portage Mountain quarry, and into access roads for the transmission line, which are expected to be completed in 2018. Monitoring of structures will occur in future years as required.
EAC 21	<ul style="list-style-type: none"> <li>Survey songbird and ground-nesting raptor populations during construction and operations.</li> </ul>	Ongoing	In Compliance	Songbirds and ground-nesting raptors were both surveyed in separate monitoring programs in 2017. The 2017 results of those surveys will be included in the 2017 Annual Report of the VWMMP, which will be submitted by March 31, 2018.
EAC 21	<ul style="list-style-type: none"> <li>Survey the distribution of western toad and garter snake populations downstream of the Site C dam to the Pine River.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. Downstream snake and toad monitoring is scheduled to begin in spring 2018, two years prior to river diversion.
EAC 21	<ul style="list-style-type: none"> <li>Require annual reporting during the construction phase and during the first 10 years of operations to EAO, beginning 180 days following commencement of construction.</li> </ul>	Ongoing	In Compliance	Results of monitoring surveys and other programs are described in the 2017 Annual Report for the VWMMP, which will be submitted to regulatory agencies and Aboriginal Groups by March 31, 2018.
EAC 21	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	Completed	In Compliance	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.	EAC Condition	Implementation Status	Compliance Status	Description
	minimum of 90 days prior to the commencement of construction.			
EAC 21	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.	Completed	In Compliance	The final VWMMP was submitted to regulatory agencies and Aboriginal Groups on June 5, 2015.
EAC 21	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.	Ongoing	In Compliance	The VWMMP was submitted in June 2015, and is being implemented and adhered to. Implementation of the VWMMP in 2017 will be summarized in the 2017 Annual Report of the VWMMP, which will be submitted by March 31, 2018.
EAC 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,	Ongoing	In Compliance	Appendix A of the VCDMP describes how the requirements of Condition 22 are being met during construction. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 22	and proposing to FLNR Project access roads that should be closed to the public in areas known to be important to Aboriginal groups.	Ongoing	In Compliance	Specific access routes will be identified in relevant permit applications, such as the Forest Act Occupant Licence to Cut 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.



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 22	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.	Ongoing	In Compliance	<p>Specific access routes will be identified in relevant permit applications, such as the Forest Act Occupant Licence to Cut 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.</p> <p>In addition, the draft and final VCDMP were submitted to regulatory agencies, governments, and Aboriginal Groups for comment on October 17, 2014 and June 5, 2015, respectively.</p>
EAC 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.	Ongoing	In Compliance	<p>Rare plants: In 2017 of the plants with ranges that overlap with the Site C Project footprint, the BC CDC status of one species, <i>Carex torreyi</i> (Torrey's sedge) changed from Blue listed to Red listed in 2017. The conservation status of the other relevant plant species remained the same.</p> <p>Wildlife: In 2017 barn swallow and bank swallow were both listed as Threatened on Schedule 1 of the federal Species at Risk Act (SARA). Provincially, northern goshawk became blue-listed in 2017.</p>
EAC 23	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.	Ongoing	In Compliance	Due to the listing of barn swallow and bank swallow as Threatened on Schedule 1 of SARA, BC Hydro is currently developing a swallow mitigation and monitoring plan, which will be implemented in 2018.
EAC 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	Completed	In Compliance	BC Hydro fulfilled this condition in 2015. 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 Forest Act Occupant Licence to Cut

No.	EAC Condition	Implementation Status	Compliance Status	Description
	of the Project in consultation with FLNR.			permit applications overlapping with provincially designated winter range.
EAC 24	If FLNR determines that identified winter range is 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.	Completed	In Compliance	BC Hydro fulfilled this condition in 2015. 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 Forest Act Occupant Licence to Cut permit applications overlapping with provincially designated winter range.
<b>CURRENT USE OF LANDS AND RESOURCES FOR TRADITIONAL PURPOSES</b>				
EAC 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.	Ongoing	In Compliance	<p>BC Hydro has initiated ground truthing programs with the purpose of engaging with Aboriginal land users, including registered trapline holders, to verify and accurately locate Aboriginal land use information, and to identify concerns related to specific features, or sites that may be affected by the Project. BC Hydro has provided funding to Aboriginal groups for ground truthing through Consultation and Capacity Funding Agreements. During this reporting period, ground truthing was undertaken by Doig River, Halfway River, Blueberry River, McLeod Lake and Sauleau First Nations.</p> <p>BC Hydro remains engaged with Sauleau registered trapline holders whose tenure areas are affected by project construction and operations. BC Hydro contacts registered trapline holders in advance of any ground disturbance work planned to take place within their respective trapline areas, BC Hydro also shares the quarterly Notices of Construction Activities with registered trapline holders and advises it is available to meet to discuss any questions regarding the activities in the notice.</p> <p>BC Hydro continues to consult with Aboriginal groups regarding construction plans, and has sent invitation letters</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
				<p>in April 2017, September 2017 and January 2018 highlighting areas where construction is planned in order that Aboriginal groups could ground truth areas of traditional significance prior to construction. Ground-truthing information received continues to be used to support and inform mitigation measures and relevant mitigation plans.</p>
EAC 25	<p>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.</p>	Ongoing	In Compliance	<p>Based on the ground truthing results to date, a number of plants species with cultural, food and medicinal value have been identified, and are included in the Aboriginal Plant Use Mitigation Plan (APUMP) and is updated in Annual Reports which are shared with Aboriginal groups. The 2016-2017 Annual Report for the APUMP was submitted to the EAO and shared with Aboriginal Groups on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in March 2018.</p> <p>BC Hydro continues to work with Aboriginal groups to identify plant species of Aboriginal value through ongoing groundtruthing activities. These species will be incorporated into reclamation plans, as appropriate. As draft reclamation plans are developed to address the adverse effects of the project on plants traditionally used by Aboriginal groups they will be provided to Aboriginal Groups for review and comment.</p> <p>Through this process, as well as new information provided through future ground truthing, plants of high traditional value will continue to be identified and included in the mix of species considered for re-vegetation conducted under the VWMMP and the Soil Management, Site Restoration and Revegetation Plan (Appendix H of the CEMP).</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 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.	Ongoing	In Compliance	<p>The Aboriginal Plant Use Mitigation Plan (June 2015) is available on the Project website at <a href="https://www.siteproject.com/sites/default/files/Aboriginal_Plant_Use_Mitigation_Plan.pdf">https://www.siteproject.com/sites/default/files/Aboriginal_Plant_Use_Mitigation_Plan.pdf</a></p> <p>Based on the ground truthing results to date, a number of plants species with cultural, food and medicinal value have been identified, and are included in the Aboriginal Plant Use Mitigation Plan (APUMP) and is updated in Annual Reports which are shared with Aboriginal groups. The 2016-2017 Annual Report for the APUMP was submitted to the EAO and shared with Aboriginal Groups on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in March 2018.</p> <p>BC Hydro continues to work with Aboriginal groups to identify plant species of Aboriginal value through ongoing groundtruthing activities. These species will be incorporated into reclamation plans, as appropriate. As draft reclamation plans are developed to address the adverse effects of the project on plants traditionally used by Aboriginal groups they will be provided to Aboriginal Groups for review and comment.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 26	<p>The Aboriginal Plant Use Mitigation Plan must include at least the following:</p> <ul style="list-style-type: none"> <li>· Identify within the Project footprint including areas being reclaimed potential sites for relocation of medicinal and food plants;</li> </ul>	Ongoing	In Compliance	<p>Based on the ground truthing results to date, a number of plants species with cultural, food and medicinal value have been identified, and are included in the Aboriginal Plant Use Mitigation Plan (APUMP) and is updated in Annual Reports which are shared with Aboriginal groups. The 2016-2017 Annual Report for the APUMP was submitted to the EAO and shared with Aboriginal Groups on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in March 2018.</p> <p>BC Hydro continues to work with Aboriginal groups to identify plant species of Aboriginal value through ongoing groundtruthing activities. These species will be incorporated into reclamation plans, as appropriate. As draft reclamation plans are developed to address the adverse effects of the project on plants traditionally used by Aboriginal groups they will be provided to Aboriginal Groups for review and comment.</p> <p>Through this process, as well as new information provided through future ground truthing, plants of high traditional value will continue to be identified and included in the mix of species considered for re-vegetation conducted under the VWMMP and the Soil Management, Site Restoration and Revegetation Plan (Appendix H of the CEMP).</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 26	relocate when deemed necessary by a QEP.	Initial Planning	Future Requirement	<p>BC Hydro acknowledges and understands this condition</p> <p>Rare plant species impacted, or potentially impacted, by project construction activities may be included in the experimental rare plant translocation program (described in section 8.2 of the VWMMP) based on the characteristics of the species, and availability of suitable locations and habitat conditions near to the construction area.</p> <p>For other (non-rare) species, a QEP will identify those species suitable for use in reclamation plans, based on the biological and site conditions of identified reclamation areas as well as the requirements of the target plant species. Currently, “Rat root” (<i>Acorus americanus</i>) is the only rare plant species of high traditional Aboriginal value identified through ground truthing (currently Red-listed in BC by the BC Conservation Data Centre).</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 26	<ul style="list-style-type: none"> <li>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</li> </ul>	Ongoing	In Compliance	<p>Based on the ground truthing results to date, a number of plants species with cultural, food and medicinal value have been identified, and are included in the Aboriginal Plant Use Mitigation Plan (APUMP) and is updated in Annual Reports which are shared with Aboriginal groups. The 2016-2017 Annual Report for the APUMP was submitted to the EAO and shared with Aboriginal Groups on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in March 2018.</p> <p>BC Hydro continues to work with Aboriginal groups to identify plant species of Aboriginal value through ongoing groundtruthing activities. These species will be incorporated into reclamation plans, as appropriate. As draft reclamation plans are developed to address the adverse effects of the project on plants traditionally used by Aboriginal groups they will be provided to Aboriginal Groups for review and comment.</p> <p>Through this process, as well as new information provided through future ground truthing, plants of high traditional value will continue to be identified and included in the mix of species considered for re-vegetation conducted under the VWMMP and the Soil Management, Site Restoration and Revegetation Plan (Appendix H of the CEMP).</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 26	and undertake restoration of those ecological communities where deemed necessary by a QEP.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. Plant species of high traditional Aboriginal value will be identified and will be incorporated into reclamation plans, as appropriate. As draft reclamation plans are developed to address the adverse effects of the project on plants traditionally used by Aboriginal groups they will be provided to Aboriginal Groups for review and comment. Additionally, plants of high traditional value will continue to be identified and included in the mix of species considered for re-vegetation conducted under the VWMMP and the Soil Management, Site Restoration and Revegetation Plan (Appendix H of the CEMP).
EAC 26	Identify opportunities and provide financial support for propagation of indigenous plant species for use in reclamation programs, such as that offered through the indigenous nursery owned by the West Moberly First Nation and Saulneau First Nation.	Ongoing	In Compliance	BC Hydro has entered into a contract with Twin Sisters Nursery (indigenous nursery owned by West Moberly First Nations and Saulneau First Nations) for supply and delivery of live native grass seeds suitable for dry or hydro seed application to support re-vegetation and reclamation activities. Seeds of local plant species of Aboriginal value have been collected by Twin Sisters and will be available for use in reclamation plans as required.
EAC 26	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.	Ongoing	In Compliance	BC Hydro has entered into a contract with Twin Sisters Nursery (indigenous nursery owned by West Moberly First Nations and Saulneau First Nations) for supply and delivery of live native grass seeds suitable for dry or hydro seed application to support re-vegetation and reclamation activities. Seeds of local plant species of Aboriginal value have been collected by Twin Sisters and will be available for use in reclamation plans as required.
EAC 26	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.	Completed	In Compliance	The draft Aboriginal Plant Use Mitigation Plan (APUMP) was submitted to regulatory agencies and Aboriginal Groups on October 17, 2014.



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 26	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.	Completed	In Compliance	The final Aboriginal Plant Use Mitigation Plan was submitted to regulatory agencies and Aboriginal Groups on June 5, 2017.
EAC 26	The EAC Holder must develop, implement and adhere to the final Aboriginal Plant Use Mitigation Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	<p>The APUMP describes the scope of the ground truthing program and how the information gained during ground truthing is used to inform mitigation measures related to plants of traditional Aboriginal value.</p> <p>The 2016-2017 Annual Report for the APUMP was submitted to the EAO and shared with Aboriginal Groups on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in March 2018. BC Hydro will update the plan as required based on new information. Initiatives described in the Aboriginal Plant Use Mitigation Plan will continue to be implemented through project construction.</p>
EAC 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.	Ongoing	In Compliance	BC Hydro has developed an Aboriginal Group Communication Plan (see Appendix D of the CEMP) which describes the measures being taken to inform Aboriginal groups about construction activities that may affect harvesting opportunities. The 2016-2017 Annual Report for the Aboriginal Group Communication Plan was submitted to the EAO and shared with Aboriginal Groups on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in July 2018.
EAC 27	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.	Completed	In Compliance	The 2016-2017 Annual Report for the Aboriginal Group Communication Plan was submitted to the EAO and shared with Aboriginal Groups on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in July 2018.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 27	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.	Completed	In Compliance	The draft Aboriginal Group Communications Plan is described in Appendix D of the CEMP for the Project. The Draft CEMP was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014.
EAC 27	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.	Completed	In Compliance	The final (Revision 1) of the CEMP was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. Revision 2 of the CEMP was issued in February 2016 and Revision 4 in July 2016 (Revision 3 was not formally published).
EAC 27	The EAC Holder must develop, implement and adhere to the final Program, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	The 2016-2017 Annual Report for the Aboriginal Group Communication Plan was submitted to the EAO and shared with Aboriginal Groups on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in July 2018.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 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.	Ongoing	In Compliance	<p>BC Hydro remains engaged with Saulteau registered trapline holders whose tenure areas are affected by project construction and operations. BC Hydro contacts registered trapline holders in advance of any ground disturbance work planned to take place within their respective trapline areas, BC Hydro also shares the quarterly Notices of Construction Activities with registered trapline holders and advises it is available to meet to discuss any questions regarding the activities in the notice.</p> <p>Aboriginal groups have also identified two areas containing structures within or near the project area that are used for cultural purposes. BC Hydro is continuing to engage with the respective Aboriginal groups around mapping of their cultural interests, and potential measures to avoid or mitigate impacts to these structures.</p> <p>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.</p>
EAC 28	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.	Ongoing	In Compliance	<p>BC Hydro remains engaged with Saulteau registered trapline holders whose tenure areas are affected by project construction and operations. BC Hydro contacts registered trapline holders in advance of any ground disturbance work planned to take place within their respective trapline areas, BC Hydro also shares the quarterly Notices of Construction Activities with registered trapline holders and advises it is available to meet to discuss any questions regarding the activities in the notice.</p> <p>Aboriginal groups have also identified two areas used for cultural purpose within or near the project area. BC Hydro is continuing to engage with the respective Aboriginal groups</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
				<p>around mapping of their cultural interests, and potential measures to avoid or mitigate impacts to these cultural areas.</p> <p>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.</p>
EAC 28	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.	Ongoing	In Compliance	<p>BC Hydro remains engaged with Saulteau registered trapline holders whose tenure areas are affected by project construction and operations. BC Hydro contacts registered trapline holders in advance of any ground disturbance work planned to take place within their respective trapline areas, BC Hydro also shares the quarterly Notices of Construction Activities with registered trapline holders and advises it is available to meet to discuss any questions regarding the activities in the notice.</p> <p>Aboriginal groups have also identified two areas containing structures within or near the project area that are used for cultural purposes. BC Hydro is continuing to engage with the respective Aboriginal groups around mapping of their cultural interests, and potential measures to avoid or mitigate impacts to these structures.</p> <p>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.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
<b>LAND AND RESOURCE USE</b>				
<b>Harvest of Fish and Wildlife Resources</b>				
EAC 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.	Ongoing	In Compliance	BC Hydro is in discussions with all trapline holders and guide outfitters within whose territory construction activities are planned for 2018 and beyond.  To date, a total of 10 trapline holders will be impacted by construction activities in 2018. Six agreements have been reached with trapline holders; 4 agreements are under development. Agreements have also been reached with the two guide outfitters impacted by construction activities in 2018.
<b>Agriculture</b>				
EAC 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.	Completed	In Compliance	BC Hydro submitted the final Agricultural Mitigation and Compensation Plan on July 27, 2017. BC Hydro submitted Rev 1 of the Agricultural Mitigation and Compensation Plan on September 25, 2017.
EAC 30	The Agricultural Mitigation and Compensation Plan must be developed by a QEP.	Completed	In Compliance	Section 2.1 and Appendix B of the final Agricultural Mitigation and Compensation Plan lists the QEPs who prepared the plan.
EAC 30	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.	Ongoing	In Compliance	Section 2.4 of the final Agricultural Mitigation and Compensation Plan describes the process that will be undertaken to develop individual farm mitigation plans with directly affected agricultural land owners and tenure holders. Development of individual farm mitigation plans is underway as part of the property acquisition process.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 30	The Agricultural Mitigation and Compensation Plan must include at least the following: <ul style="list-style-type: none"> <li>· Inclusion of suitable land in the Agricultural Land Reserve in consultation with the Agriculture Land Commission.</li> </ul>	Ongoing	In Compliance	Section 2.5 of the final Agricultural Mitigation and Compensation Plan describes the process for suitable land to be included in the Agricultural Land Reserve. This will primarily occur during the operations phase.
EAC 30	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	Section 2.5 of the final Agricultural Mitigation and Compensation Plan describes the process for consolidation and/or connection of residual agricultural parcels. This will primarily occur during the operations phase.
EAC 30	<ul style="list-style-type: none"> <li>· Funding for mitigation actions for disruptions to agricultural land owners and tenure holders, including but not limited to the provision of alternative / replacement:                             <ul style="list-style-type: none"> <li>o Livestock movement options and compensation for associated increased costs;</li> <li>o Infrastructure (irrigation and drainage improvements);</li> <li>o Water supplies;</li> <li>o Relocation of quality soil in selected locations;</li> <li>o Farm and field access;</li> <li>o Highway crossings;</li> <li>o Utility crossings;</li> <li>o Livestock watering and drainage works during construction, and restore original works after construction is completed; and</li> <li>o Fencing.</li> </ul> </li> </ul>	Ongoing	In Compliance	Section 2.4 of the final Agricultural Mitigation and Compensation Plan describes the process that will be undertaken to develop individual farm mitigation plans with directly affected agricultural land owners and tenure holders. Development of individual farm mitigation plans is underway as part of the property acquisition process.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 30	<ul style="list-style-type: none"> <li>· Minimize access to agricultural lands by construction workers and implement measures to minimize unauthorized public access.</li> </ul>	Ongoing	In Compliance	Section 2.3 of the final Agriculture Mitigation Compensation Plan reflects this requirement. Construction mitigation measures that address impacts on agricultural land and operations are included in applicable contracts, in the Project's Construction Environmental Management Plan, and will be included in individual farm mitigation plans, as applicable.
EAC 30	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	Section 2.4 of the final Agricultural Mitigation and Compensation Plan describes the process that will be undertaken to develop individual farm mitigation plans with directly affected agricultural land owners and tenure holders. Development of individual farm mitigation plans is underway as part of the property acquisition process.
EAC 30	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.	Ongoing	In Compliance	Section 2.6 of the final Agricultural Mitigation and Compensation Plan describes the fund along with Appendix C, D, E, F and G. Establishment of the Fund Board and procurement of the Fund Administrator began on February 23, 2018.
EAC 30	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.	Completed	In Compliance	Section 1.7 and Appendix B of the final Agricultural Mitigation and Compensation Plan describes the joint Consultation Steering Committee established including staff from Ministry of Agriculture, Ministry of Energy and Mines, and BC Hydro to develop the Agricultural Mitigation and Compensation Plan.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 30	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.	Completed	In Compliance	<p>The Agricultural Mitigation and Compensation Plan Framework was submitted on July 27, 2016.</p> <p>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. One hundred and fourteen (114) participant interactions occurred during the consultation period, including 81 attendees at regional meetings in December and January in Hudson's Hope, Fort St. John, Dawson Creek, and Chetwynd, 30 online feedback forms, and three written submissions. The Consultation Summary Report was posted publically on March 7, 2016.</p> <p>A meeting with Regional representatives on the Agricultural compensation fund occurred on March 8, 2016.</p>
EAC 30	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.	Completed	In Compliance	The final Agriculture Mitigation and Compensation Plan was submitted on July 27, 2017. The draft and final Agricultural Mitigation and Compensation Plan and Framework for the plan were both developed and submitted in accordance with the condition.
EAC 30	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.	Completed	In Compliance	BC Hydro submitted the final Agricultural Mitigation and Compensation Plan on July 27, 2017. BC Hydro submitted Rev 1 of the Agricultural Mitigation and Compensation Plan on September 25, 2017.
EAC 30	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	Ongoing	In Compliance	Section 2.4 of the final Agricultural Mitigation and Compensation Plan describes the process that will be undertaken to develop individual farm mitigation plans with directly affected agricultural land owners and tenure



No.	EAC Condition	Implementation Status	Compliance Status	Description
	affected by the Project.			holders. Development of individual farm mitigation plans is underway as part of the property acquisition process.
EAC 30	The EAC Holder must develop, implement and adhere to the final Agricultural Mitigation and Compensation Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	The final Agriculture Mitigation and Compensation Plan was submitted on July 27, 2017. BC Hydro submitted Rev 1 of the Agricultural Mitigation and Compensation Plan on September 25, 2017. The draft and final Agricultural Mitigation and Compensation Plan and Framework for the plan were both developed and submitted in accordance with the condition.
EAC 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.	Completed	In Compliance	The draft and final Agriculture Monitoring and Follow-up Programs were submitted to regulatory agencies and governments on October 23, 2015 and December 22, 2015, respectively. Section 3.0 of the Agriculture 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.
EAC 31	The Agriculture Monitoring and Follow-up Program must include at least the following: <ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	Appendix A of the final Agriculture Monitoring and Follow-up Program describes the wildlife habitat utilization monitoring program. Agriculture monitoring will begin five years prior to reservoir filling in late 2018.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 31	<ul style="list-style-type: none"> <li>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.</li> </ul>	Ongoing	In Compliance	Appendix B of the final Agriculture Monitoring and Follow-up Program describes the monitoring of potential effects on crop drying program. Agriculture monitoring will begin five years prior to reservoir filling in late 2018.
EAC 31	<ul style="list-style-type: none"> <li>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.</li> </ul>	Ongoing	In Compliance	Appendix C of the final Agriculture Monitoring and Follow-up Program describes the monitoring of potential groundwater effects program. Agriculture monitoring will begin five years prior to reservoir filling in late 2018.
EAC 31	<ul style="list-style-type: none"> <li>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.</li> </ul>	Ongoing	In Compliance	Appendix D of the final Agriculture Monitoring and Follow-up Program describes the monitoring to estimate irrigation water requirements program. Agriculture monitoring will begin five years prior to reservoir filling in late 2018.
EAC 31	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.	Ongoing	In Compliance	BC Hydro provided the second annual report on the implementation of the Agriculture monitoring and Follow-up Program in July 2017. The third annual report will be provided in July 2018.
EAC 31	Reporting must begin 180 days after the commencement of the monitoring and follow-up program that is to begin 180 days	Ongoing	In Compliance	BC Hydro provided the second annual report on the implementation of the Agriculture monitoring and Follow-up Program in July 2017. The third annual report will be

No.	EAC Condition	Implementation Status	Compliance Status	Description
	after commencement of construction.			provided in July 2018.
EAC 31	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.	Completed	In Compliance	The draft Agricultural Monitoring and Follow-up Program was submitted to regulatory agencies and governments on October 23, 2015.
EAC 31	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.	Completed	In Compliance	The final Agricultural Monitoring and Follow-up Program was submitted to regulatory agencies and governments on December 22, 2015.
EAC 31	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.	Ongoing	In Compliance	BC Hydro provided the second annual report on the implementation of the Agriculture monitoring and Follow-up Program in July 2017. The third annual report will be provided in July 2018.
<b>Other Resource Industries</b>				
EAC 32	The EAC Holder must develop an Oil, Gas and Energy Monitoring and Follow-up Program.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 32	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 32	Monitoring reports must be provided to Spectra Energy beginning 180 days following commencement of operations, and annually thereafter.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 32	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 32	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 32	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 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.	Ongoing	In Compliance	BC Hydro has a signed MOU with MOTI, dated November 12, 2013.
EAC 33	The MOU must include: <ul style="list-style-type: none"> <li>· Aggregate source strategy to compensate for inundated Ministry aggregate sources, and</li> </ul>	Ongoing	In Compliance	BC Hydro is working with the MOTI to satisfy these commitments in the MOU. Aggregate sources are being set aside for MOTI during construction of Hwy 29 at Peaceview Pit. BC Hydro is actively pursuing other sources.
EAC 33	Strategy for the EAC Holder to stockpile surplus rock material at the West Pine, Wuthrich, and Portage Mountain quarries.	Ongoing	In Compliance	BC Hydro is currently stockpiling surplus excavated material for MOTI at West Pine and Wuthrich Quarries. Works at Portage Mountain Quarry have not yet commenced.
EAC 33	The EAC Holder commitments as outlined in the MOU must be implemented and adhered to, to the satisfaction of the MOTI.	Ongoing	In Compliance	BC Hydro is working with MOTI to satisfy these commitments in the MOU. Current commitments include: Coordination of Hwy 29 construction/tendering/management and MOTI involvement and actively pursuing material sources for MOTI for areas that will be inundated.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 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.	Completed	In Compliance	<p>No mineral tenures appear to overlap with the Project Activity Zone and preliminary impact lines.</p> <p>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.</p> <p>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.</p> <p>Other than reserves held by the MOTI, BC Hydro is not aware of any tenures issued to third parties for the purposes of aggregate production on Crown land that overlap with the Project Activity Zone and preliminary impact lines.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 34	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.	Completed	In Compliance	<p>No mineral tenures appear to overlap with the Project Activity Zone and preliminary impact lines.</p> <p>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.</p> <p>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.</p> <p>Other than reserves held by the 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.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 34	Efforts made by the EAC Holder to enter into such agreements must be documented.	Completed	In Compliance	<p>No mineral tenures appear to overlap with the Project Activity Zone and preliminary impact lines.</p> <p>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.</p> <p>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.</p> <p>Other than reserves held by the 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.</p>
<b>TRANSPORTATION</b>				
EAC 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.	Ongoing	In Compliance	<p>This requirement is addressed in the final Construction Safety Management Plan (CSMP), Section 5.4 Traffic Management Plan.</p> <p>Site-specific Traffic Management Plans and Safety Plans have been provided by contractors for the North Bank Roads project, 271 Rd, Clearing at Cache Creek for Hwy 29 Realignment and Geotechnical Investigations at Halfway River. All of these plans have been approved by MOTI. These plans include measures such as coordinating Project Scheduling, Traffic Control Plans, addressing posted speeds, lane widths, hazardous zones, lane closures, public notification, etc. to protect wildlife, maximize safety and manage effects on productivity.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 35	The Traffic Management Plan must be developed by a QEP.	Completed	In Compliance	The Traffic Management Plan is described in Section 5.4 of the CSMP. Section 6.0 of the CSMP lists the QPs who prepared the plan.
EAC 35	The Traffic Management Plan must include at least the following: <ul style="list-style-type: none"> <li>· Maximize the use of existing access corridors.</li> </ul>	Ongoing	In Compliance	The project is maximizing the use of existing access corridors as much as possible. This is currently being done in areas along the Transmission line where existing Right-Of-Way access exists for maintenance and for clearing in the Eastern Reservoir.
EAC 35	<ul style="list-style-type: none"> <li>· Equip Project vehicles travelling on Project access roads with VHF/UHF communication radios.</li> </ul>	Ongoing	In Compliance	All Project vehicles travelling on Project access roads have VHF/UHF communication radios.
EAC 35	<ul style="list-style-type: none"> <li>· Control and/or restrict access where required, and as discussed with MOTI.</li> </ul>	Ongoing	In Compliance	Current control measures in place, as discussed with MOTI, include locks at Wuthrich Quarry and West Pine Quarry with future plans of locked gates at Portage Mountain Quarry and Peaceview Pit.
EAC 35	<ul style="list-style-type: none"> <li>· Identify access roads to be decommissioned after Project use.</li> </ul>	Ongoing	In Compliance	Contractor Traffic Management Plans will identify access roads to be decommissioned. This has included temporary access for clearing, dam site construction, and Hwy 29 realignment.
EAC 35	<ul style="list-style-type: none"> <li>· Public safety measures.</li> </ul>	Ongoing	In Compliance	Public safety measures are addressed in Contractor Traffic Management Plans or Safety Plans, which are reviewed and approved by MOTI. Measures include having Incident Management Plans, Traffic Control Plans, public signage and notification, etc.
EAC 35	<ul style="list-style-type: none"> <li>· Post speed limits on all construction access roads.</li> </ul>	Ongoing	In Compliance	Speed limits are posted throughout the dam site area as well as on all public roadways where construction is taking place. These speed limits are reflective of construction speed zones.
EAC 35	<ul style="list-style-type: none"> <li>· Work schedules, subject to safety considerations, to minimize delays and nuisance to the public caused by the realignment of Highway 29, particularly during peak visitor periods.</li> </ul>	Ongoing	In Compliance	All works on public roadways are subject to Traffic Management Guidelines as provided by MOTI. This includes measures such as maximum delay and work stoppage.



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 35	<ul style="list-style-type: none"> <li>· Inclusion of Traffic Control Plans, Public Information Plans, Incident Plans, and Implementation Plans.</li> </ul>	Ongoing	In Compliance	These topics are included in site-specific Contractor Traffic Management Plans.
EAC 35	The Traffic Management Plan must also establish measures for identifying and mitigating effects on local transportation infrastructure resulting from Project activities.	Ongoing	In Compliance	Traffic Management Plans include a pavement management program.  MOTI conducts pavement condition monitoring surveys in the region once every two years travelling in one direction on main roads. BC Hydro has increased the requirement to survey both directions on main roads every two years for all project effected roads. This includes 240 Rd, 269 Rd, 271 Rd, Jackfish Lake Rd, Hwy 97, and Hwy 29.
EAC 35	The Traffic Management Plan must also include at least the following: <ul style="list-style-type: none"> <li>· 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.</li> </ul>	Completed	In Compliance	All road modifications and improvements on the listed roads require approval from MOTI. MOTI has reviewed and approved design standards for 271 Rd, Cache Creek segment of Hwy 29, etc.
EAC 35	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Completed	In Compliance	Construction of a paved brake-check was completed in September 2015.
EAC 35	<ul style="list-style-type: none"> <li>· In consultation with MOTI, identify any additional measures that may be required for public safety (signage, signals, illumination, monitoring etc.)</li> </ul>	Ongoing	In Compliance	BC Hydro worked with MOTI to identify any additional required measures that may be required for public safety. Additional measures may be identified in the future based on feedback from MOTI.
EAC 35	<ul style="list-style-type: none"> <li>· Follow best management practices as outlined in Traffic Management Guidelines for Work on Roadways (BC Ministry of Transportation 2001 and as amended from</li> </ul>	Ongoing	In Compliance	BMPs are written into contracts and being followed for all works on public roadways.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	time to time).			
EAC 35	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.	Completed	In Compliance	The Draft Traffic Management Plan is described in Section 5.4 of the CSMP. The draft CSMP was submitted to the required recipients on October 17, 2014.
EAC 35	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.	Completed	In Compliance	The Draft Traffic Management Plan is described in Section 5.4 of the CSMP. The final CSMP was submitted to the required recipients on June 5, 2015.
EAC 35	The EAC Holder must develop, implement and adhere to the final Traffic Management Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	<p>Site-specific Traffic Management Plans and Safety Plans have been provided by contractors for the North Bank Roads project, 271 Rd, Clearing at Cache Creek for Hwy 29 Realignment and Geotechnical Investigations at Halfway River. All of these plans have been approved by MOTI. These plans include measures such as coordinating Project Scheduling, Traffic Control Plans, addressing posted speeds, lane widths, hazardous zones, lane closures, public notification, etc. to protect wildlife, maximize safety and manage effects on productivity.</p> <p>Revision 2 to the CSMP was issued in March 2017. Revision 2 of the CSMP contains updates to Section 5.2.12 Traffic Monitoring and Appendix C, section 2.1 and 2.4.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 36	The EAC Holder must develop and implement a carpool and commuter program as part of the Traffic Management Plan.	Ongoing	In Compliance	The carpool and commuter program is described in Appendix C of the CSMP, Appendix C – Commuter and Carpool Plan and is being implemented as planned. Preferred carpool parking is designated in the main site parking lot.
EAC 36	The EAC Holder will provide a shuttle service for workers between Chetwynd and the Site C dam site if warranted by demand or restrictions on access for private vehicles to the dam site.	Ongoing	In Compliance	<p>Potential carpool coordination websites for works were posted on the public Site C website in the fall of 2015.</p> <p>Please see:  <a href="http://hw/activities/sustainable_transportation/Pages/default.aspx">http://hw/activities/sustainable_transportation/Pages/default.aspx</a>. A requirement for a shuttle service if warranted by demand or restrictions for workers between Chetwynd and the Site C dam site was placed in the GSS and MCW contracts. The Contractors will monitor demand from their workforce. There are no restrictions on access for private vehicles to the dam site gates.</p>
EAC 36	The EAC Holder must consult with the affected local communities, including Aboriginal communities in the development of a carpool and commuter program.	Completed	In Compliance	The draft and final CSMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively.
EAC 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.	Completed	In Compliance	The requirements of Condition 37 are addressed in Sections 5.4.10, Section 5.4.12, and Appendix B of the CSMP.
EAC 37	The Transportation Monitoring and Follow-up Plan must be developed by a QEP.	Completed	In Compliance	<p>The Transportation Monitoring and Follow-up Plan is described in Sections 5.4.10, Section 5.4.12, and Appendix B of the CSMP. Section 6.0 of the CSMP lists the QPs who prepared the plan.</p> <p>Appendix B Traffic Monitoring and Mitigation Plan - Fort St. John and North Bank Area Roads was developed in consultation with the City of Fort St. John staff.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 37	The Transportation Monitoring and Follow-up Plan must include at least the following: <ul style="list-style-type: none"> <li>· 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:                             <ul style="list-style-type: none"> <li>o Beattie Drive in Hudson’s Hope</li> <li>o Clarke Avenue in Hudson’s Hope</li> <li>o Highway 29 and Canyon Drive in Hudson’s Hope</li> <li>o Highway 29 and Jackfish Lake Rd</li> <li>o Highway 97 / Highway 29 in Chetwynd</li> <li>o Highway 97 intersections in Fort St. John, including:                                     <ul style="list-style-type: none"> <li>o Highway 97 at Old Fort Road in Fort St. John</li> <li>o Highway 97 at 100th Street in Fort St. John</li> <li>o Highway 97 at 85th Avenue in Fort St. John</li> </ul> </li> </ul> </li> </ul>	Ongoing	In Compliance	Intersection monitoring was carried out annually in Year 2 of construction with quarterly monitoring of the dam site entrances. The Traffic and Pavement Monitoring report for the second year of construction was submitted to regulatory agencies and local governments on January 19, 2018. The next annual monitoring data collection will occur in April - May 2018.
EAC 37	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	Intersection monitoring was carried out annually in Year 2 of construction with quarterly monitoring of the dam site entrances. The Traffic and Pavement Monitoring report for the second year of construction was submitted to regulatory agencies and local governments on January 19, 2018.  BC Hydro will set-up a meeting with MOTI, Peace River Regional District (PRRD), and Fort St. John to discuss the results in spring 2018.
EAC 37	As part of the Transportation Monitoring and Follow-up Plan, the EAC Holder must implement the following 90 days prior to commencement of operations:	Completed	In Compliance	Continuous lighting was installed in 2015 and is operating in Taylor along Highway 97 in accordance with this requirement.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	<ul style="list-style-type: none"> <li>· 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</li> </ul>			
EAC 37	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Completed	In Compliance	Changeable message signs were installed in 2015 and are operating on Highway 97 in accordance with this requirement.
EAC 37	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Completed	In Compliance	The webcam was installed in 2017 as part of MOTI's network and can be accessed on DriveBC.
EAC 37	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.	Ongoing	In Compliance	BC Hydro submitted the Year 2 Traffic and Pavement Monitoring report on January 19, 2018.
EAC 37	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.	Completed	In Compliance	The draft Transportation Monitoring and Follow-up Plan, as part of the CSMP was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 37	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.	Completed	In Compliance	The final CSMP was submitted to regulatory agencies, governments, and Aboriginal Groups on June 5, 2015.
EAC 37	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.	Ongoing	In Compliance	<p>BC Hydro submitted the CSMP on June 5, 2015, the most recent revision was submitted on March 22, 2017. The CSMP includes all of the measures in the Transportation Monitoring and Follow-up Plan in section 5.4.10, section 5.4.12, and Appendix B Traffic Monitoring and Mitigation Plan - Fort St. John and North Bank Area Roads.</p> <p>The Traffic and Pavement Monitoring report for the second year of construction was submitted on Jan 19, 2018.</p>
EAC 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.	Completed	In Compliance	<p>Section 5.3 of the CSMP describes the Public Safety Management Plan (Public Safety Management Plan) as well as planning for future aspects of the project.</p> <p>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. Public Safety Management Plans are key deliverables by all Primes and major contactors at Site C and must be approved before the contractor can mobilize to site.</p>
EAC 38	The Public Safety Management Plan must be developed by a QEP.	Completed	In Compliance	The Public Safety Management Plan is described in Section 5.3 of the CSMP. Section 6.0 of the CSMP lists the QP who prepared the plan.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 38	<p>The Public Safety Management Plan must include at least the following:</p> <ul style="list-style-type: none"> <li>· Increase public awareness of safety hazards, including navigational hazards, access restrictions and closures during the construction and operation of the Site C reservoir.</li> </ul>	Ongoing	In Compliance	<p>The PSMP describes measures to inform public on safety issues during the construction of the Project.</p> <p>In river work zone hazards are well marked for navigation purposes and meet the requirements for river navigation. Public safety signs and beacons have been installed on the north and south banks of the Peace River, upstream and downstream of the dam site, to mark the boundaries of the active construction area. The work site maintains a security perimeter with activity access control, security patrols and signage to inform members of the public.</p> <p>Information about safety is shared publicly using a variety of methods.</p> <p>The bi-weekly construction bulletin provides information about planned work and safety information for boaters. 25 bulletins were provided in 2017.</p> <p>The quarterly Aboriginal Group construction notification also contains this information. Four letters were provided in 2017.</p> <p>As per the PSMP, Contractor Public Safety Management Plans are provided to Indigenous groups and to local and regional governments.</p> <p>The operations PSMP will be developed prior to reservoir filling.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 38	<ul style="list-style-type: none"> <li>Establish boater communication protocol including communication of navigational hazards during construction and operations.</li> </ul>	Ongoing	In Compliance	<p>Information about safety is shared publicly using a variety of methods, including the bi-weekly construction bulletin and the quarterly construction notification letter which is sent to Indigenous groups, local governments and posted online.</p> <p>Public safety signs and beacons have been installed on the banks of the Peace River to mark the boundaries of the active construction area. Further, BC Hydro will facilitate the distribution of contractor's public safety management plans as and when needed.</p>
EAC 38	<ul style="list-style-type: none"> <li>Develop standard navigation mitigations for signals, markings and notifications, relating to overhead structures such as towers and conductors crossing navigable waters.</li> </ul>	Ongoing	In Compliance	<p>Standard navigation mitigations for signals, markings and notifications is being undertaken in compliance with Navigation Protection Act approvals.</p>
EAC 38	<ul style="list-style-type: none"> <li>Manage public water-based access during construction and for the first 5 years of operation.</li> </ul>	Ongoing	In Compliance	<p>The Peace River will not be closed to the public until river diversion</p> <p>In river work zone hazards are well marked for navigation purposes and meet the requirements for river navigation. Public safety signs and beacons have been installed on the north and south banks of the Peace River, upstream and downstream of the dam site, to mark the boundaries of the active construction area. The work site maintains a security perimeter with activity access control, security patrols and signage to inform members of the public.</p>
EAC 38	<p>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 Saulneau, 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</p>	Completed	In Compliance	<p>The draft CSMP (Section 5.3 Public Safety Management Plan) was submitted to regulatory agencies, governments and Aboriginal Groups on October 7, 2014.</p>



No.	EAC Condition	Implementation Status	Compliance Status	Description
	commencement of construction and operations.			
EAC 38	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 Saulneau, 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.	Completed	In Compliance	The final CSMP (Section 5.3 Public Safety Management Plan) was submitted to regulatory agencies, governments and Aboriginal Groups on June 5, 2015.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 38	The EAC Holder must develop, implement and adhere to the final Public Safety Management Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	<p>The PSMP is described in Section 5.3 of the CSMP.</p> <p>The PSMP describes the requirements for BC Hydro and its contractors in managing public safety. The PSMP applies to all work sites and all activities associated with construction of the Project.</p> <p>Ongoing implementation of the PSMP includes: blocking trails where public can access the site; appropriate signage in the river channel along the property perimeter and in other key places; appropriate information on Public Safety Management Plan included in site orientations; additional emergency measures related to downstream inundation response; security enforcement of trespass and access control protocols; managing tour groups and visitor access to mitigate safety concerns; managing work practices so public safety is contemplated in all components of the project. River navigation hazards are in place in addition to river channel signs and construction zone beacons. The Peace River bridge is well marked in stream work is identified by warning signs and river safety boat patrols are ongoing.</p> <p>Site C Communications takes steps to keep key public stakeholders informed about construction activity and to provide applicable warnings about work that may impact public safety, including noise abatement, dust abatement and traffic management planning.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
<b>OUTDOOR RECREATION AND TOURISM</b>				
EAC 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.	Initial Planning	Future Requirement	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 FAHMFPP becomes available.
EAC 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.	Ongoing	In Compliance	BC Hydro submitted the draft Outdoor Recreation Mitigation Plan on July 27, 2016 and submitted the final Outdoor Recreation Mitigation Plan on January 27, 2017 with regulatory agencies, governments and Aboriginal Groups. The Plan describes the timing for when different measures will occur. The timing of specific measures is referenced below.
EAC 40	The Outdoor Recreation Mitigation Plan must be developed by a QEP.	Completed	In Compliance	Section 5.0 of the Outdoor Recreation Management Plan lists the QPs who prepared the plan.
EAC 40	The Outdoor Recreation Mitigation Plan must include at least the following to: <ul style="list-style-type: none"> <li>· Provide technical information to support outdoor recreation providers in adapting to new shoreline conditions.</li> </ul>	Ongoing	In Compliance	Section 2.2.1 of the final Outdoor Recreation Mitigation Plan includes information about the provision of technical information and communications strategies that will be used.
EAC 40	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	Section 2.2.2 of the final Outdoor Recreation Mitigation Plan includes information about the boat launches. The design of three new boat launch and day use sites is ongoing. 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.
EAC 40	<ul style="list-style-type: none"> <li>· Establish at least one public viewpoint at the Site C dam site.</li> </ul>	Completed	In Compliance	Section 2.2.2 of the final Outdoor Recreation Mitigation Plan includes information about the viewpoint on the north bank. The viewpoint opened to the public in August 2017.
EAC 40	<ul style="list-style-type: none"> <li>· Provide approximately \$150,000 to the District of Hudson Hope for the</li> </ul>	Completed	In Compliance	Section 2.2.2 of the final Outdoor Recreation Mitigation Plan includes information about the payment which was made to

No.	EAC Condition	Implementation Status	Compliance Status	Description
	enhancement of Alwin Holland Park, or other community shoreline recreation areas.			Hudson's Hope in 2017.
EAC 40	· 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.	Ongoing	In Compliance	Section 2.2.3 of the final Outdoor Recreation Mitigation Plan describes the strategy and implementation plan for the recreation fund.
EAC 40	· Outline an approach to governance and allocation of funds from the Community Recreation Site Fund	Ongoing	In Compliance	Section 2.2.3 of the final Outdoor Recreation Mitigation Plan describes the strategy and implementation plan for the recreation fund.
EAC 40	· Fund the development of a BC Peace River/Site C Reservoir Navigation and Recreation Opportunities Plan	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. The Outdoor Recreation Mitigation Plan describes the plan in section 2.2.4. A BC Peace River / Site C Reservoir Navigation and Recreation Opportunities Plan will be developed to mitigate potential effects on over the long term on outdoor recreation and tourism infrastructure, as well as access to water-based navigation. The planning process and the plan development will be funded by BC Hydro and initiated within one year after reservoir filling.
EAC 40	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 Saulneau, 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.	Completed	In Compliance	BC Hydro submitted the draft Outdoor Recreation Mitigation Plan on July 27, 2016 to regulatory agencies, governments and Aboriginal Groups.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 40	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 Saulneau, 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.	Completed	In Compliance	BC Hydro submitted the final Outdoor Recreation Mitigation Plan on January 27, 2017 to regulatory agencies, governments and Aboriginal Groups.
EAC 40	The EAC Holder must develop, implement and adhere to the final Outdoor Recreation Mitigation Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	Implementation of the measures as described in the final Outdoor Recreation Mitigation Plan is underway.
EAC 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.	Ongoing	In Compliance	<p>BC Hydro has entered into an agreement with the owner of the campground at Cache Creek. This agreement transferred the land to BC Hydro in return for compensation. Further discussions regarding the effects of the project on the campground facility are ongoing.</p> <p>BC Hydro has entered into an agreement with the operator of the hunt camp near Site C. This agreement compensated the operator for the effects on the facility and the cost to replace and/or relocate the physical infrastructure. It is not known if the operator has reinstated the hunt camp at an alternative location.</p>
EAC 41	Where it is both physically and economically feasible, the costs to relocate facilities will be included in the agreements.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	<b>COMMUNITY</b>			
	<b>Community Infrastructure and Services</b>			
EAC 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.	Ongoing	In Compliance	The final Health Care Services Plan was submitted on June 5, 2015. Implementation of the measures in the Plan are underway.
EAC 42	The Healthcare Services Plan must include at least the following: <ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	Section 6.1 of the final Health Care Services Plan describes the on-site health care. The on-site Project Health Clinic opened on March 1, 2016 staffed with a nurse practitioner and advanced care paramedic.
EAC 42	<ul style="list-style-type: none"> <li>· Establish a process for coordination of program delivery with the Northern Health Authority (NHA).</li> </ul>	Completed	In Compliance	Project Health Clinic staff have been in contact with Northern Health Authority (NHA) contacts provided by Northern Health to coordinate programs delivered through the clinic. BC Hydro provides a quarterly report to Northern Health on use of the Project Health Clinic. BC Hydro and Health Clinic staff also hosted a tour and meeting with Northern Health staff, members of the local Division of Family Practice, WorkSafe BC and BC Ambulance on October 30, 2017.
EAC 42	<ul style="list-style-type: none"> <li>· Establish a process for providing new resident workers and their families with local information about health, education and social services.</li> </ul>	Completed	In Compliance	Links to information about health, education and social services for each community in the Peace were posted on the public Site C website in fall 2015 to share with new residents and potential new residents. This information is reviewed and updated as needed.
EAC 42	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	Completed	In Compliance	The draft Health Care Services Plan was submitted to NHA and governments on October 17, 2014.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	commencement of construction.			
EAC 42	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.	Completed	In Compliance	The final Health Care Services Plan was submitted to NHA and governments on June 5, 2015.
EAC 42	The EAC Holder must develop, implement and adhere to the final Healthcare Services Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	The final Health Care Services Plan was submitted on June 5, 2015. Implementation of the measures in the Plan are underway. The Project Health Clinic opened on March 1, 2016. BC Hydro held a Joint Health Care Services meeting on October 30, 2017 with Northern Health, WorkSafe BC, BC Ambulance and physicians from the local Division of Family Practice.
EAC 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: <ul style="list-style-type: none"> <li>· Contract for provision of emergency services (fire services and medical transport)</li> </ul>	Ongoing	In Compliance	<p>The final Emergency Services Plan was submitted to local emergency services providers, and governments on June 5, 2015.</p> <p>Fire and emergency services continue to attend site when called via 9-1-1 from the Worker Accommodation site. Discussions in 2017 between PRHP, ATCO and BC Hydro have indicated that the correct level of emergency response to site is addressed through the existing agreements. PRHP maintains a brigade for construction purposes and the GSS will implement their own brigade and similar emergency response for their prime area. BC Hydro's Fire Marshall has been involved in this planning and has spoken fully into the requirement which prime at site have planned for. Additionally, the medical clinic at site continues to provide immediate EMT response to for serious incidents while BC Ambulance service is dispatched. This supplements the first aid requirements already in place per WSBC standards. Medical transport from Site C can presently occur via site supplied transport or BC Ambulance transport.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 43	<ul style="list-style-type: none"> <li>Communicate Project emergency management plans to all emergency service providers, and provide updates as plans are amended</li> </ul>	Ongoing	In Compliance	The Emergency Plan continues to develop at Site C as construction advances and all contractors are required to plan and prepare emergency response in accordance with the Site C plan. A site-wide exercise is being planned for 2018 to test and inform emergency response planning at Site C. Ongoing emergency planning continues to include the PRRD, the City of FSJ, police, fire services, BC Ambulance and other stakeholders, especially as this concerns inundation response planning. As coffer dam development continues in contemplation of river diversion in 2020, additional planning, preparations exercises and response mechanisms will be defined, coordinated and tested by contractors in conjunction with BC Hydro requirements.
EAC 43	<ul style="list-style-type: none"> <li>Develop site access protocols to enable safe site access during construction and communicate to emergency service providers</li> </ul> <p>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.</p>	Ongoing	In Compliance	BC Hydro continues to develop and mature both access requirements and access restrictions as they related to effective security and safety. Emergency services traveling to site in 2017 did not encounter any problems with access. Protocols in place planned to deal with escorting emergency service vehicles and accommodating emergency response personnel for routine meetings and inspections were all carried out without incident. BC Hydro continues to liaise with emergency services in the region on a regular basis to provide information and respond to questions and concerns. Interactions with fire services, BC Ambulance, RCMP, Conservation Officers and other provincial bodies occurred in 2017 without concerns expressed and is planned to continue in 2018.
EAC 43	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	Completed	In Compliance	The draft Emergency Services Plan was submitted to local emergency services providers, and governments on October 17, 2014.



No.	EAC Condition	Implementation Status	Compliance Status	Description
	construction.			
EAC 43	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.	Completed	In Compliance	The final Emergency Services Plan was submitted to local emergency services providers, and governments on June 5, 2015.
EAC 43	The EAC Holder must develop, implement and adhere to the final Emergency Services Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	BC Hydro submitted an Emergency Action Plan with full sign-off in August 2016. The plan has been integrated into all safety management planning for contractors at site. Building on previous work and success around emergency management at Site C, additional coordination meetings occurred in 2017 to ensure alignment with prime contractors and to confirm baseline requirements for exercises and ongoing planning.
EAC 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.	Ongoing	In Compliance	BC Hydro provided this information on the Project workforce to School Districts 59 and 60 on July 27, 2017. BC Hydro will provide updated information in July 2018.
EAC 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 to identify the number of worker hires.	Ongoing	In Compliance	Site C Contractors are contractually required to report on their work force monthly. BC Hydro has provided this information in "The Summary of the Site C Workforce - Annual report (Total worker, Temporary Foreign Workers and Difficult to Hire Positions)" that was provided to the Northern Lights College and School District 59 and 60 on July 27th, 2017. The next report will be issued in July 2018.
EAC 46	The EAC Holder must develop a Waste Management Plan.	Completed	In Compliance	The Waste Management Plan is described in Section 4.16 of the CEMP for the Project. The CEMP is available on the Project website at: <a href="https://www.sitecproject.com/document-">https://www.sitecproject.com/document-</a>

No.	EAC Condition	Implementation Status	Compliance Status	Description
				library/environmental-management
EAC 46	The Waste Management Plan must be developed by a QEP.	Completed	In Compliance	The Waste Management Plan is described in Section 4.16 of the CEMP. Section 6.0 of the CEMP lists the QPs who prepared the plan.
EAC 46	The Waste Management Plan must include at least the following: <ul style="list-style-type: none"> <li>· Identify waste management strategies to manage effects on landfills in the region.</li> </ul>	Ongoing	In Compliance	Section 4.16 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 46	<ul style="list-style-type: none"> <li>· Develop methods for disposal of project-related waste.</li> </ul>	Ongoing	In Compliance	Section 4.16 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 46	<ul style="list-style-type: none"> <li>· Ensure capacity of local landfills to meet disposal requirements of the Project construction activities</li> </ul>	Ongoing	In Compliance	BC Hydro has been in communications with local landfills about operations. Landfill operators have not to date expressed concerns about waste streams from the Project negatively affecting landfill capacity.
EAC 46	<ul style="list-style-type: none"> <li>· Establish resources and funding arrangements to address any potential shortfall in existing landfill capacity.</li> </ul>	Ongoing	In Compliance	Operators of the Regional District Landfill have not expressed concern over landfill capacity resulting from increased waste flows from the Site C Project.
EAC 46	<ul style="list-style-type: none"> <li>· Identify other waste management options through consultation with the Peace River Regional District/municipal agencies responsible for management of solid waste in the area.</li> </ul>	Ongoing	In Compliance	All contractors onsite manage a waste stream that is segregated as per the available waste programs in the area. There were numerous meetings in 2017 between BC Hydro, the contractors and Peace River Regional District. The meetings did not identify any additional waste management practices that BC Hydro needs to pursue.
EAC 46	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.	Completed	In Compliance	The Waste Management Plan is described in Section 4.16 of the CEMP for the Project. The Draft CEMP was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 46	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.	Completed	In Compliance	The final (Revision 1) of the CEMP was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. Revision 2 of the CEMP was issued in February 2016 and Revision 4 in July 2016 (Revision 3 was not formally published).
EAC 46	The EAC Holder must develop, implement and adhere to the final Waste Management Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	Section 4.16 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 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.	Initial Planning	Future Requirement	<p>BC Hydro acknowledges and understands this condition.</p> <p>BC Hydro established mitigation and/or monitoring programs with the District of Hudson's Hope, City of Fort St. John and the District of Taylor for their water and sewage systems as appropriate, in their community agreements. BC Hydro is working with the PRRD to establish a similar agreement.</p> <p>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.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 47	The Local Infrastructure Mitigation Plan must include at least the following: 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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 47	· 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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 47	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 47	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 47	The EAC Holder must develop, implement and adhere to the final Local Infrastructure Mitigation Plan, and any amendments, to the satisfaction of EAO.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
<b>Housing</b>				
EAC 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.	Ongoing	In Compliance	The Housing Plan and Housing Monitoring and Follow-up Program Rev. 2 was submitted in December 2016. The implementation of the measures in the Plan is underway. The construction of the 50 rental units of housing is underway in Fort St. John by BC Housing's contractor.
EAC 48	The Housing Plan must include at least the following: <ul style="list-style-type: none"> <li>· Establish a community camp co-coordinator.</li> </ul>	Ongoing	In Compliance	The coordinator identified and posted logistical information on the public Site C website to support workers consideration of moving to a local community. This information is reviewed and updated regularly.
EAC 48	<ul style="list-style-type: none"> <li>· Establish a process for adjusting camp capacity throughout the construction phase to accommodate direct Project workers.</li> </ul>	Completed	In Compliance	<p>The Housing Plan and Housing Monitoring and Follow-up Program Revision 2 describes in section 5.2 how the camp was structured to allow the accommodation of direct Project workers.</p> <p>BC Hydro has constructed the Two Rivers Lodge (Lodge) at the dam site worker accommodation camp to meet anticipated demand for camp housing at the dam site location for the Project workforce. The first beds in the Lodge opened on February 29, 2016 with the last beds opening on September 1, 2016 for a total of approximately 1,600 beds. The camp is planned and contracted to allow additional phased units to be added to meet the on-site housing needs of the workforce through the course of the Project construction if needed.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 48	<ul style="list-style-type: none"> <li>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.</li> </ul>	Ongoing	In Compliance	Section 5.3 of the Housing Plan and Housing Monitoring and Follow-up Program describes the plan to build the additional rental units. BC Hydro completed a contract with BC Housing on July 19, 2016. BC Housing issued a request for proposal in December 2016 for a design-build team for the Project. The construction of the 50 rental units of housing is underway in Fort St. John by BC Housing's contractor. The building is targeted for substantial completion in late 2018.
EAC 48	<ul style="list-style-type: none"> <li>Expand RV accommodation by building 20 new temporary long-stay RV accommodations.</li> </ul>	Ongoing	In Compliance	Section 5.4 of the Housing Plan and Housing Monitoring and Follow-up Program describes the plan to build the long-stay RV accommodations. The RV spaces at Peace Island Park have been completed. Permitting with Northern Health for the sewer and water systems is underway.
EAC 48	<ul style="list-style-type: none"> <li>Provide approximately \$250,000 to emergency or transitional housing providers in the City of Fort St. John.</li> </ul>	Completed	In Compliance	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; and \$200,000 contribution to Salvation Army in November 2016 to support emergency housing.
EAC 48	<ul style="list-style-type: none"> <li>Monitor net migration to reserves as a result of the Project.</li> </ul>	Ongoing	In Compliance	The Housing Plan and Housing Monitoring and Follow-up Program Rev. 2 describes how monitoring net migration to reserves is completed in section 7.2. The report for 2016 was submitted in May 2017. The report for 2017 will be submitted in May 2018.
EAC 48	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.	Completed	In Compliance	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.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 48	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.	Completed	In Compliance	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. Revision 2 of the final plan was submitted on December 12, 2016.
EAC 48	The EAC Holder must develop, implement and adhere to the final Housing Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	The Housing Plan and Housing Monitoring and Follow-up Program Rev. 2 was submitted in December 2016. The Housing Plan Rental Apartments Monitoring Report - 2017 was submitted to the City and BC Housing on January 19, 2018. The First Nations Net Migration report for 2017 will be submitted in May 2018.
EAC 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.	Ongoing	In Compliance	The Housing Plan and Housing Monitoring and Follow-up Program Rev. 2 was submitted in December 2016. The Housing Plan Rental Apartments Monitoring Report - 2017 was submitted to the City and BC Housing on January 19, 2018. The First Nations Net Migration report for 2017 will be submitted in May 2018. BC Hydro meets with the City of Fort St. John several times a year to discuss any topics of interest to the City as well as implementation of conditions.
EAC 49	<p>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:</p> <ul style="list-style-type: none"> <li>· 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.</li> </ul>	Completed	In Compliance	The Housing Plan and Housing Monitoring and Follow-up Program Rev. 2 describes monitoring of the apartment rental vacancy rate and price as published by the Canada Mortgage and Housing Corporation (CMHC) and defines the nature and duration of market changes that may require additional mitigation.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 49	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.	Ongoing	In Compliance	The Housing Plan and Housing Monitoring and Follow-up Program Rev. 2 was submitted in December 2016. The Housing Plan Rental Apartments Monitoring Report - 2017 was submitted to the City and BC Housing on January 19, 2018. BC Hydro meets with the City of Fort St. John several times a year to discuss any topics of interest to the City as well as implementation of conditions. The most recent meeting occurred on January 31, 2018. The First Nations Net Migration report for 2017 will be submitted in May 2018.
EAC 49	· Reports must be provided semi-annually during construction to BC Housing and City of Fort St. John, beginning 180 days following the commencement of construction.	Ongoing	In Compliance	BC Hydro submitted the Housing Plan and Housing Monitoring and Follow-up Program Rev. 2 on December 12, 2016 which reflects the change by CMHC from semi-annual reporting to annual reporting. The monitoring was updated to reflect only fall monitoring but the threshold to consider mitigation was lowered from two reporting cycles to one to off-set this change. BC Hydro discussed the change with the City prior to submitting the revised Plan.
EAC 49	· 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.	Ongoing	In Compliance	The Housing Plan and Housing Monitoring and Follow-up Program Rev. 2 describes how monitoring net migration to reserves is completed in section 7.2. The report for 2016 was submitted in May 2017. The report for 2017 will be submitted in May 2018. BC Hydro has requested Aboriginal communities to provide information they would like included in the report for 2017.
EAC 49	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.	Completed	In Compliance	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.



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 49	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.	Completed	In Compliance	<p>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. BC Hydro submitted Revision 2 of the Housing Plan and Housing Monitoring and Follow-Up Program on Dec 12, 2016.</p> <p>The Plan was updated due to CMHC eliminating its spring data collection period. As such, the revised plan includes monitoring once a year, but the threshold when mitigation would be explored was reduced to one monitoring cycle to maintain the same time frame (12 months).</p>
EAC 49	The EAC Holder must develop, implement and adhere to the final Housing Monitoring and Follow-up Program, any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	BC Hydro submitted the Housing Plan and Housing Monitoring and Follow-up Program Rev. 2 on December 12, 2016 which reflects the change by CMHC from semi-annual reporting to annual reporting. The monitoring was updated to reflect only fall monitoring but the threshold to consider mitigation was lowered from two reporting cycles to one to off-set this change.
<b>Regional Economic Development</b>				
EAC 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.	Initial Planning	Future Requirement	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.
EAC 51	The EAC Holder must develop and implement a Business Participation Plan (Plan).	Ongoing	In compliance	<p>The Site C Project continued to maintain an active business directory, with approximately 2,140 businesses registered. This business directory is shared with major contractors, including PRHP, ATCO and the GSS Civil works preferred proponent. BC Hydro also uses the business directory for internal requirements.</p> <p>Information about BC Hydro-issued public procurement opportunities are posted to BCBid, on the Site C website (where appropriate) and emailed to the Site C business</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
				<p>directory. In this period, seven emails were sent to the business directory and information on major procurements are provided to local and regional governments and local and provincial business association stakeholders.</p> <p>Other activities include: The Site C procurement forecast, including regularly-updated major procurement/contract fact sheets, is available on the Site C website. BC Hydro responded to enquiries related to business opportunities in this period, providing information and linking businesses to relevant opportunities with BC Hydro and the Site C contractors.</p> <p>BC Hydro is an active member of several local and regional Chamber organizations (e.g. Fort St. John, Chetwynd), attending meetings and providing presentations as appropriate. This satisfies the requirement to build relationships and increase awareness in the region.</p> <p>As part of ongoing community relations, BC Hydro will continue to meet with local economic development offices and business organizations to provide up-to-date information on business opportunities with the Site C project. Site C's major contractors have also led several procurements through their own internal systems and maintain active vendor's lists. BC Hydro provides information to businesses about how to contact the contractors and sign up for these lists on the Site C website.</p>
EAC 51	The Plan must include at least the following: <ul style="list-style-type: none"> <li>· Increase awareness in the business community about Project procurement opportunities.</li> </ul>	Ongoing	In Compliance	The Site C Project continued to maintain an active business directory, with approximately 2,140 businesses registered. This business directory is shared with major contractors, including PRHP, ATCO and the GSS Civil works preferred proponent. BC Hydro also uses the business directory for internal requirements.

No.	EAC Condition	Implementation Status	Compliance Status	Description
				<p>Information about BC Hydro-issued public procurement opportunities are posted to BCBid, on the Site C website (where appropriate) and emailed to the Site C business directory. In this period, seven emails were sent to the business directory and information on major procurements are provided to local and regional governments and local and provincial business association stakeholders.</p> <p>Other activities include: The Site C procurement forecast, including regularly-updated major procurement/contract fact sheets, is available on the Site C website. BC Hydro responded to enquiries related to business opportunities in this period, providing information and linking businesses to relevant opportunities with BC Hydro and the Site C contractors.</p> <p>BC Hydro is an active member of several local and regional Chamber organizations (e.g. Fort St. John, Chetwynd), attending meetings and providing presentations as appropriate. This satisfies the requirement to build relationships and increase awareness in the region.</p> <p>As part of ongoing community relations, BC Hydro will continue to meet with local economic development offices and business organizations to provide up-to-date information on business opportunities with the Site C project. Site C's major contractors have also led several procurements through their own internal systems and maintain active vendor's lists. BC Hydro provides information to businesses about how to contact the contractors and sign up for these lists on the Site C website.</p>
EAC 51	Develop partnerships with local business organizations and economic development offices and programs to communicate and maximize opportunities	Ongoing	In Compliance	The Site C Project continued to maintain an active business directory, with approximately 2,140 businesses registered. This business directory is shared with major contractors, including PRHP, ATCO and the GSS Civil works preferred

No.	EAC Condition	Implementation Status	Compliance Status	Description
	for local businesses.			<p>proponent. BC Hydro also uses the business directory for internal requirements.</p> <p>Information about BC Hydro-issued public procurement opportunities are posted to BCBid, on the Site C website (where appropriate) and emailed to the Site C business directory. In this period, seven emails were sent to the business directory and information on major procurements are provided to local and regional governments and local and provincial business association stakeholders.</p> <p>Other activities include: The Site C procurement forecast, including regularly-updated major procurement/contract fact sheets, is available on the Site C website. BC Hydro responded to enquiries related to business opportunities in this period, providing information and linking businesses to relevant opportunities with BC Hydro and the Site C contractors.</p> <p>BC Hydro is an active member of several local and regional Chamber organizations (e.g. Fort St. John, Chetwynd), attending meetings and providing presentations as appropriate. This satisfies the requirement to build relationships and increase awareness in the region.</p> <p>As part of ongoing community relations, BC Hydro will continue to meet with local economic development offices and business organizations to provide up-to-date information on business opportunities with the Site C project. Site C's major contractors have also led several procurements through their own internal systems and maintain active vendor's lists. BC Hydro provides information to businesses about how to contact the contractors and sign up for these lists on the Site C website.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 51	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.	Completed	In Compliance	The draft Business Participation Plan was submitted to regulatory agencies and governments on October 7, 2014.
EAC 51	The EAC Holder must file the Final Plan with EAO, City of Fort St. John, District of Hudson's Hope, District of Taylor, and Peace River Regional District a minimum of 30 days prior to the commencement of construction.	Completed	In Compliance	The final Business Participation Plan was submitted to regulatory agencies and governments on June 5, 2015.
EAC 51	The EAC Holder must develop, implement and adhere to the Final Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	As described in the Business Participation Plan (available on the Site C website), BC Hydro will publicly report on business participation activities on an annual basis. The 2016-2017 Annual Report for the Business Participation Plan was made available on the Site C website in July 2017. The 2017- 2018 annual report will be available on the Site C website in July 2018.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 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.	Ongoing	In Compliance	<p>BC Hydro worked with local governments and non-profit organizations active in the Peace region to establish the BC Hydro Peace Region Non-Profit Community Fund ("Fund"), now called the BC Hydro Generate Opportunities 'GO Fund'.</p> <p>The Fund will support programs provided by non-profit organizations in target communities in the North and South Peace (Chetwynd, Hudson's Hope, Taylor, Fort St. John and PRRD) throughout Project construction. BC Hydro will provide an annual contribution of \$100,000 per year to the fund for eight years. BC Hydro established the Regional Decision-making Committee in June 2016. The GO Fund was launched jointly by BC Hydro, Northern Development Initiative Trust (NDIT) and the Committee on September 13, 2016.</p> <p>All information is available on website: <a href="http://www.northerndevlopment.bc.ca/funding-programs/capacity-building/bc-hydro-go-fund/">www.northerndevlopment.bc.ca/funding-programs/capacity-building/bc-hydro-go-fund/</a>. Applications will be accepted continuously with four intake reviews (November, February, May, and August).</p>
EAC 53	The EAC Holder must develop and implement a Labour and Training Plan.	Ongoing	In Compliance	The final Labour and Training Plan was submitted to regulatory agencies, governments, Aboriginal Groups, School Districts 59 and 60, and Northern Lights College on June 5, 2017. The Labour and Training Plan requires an annual report on the Project workforce be submitted to Training institutions on the North. "The Summary of the Site C Workforce - Annual report (Total worker, Temporary Foreign Workers and Difficult to Hire Positions)" was provided to the Northern Lights College and School District 59 and 60 on July 27th, 2017. The next report will be issued in July 2018.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 53	<p>The Labour and Training Plan must include at least the following:</p> <ul style="list-style-type: none"> <li>· Where labour requirements cannot be met through the local labour pool, develop a strategy for attracting new entrants to the local labour force.</li> </ul>	Ongoing	In Compliance	<p>BC Hydro has undertaken the following initiatives described in the Plan to date:</p> <ul style="list-style-type: none"> <li>- Site C contractors continue to participate in regional jobs fairs. In 2017, PRHP and ATCO Two Rivers Lodging Group have participated in both Dawson Creek and Fort St. John regional job fairs</li> <li>- BC Hydro has contractually required Site C Contractors to report on their work force monthly, including reporting on categories of workers that are difficult to hire for the Peace Region labour pool.</li> <li>- BC Hydro required Site C contractors to post Site C employment opportunities on the WorkBC and Employment Connections websites. BC Hydro has also facilitated contact between Site C contractors and Employment Connections to ensure Site C Contractors continue to post Site C employment opportunities</li> <li>- BC Hydro has contractually required 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.</li> </ul>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 53	Resources and funding arrangements with education providers to ensure required training and skill development programs are available.	Ongoing	In Compliance	<p>BC Hydro has undertaken the following initiatives described in the Plan to date:</p> <ul style="list-style-type: none"> <li>- continued to support trades and skilled training through the BC Hydro Trades and Skilled Training Bursary Awards program through Northern Lights College. As of August 2017, 201 students had received bursaries, including 78 Indigenous students who have benefitted from the bursary in programs such as electrical, welding, millwright, cooking, social work, and many others.</li> <li>- maintained regular contact with the Ministry of Job, Trade and Skills Training (JTST) to update relevant departments with workforce requirements for the Project and provide workforce information.</li> </ul>
EAC 53	Participation in regional workforce training initiatives during construction	Ongoing	In Compliance	<p>BC Hydro has maintained on-going contact with training providers/institutions and employment agencies in Northeast British Columbia and facilitated contact between these agencies and Site C contractors.</p> <p>BC Hydro has facilitated connections between PRHP and Employment Connections to host a job fair specifically focused on workers required for upcoming positions related to the RCC work.</p> <p>In March 2017, BC Hydro met with regional employment agencies, local training institutions and organizations and Site C contractors, onsite to facilitate discussions regarding regional hiring concerns. During roundtable discussions, groups discussed training and employment needs and how these groups can assist each other in employing and training individuals to meet project needs.</p>



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 53	<ul style="list-style-type: none"> <li>· Identification of apprenticeship opportunities during construction</li> </ul>	Ongoing	In Compliance	<p>BC Hydro has undertaken the following initiatives described in the Plan to date:</p> <ul style="list-style-type: none"> <li>- 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. BC Hydro requires Site C contractors contractually to comply with the provincial government policy which requires contractors to demonstrate they are engaged in apprenticeship training and use apprentices on the work site.</li> <li>- worked with major Site C contractors to identify apprenticeship and training opportunities for the term of their respective construction contract. BC Hydro has also included broad apprentice targets in the Main Civil Works (MCW) contract. In addition, both the Generating Station and Spillway (GSS) Civil contract and the Transmission lines and the substation contracts have apprentice targets included in them that were developed based on the request of government as outlined above to assist companies to aspire to a 25 per cent or greater target for apprentices.</li> <li>- In March 2017, BC Hydro met with regional employment agencies, local training institutions and organizations and Site C contractors, onsite to facilitate discussions regarding regional hiring concerns. During roundtable discussions, groups discussed training and employment needs and how these groups can assist each other in employing and training individuals to meet project needs.</li> </ul>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 53	Provision of additional day-care spaces in Fort St. John to increase spousal participation in the labour market.	Ongoing	In Compliance	<p>Section 6.5 of the Labour and Training Plan submitted on June 5, 2015 describes the approach to providing additional day-care spaces in Fort St. John.</p> <p>In spring 2015, BC Hydro and School District 60 reached an agreement that will create 37 new childcare spaces in the new elementary school in Fort St. John. BC Hydro contributed \$1.8 million to School District 60 to build the new childcare centre as part of the new school, which is targeted for completion by summer 2018.</p>
EAC 53	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.	Completed	In Compliance	The draft Labour and Training Plan was submitted to regulatory agencies, governments, Aboriginal Groups, School Districts 59 and 60, and Northern Lights College on October 17, 2014.
EAC 53	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.	Completed	In Compliance	The final Labour and Training Plan was submitted to regulatory agencies, governments, Aboriginal Groups, School Districts 59 and 60, and Northern Lights College on June 5, 2017.
EAC 53	The EAC Holder must develop, implement and adhere to the final Labour and Training Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	The Summary of the Site C Workforce - Annual report (Total worker, Temporary Foreign Workers and Difficult to Hire Positions) was provided to the Northern Lights College and School District 59 and 60 on July 27th, 2017. The next report will be issued in July 2018.
EAC 54	The EAC Holder must develop an Aboriginal Training and Inclusion Plan.	Completed	In Compliance	The Aboriginal Training and Inclusion Plan (June 2015) is available on the Project website at: <a href="https://www.sitecproject.com/sites/default/files/Aboriginal">https://www.sitecproject.com/sites/default/files/Aboriginal</a>

No.	EAC Condition	Implementation Status	Compliance Status	Description
				<a href="#">_Training_and_Inclusion_Plan.pdf</a>
EAC 54	<p>The Aboriginal Training and Inclusion Plan must include at least the following:</p> <ul style="list-style-type: none"> <li>· Description of a protocol and plan for the communication of employment opportunities to Aboriginal groups.</li> </ul>	Ongoing	In Compliance	<p>BC Hydro continues to post Site C Project job opportunities on the Site C Project, WorkBC and Employment Connections websites. These sites and the hyperlinks are provided as standing information in the bi-weekly information updates sent out by email to Aboriginal groups. During this reporting period, employment of Aboriginal people working for Site C Construction and Non-Construction Contractors ranged from approximately 80-220 per month.</p> <p>BC Hydro's Indigenous Employment and Business Development Program Specialist in Fort St. John continued to actively work with Aboriginal communities to highlight the opportunities both on Site C as well as with BC Hydro broadly. Results of the initiatives are reported in the 2016-2017 Aboriginal Training and Inclusion Plan Annual Report which was submitted to the EAO on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in July, 2018.</p>
EAC 54	<ul style="list-style-type: none"> <li>· Inclusion of evaluation criteria for hiring and training Aboriginal persons in contractor procurement packages.</li> </ul>	Ongoing	In Compliance	<p>BC Hydro contractors have continued to train and employ Aboriginal carpenter apprentices on the Project. Where applicable to their role, the following safety training has been provided to over 50 Aboriginal workers on the Site C Project: Fire Suppression Training; Power System Safety Protection (PSSP); Risk Tolerance; H2S (Hydrogen Sulfide) Awareness; First Aid; and Bear Aware.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 54	<p>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.</p>	Ongoing	In Compliance	<p>BC Hydro has implemented capacity building initiatives that have supported essential skills training, pre-trades and trades training, or increased business capacity in Aboriginal businesses. Examples include funding to the Northern Lights College Foundation to provide student bursaries to support the development of skilled workers in northern BC; Aboriginal involvement in Site C field programs; Camp Cook Training Program; Construction Craft Work Training Program; Moberly Lake Academic Program; Youth Hires Program; Site C Tours; Pathways to Success with BC Hydro; Construction Safety Training System; and Electro-Fishing Training course.</p> <p>As of March 2017, 180 Aboriginal students had received bursaries, and 69 Aboriginal students have benefitted from BC Hydro's Trades and Skilled Training Bursary at Northern Lights College, which supports students in programs such as electrical, welding, millwright, cook training, and social work. BC Hydro, along with the Northern Lights College Foundation, continues to promote the bursary with Aboriginal groups by sharing information with First Nation Education Managers at both Aboriginal and non-Aboriginal community career fair events.</p> <p>BC Hydro will continue to consider proposals from Aboriginal groups and training organizations for potential capacity building, education and training opportunities throughout the construction phase of the Project.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 54	<p>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.).</p>	Ongoing	In Compliance	<p>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. The purpose of the Initiative is to create a space for Aboriginal women to discover themselves, connect with others, and to enhance leadership skills. Committed funding was provided for 2016-2017.</p>
EAC 54	<p>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).</p>	Ongoing	In Compliance	<p>Building on the success of the Ōhō Education program for Treaty 8 Aboriginal Education Coordinators and Leaders, BC Hydro provided Ōhō Education with additional funding during the reporting period to support eight Treaty 8 Employment and Training Assistants (ETAs) to develop human resources skills within each community. BC Hydro is collaborating on this initiative with Ōhō Education, NENAS, ATCO Structures &amp; Logistics, and Peace River Hydro Partners.</p> <p>As part of the training, ETAs met with ATCO, Peace River Hydro Partners and BC Hydro to learn about careers, employment opportunities, and the hiring processes with the organizations. ETAs have also received tours of BC Hydro's northern facilities, including the ATCO camp at the Site C construction site.</p> <p>The training program commenced April 2016 and ended August 2016. After completing the training program, ETAs will be able to help job seekers within their communities.</p> <p>Since then, NENAS has decided to drop the ETA program within their funding model. Three of the First Nations communities have hired their ETAs and they are now working for their Bands (Prophet River First Nation, Halfway River First Nation, and Sauteau First Nations).</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 54	<ul style="list-style-type: none"> <li>· Aboriginal Business Participation Strategy to maximize opportunities for Aboriginal businesses, incorporating at least the following:                             <ul style="list-style-type: none"> <li>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</li> </ul> </li> </ul>	Ongoing	In Compliance	<p>BC Hydro supports the advancement of economic opportunities for Aboriginal groups, and is working with Aboriginal businesses with respect to contracting opportunities on the Project. In addition, BC Hydro's contractors are required to make efforts to provide opportunities for subcontracting, employment and training for Aboriginal businesses and individuals, and to report on Aboriginal inclusion in the performance of their work.</p> <p>Aboriginal businesses have been awarded work on the Site C Project in the following areas: clearing; site preparation, roads and bridges; grass seed supply; wetland mitigation; safety buoys; project health clinic; substation work; and environmental monitoring.</p>
EAC 54	<ul style="list-style-type: none"> <li>o Direct engagement with the local Aboriginal business community, including sponsoring and participating in Aboriginal business events and conferences.</li> </ul>	Ongoing	In Compliance	<p>BC Hydro continues to engage the local Aboriginal Business community through the following initiatives:</p> <ul style="list-style-type: none"> <li>- Site C Business Directory</li> <li>- Business Networking Sessions and Job Fairs</li> <li>- Procurement Process Support</li> </ul>
EAC 54	<ul style="list-style-type: none"> <li>o Implementation of BC Hydro's Aboriginal Contract and Procurement Policy.</li> </ul>	Ongoing	In Compliance	<p>BC Hydro's procurement and Aboriginal Relations staff are available to discuss procurement processes and ways to stay informed about upcoming procurements. BC Hydro works closely with Aboriginal communities and businesses to understand their capacity and interest with respect to the Project and identification of potential contracting opportunities.</p>
EAC 54	<p>The EAC Holder must provide this draft Aboriginal Training and Inclusion Plan to Aboriginal Groups for review a minimum of 90 days prior to the commencement of construction.</p>	Completed	In Compliance	<p>The draft Aboriginal Training and Inclusion Plan was submitted to Aboriginal Groups on October 17, 2014.</p>
EAC 54	<p>The EAC Holder must file the final Aboriginal Training and Inclusion Plan with EAO and Aboriginal Groups a minimum of 30 days</p>	Completed	In Compliance	<p>The final Aboriginal Training and Inclusion Plan was submitted to EAO and Aboriginal Groups on June 5, 2015</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
	prior to construction.			
EAC 54	The EAC Holder must develop, implement and adhere to the final Aboriginal Training and Inclusion Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	The 2016-2017 Aboriginal Training and Inclusion Plan Annual Report was submitted to the EAO on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in July, 2018. BC Hydro will update the plan as required based on new information, and will continue to implement initiatives described in the plan throughout construction.
EAC 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.	Ongoing	In Compliance	BC Hydro signed a Community Measures Agreement with the City of Fort St. John on April 22, 2016 which addressed mitigation for camp resident use of City recreational services.
EAC 55	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.	Ongoing	In Compliance	BC Hydro signed a Community Measures Agreement with the City of Fort St. John on April 22, 2016 which addressed mitigation for camp resident use of City recreational services.
EAC 55	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.	Completed	In Compliance	The draft Recreation Program was submitted to City of Fort St. John, and PRRD on October 17, 2014.
EAC 55	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.	Completed	In Compliance	The final Recreation Program was submitted to EAO, City of Fort St. John, and PRRD on June 5, 2015.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 55	The EAC Holder must develop, implement and adhere to the final Recreation Program, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	BC Hydro has made payments to the City in accordance with the Community Measures Agreement for Year 1-3 of the Project.
<b>HUMAN HEALTH</b>				
<b>Potable and Recreational Water Quality</b>				
EAC 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 water for human consumption by monitoring potentially affected wells, with the approval of potentially affected well owners, for significant long-term well quality issues.	Ongoing	In Compliance	<p>BC Hydro commenced monitoring of groundwater in June 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. This program was implemented as an alternative to monitoring private wells for which BC Hydro cannot control access, operation, maintenance, or possible contamination.</p> <p>For those willing to participate in the monitoring program, BC Hydro has requested information on wells, and if used for drinking water, requested approval to complete well water testing. An initial field program was conducted in fall 2016, during which time 10 wells were sampled at eight residential properties for baseline water quality analysis. An additional monitoring event was undertaken in spring 2017, during which time 5 wells were sampled for baseline water quality analysis. A renewed effort was made by BC Hydro in summer 2017 to contact owners of registered and non-registered wells. The most recent monitoring event, in fall 2017, included a total of 16 wells, and expanded the program to include well yield testing where feasible. Well owners whom BC Hydro was unable to successfully contact to schedule monitoring in advance of planned field programs, or who requested to join the voluntary program after the planned event, are considered for inclusion in future monitoring events.</p> <p>Implementation of twice per year monitoring will include</p>



No.	EAC Condition	Implementation Status	Compliance Status	Description
				contact with drinking water well owners with a brief questionnaire on well operations and any potential changes in water quality. Water quality and well yield testing will be completed on an as-needed basis in private drinking water wells, if potential changes or concerns are identified.
EAC 56	Monitoring must be done twice a year for 10 years, beginning annually from the outset of construction.	Ongoing	In Compliance	Monitoring will continue for a period of 10 years from the date of the initial voluntary sampling event in October 2016.
EAC 56	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. If testing finds issues with water 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.
<b>Ambient Air Quality</b>				
EAC 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 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.	Completed	In Compliance	The Smoke Management Plan and Air Quality Monitoring Program are described in Section 4.1 and Appendix A and B, respectively, of the CEMP.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 57	The Air Quality Management Plan and Smoke Management Plan must include at least the following to describe how the EAC Holder: <ul style="list-style-type: none"> <li>· Identify places of high use by Aboriginal Groups for traditional purposes and develop mitigation measures if adverse effects are predicted at those locations.</li> </ul>	Ongoing	In Compliance	BC Hydro has initiated ground truthing programs with the purpose of engaging with Aboriginal land users, including registered trapline holders, to verify and accurately locate Aboriginal land use information, and to identify concerns related to specific features, or sites that may be affected by the Project. BC Hydro has provided funding to Aboriginal groups for ground truthing through Consultation and Capacity Funding Agreements. During this reporting period, ground truthing was undertaken by Doig River, Halfway River, Blueberry River, McLeod Lake and Sauleteu First Nations.  BC Hydro continues to consult with Aboriginal groups regarding construction plans, and has sent invitation letters in April 2017, September 2017 and January 2018 highlighting areas where construction is planned in order that Aboriginal groups could ground truth areas of traditional significance prior to construction. Ground-truthing information received continues to be used to support and inform mitigation measures and relevant mitigation plans.
EAC 57	<ul style="list-style-type: none"> <li>· Measures to manage emissions and dust from all Project activities.</li> </ul>	Ongoing	In Compliance	Section 4.1 of the CEMP requires Contractors to prepare EPPs that include measures to manage emissions and dust from all project activities. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 57	<ul style="list-style-type: none"> <li>· Measures to manage Project effects on air quality associated with concrete production at concrete batch plants.</li> </ul>	Ongoing	In Compliance	Section 4.1 of the CEMP provides mitigation measures to be taken to manage air quality effects associated with concrete batch plant operations.
EAC 57	<ul style="list-style-type: none"> <li>· Control Project-related smoke by following the most current BC Ministry of Environment Open Burning Smoke Control</li> </ul>	Ongoing	In Compliance	Burning of lower reservoir and transmission line woody debris piles took place in March 2018; current BC Ministry of Environment Open Burning Smoke Control Regulation were

No.	EAC Condition	Implementation Status	Compliance Status	Description
	Regulation.			adhered to during this activity.
EAC 57	Measures to retain vegetative barriers, or install temporary barriers, where practical.	Ongoing	In Compliance	Section 4.1 of the CEMP requires Contractors to retain vegetative barriers, or install temporary barriers, where practicable. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 57	Procedures to provide MOE with data collected during monitoring so that they can notify sensitive populations if air quality thresholds are exceeded.	Completed	In Compliance	A MOU agreement was established between BC Hydro and the MOE regarding the housing and publishing of Site C air quality monitoring data on January 7, 2016.
EAC 57	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. Shoreline protection works at Hudson's Hope are planned to commence in 2020 – 2022. Air quality monitoring plans will be implemented during construction and for the first 2 years of reservoir operations.
EAC 57	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.	Completed	In Compliance	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 CEMP was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014
EAC 57	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.	Completed	In Compliance	The final (Revision 1) of the CEMP was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. Revision 2 of the CEMP was issued in February 2016 and Revision 4 in July 2016 (Revision 3 was not formally published).

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 57	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.	Ongoing	In Compliance	Appendix A of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
<b>Noise and Vibration</b>				
EAC 58	The EAC Holder must develop a Noise and Vibration Management Plan to mitigate Project-related noise and vibration effects on human health.	Completed	In Compliance	The Noise and Vibration Management Plan is described in Section 4.11 of the CEMP.
EAC 58	The Noise and Vibration Management Plan must include at least the following: <ul style="list-style-type: none"> <li>· Program to monitor noise levels associated with construction of Hudson's Hope Shoreline Protection.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.  Shoreline protection works at Hudson's Hope are planned to commence in 2020-2022, and noise level monitoring will be undertaken during construction.
EAC 58	<ul style="list-style-type: none"> <li>· Implement notification of construction program and Construction Communication Plan for residents in vicinity of Project activities</li> </ul>	Ongoing	In Compliance	<p>The Site C project team is implementing the Construction Communication Plan and the Aboriginal Group Communication Plans to ensure that residents, stakeholders and Aboriginal groups are provided with advance notification about construction activities.</p> <p>The 2016-2017 Annual Report for the Construction Communications Plan was posted on the Site C website on July 27, 2017. The 2017-2018 Annual Report will be posted in July 2018.</p> <p>Implementation events include: Regional Community Liaison Committee meetings, mail drops, bi-weekly construction updates, First Nations Construction Notification Letter, Stakeholder Construction Notification Letter, Construction Information Sheets posted on the Project website, news releases about key project milestones, site tours, Project website, responses to public enquiries, advertising (i.e., transmission line access road).</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 58	<ul style="list-style-type: none"> <li>· Retain or erect acoustic barriers, fencing, and vegetative screens as appropriate.</li> </ul>	Ongoing	In Compliance	The CEMP Section 4.11 describes the retention or erection of acoustic barriers, fencing, and vegetative screens as appropriate as a mitigation measure for noise and vibration effects. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 58	<ul style="list-style-type: none"> <li>· Develop and implement noise monitoring and adaptive management as required.</li> </ul>	Ongoing	In Compliance	The CEMP Section 4.11 describes the implementation of a noise monitoring program to measure noise levels at sensitive locations near the 85th Avenue Industrial Lands, Highway 29 re-alignment, and Hudson's Hope berm. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 58	<ul style="list-style-type: none"> <li>· Mitigate night-time noise (e.g. perimeter berms and acoustic barriers, portable enclosures or barriers to the conveyor hopper, and silent backup alarms)</li> </ul>	Ongoing	In Compliance	The CEMP Section 4.11 describes the scheduling of construction activity near homes to reduce periods of disturbance, and the control of construction traffic and deliveries on local roads during night-time hours (22:00-07:00). BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 58	<ul style="list-style-type: none"> <li>· Monitor noise at 85th Avenue Industrial Lands</li> </ul>	Ongoing	In Compliance	The CEMP Section 4.11 describes the implementation of a noise monitoring program at 85th Avenue Industrial Lands. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 58	<ul style="list-style-type: none"> <li>o Construct perimeter fencing and retain or plant tree screens at 85th Avenue Industrial Lands</li> </ul>	Ongoing	In Compliance	The CEMP Section 4.11 describes noise mitigation measures specific to 85th Avenue Industrial Lands. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 58	<ul style="list-style-type: none"> <li>o Design a work and noise management schedule that allows an uninterrupted eight hour sleep schedule for Project workers,</li> </ul>	Completed	In Compliance	The Noise Management Plan included within Worker Accommodation design and operations contract is aligned with the CEMP Section 4.11.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 58	o Manage Project construction noise to provide quiet enjoyment to residents, even if it means temporary relocation of residents at the EAC Holder's expense.	Ongoing	In Compliance	The CEMP Section 4.11 describes noise mitigation measures specific to 85th Avenue Industrial Lands. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation. Construction activity to-date in the 85th Ave industrial lands area has included initial site development.
EAC 58	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.	Completed	In Compliance	The Noise and Vibration Management Plan is described in Section 4.11 of the CEMP. The Draft CEMP was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014
EAC 58	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.	Completed	In Compliance	The final (Revision 1) of the CEMP was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. The CEMP continues to be updated as required, with the most recent version, Revision 4, dated July 26, 2016, provided to regulators, government agencies, Aboriginal Groups and the public via the Site C Clean Energy Project website at: <a href="https://www.sitecproject.com/document-library/environmental-management">https://www.sitecproject.com/document-library/environmental-management</a> .
EAC 58	The EAC Holder must develop, implement and adhere to the final Noise and Vibration Management Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	Section 4.11 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 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.	Ongoing	In Compliance	Implementation of the Noise and Vibration and Air Quality Management Plans, including review of EPPs, inspections of mitigation measures, and monitoring, is ongoing. A noise and air quality complaint response process has been developed and is being implemented.
<b>Methylmercury</b>				
EAC 60	The EAC Holder must, in collaboration with the First Nations Health Authority (FNHA), NHA and Aboriginal Groups, develop a Methylmercury Monitoring Plan.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition. BC Hydro will work with the FNHA, Northern Health Authority (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.
EAC 60	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;	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 60	· Use of information regarding consumption of fish by Aboriginal Groups known to consume fish in the methylmercury 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	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	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			
EAC 60	<ul style="list-style-type: none"> <li>· Use of baseline methylmercury levels in representative fish species consumed by Aboriginal Groups and non-aboriginal harvesters.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 60	Requirements for monitoring the trend and evolution of methylmercury concentrations in fish. Monitoring requirements must include the following: <ul style="list-style-type: none"> <li>· proposed geographic extent;</li> <li>· proposed monitoring parameters;</li> <li>· proposed monitoring locations; and</li> <li>· proposed monitoring timelines and frequency.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 60	Measures to enable people to limit exposure to methylmercury to avoid risk to human health such as:	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 60	<ul style="list-style-type: none"> <li>· 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</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 60	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 60	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 methylmercury levels in fish populations have stabilized.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 60	The EAC Holder must report on the results to EAO, FNHA and NHA in accordance with the monitoring schedule.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 60	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 60	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 60	The EAC Holder must develop, implement and adhere to the final Methylmercury Monitoring Plan, and any amendments, to the satisfaction of EAO.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
<b>HERITAGE RESOURCES</b>				
<b>Visual Resources</b>				
EAC 61	The EAC Holder must develop and implement measures to manage Project effects on visual resources by undertaking the following throughout construction: <ul style="list-style-type: none"> <li>· 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</li> </ul>	Ongoing	In Compliance	BC Hydro has completed public consultation on the Hudson's Hope shoreline protection area.  BC Hydro will collaborate with the District of Hudson's Hope regarding measures to maintain or enhance visual resources. BC Hydro signed a Partnering Relationship Agreement with the District of Hudson's Hope in January 2017 which addresses how the District and BC Hydro will work together on the measures in their community. BC Hydro discussed plantings along the shoreline protection works with the District in January 2018.
EAC 61	<ul style="list-style-type: none"> <li>· 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.</li> </ul>	Ongoing	In Compliance	BC Hydro has included requirement for building designs to blend in with surrounding in architectural contract terms for Project Structures, where feasible.
EAC 61	<ul style="list-style-type: none"> <li>· Set objectives and requirements for establishing and building workforce accommodation camps on previously disturbed areas or areas generally hidden from key viewpoints.</li> </ul>	Completed	In Compliance	The Site C workforce accommodation camp has been sited on a previously disturbed area and is, in general, hidden from key viewpoints.
EAC 61	The EAC Holder must undertake the measures to the satisfaction of EAO.	Ongoing	In Compliance	The implementation of the measures is underway in accordance with this condition.
<b>Physical Heritage and Cultural Heritage</b>				
EAC 62	The EAC Holder must protect and preserve heritage resources by implementing measures as detailed in a Heritage Resources Management Plan.	Ongoing	In Compliance	The Heritage Resources Management Plan (HRMP) is available on the Project website at: <a href="https://www.sitecproject.com/document-library/environmental-management">https://www.sitecproject.com/document-library/environmental-management</a> . Annual reports for field work completed in 2017 under these permits and for palaeontological resources will be submitted to regulatory agencies on March 31, 2018.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 62	The Heritage Resources Management Plan must be developed by a QEP.	Completed	In Compliance	Section 10.0 of the HRMP lists the QEPs who prepared the plan.
EAC 62	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.	Ongoing	In Compliance	<p>This is addressed in the final HRMP, dated June 5, 2015.</p> <p>Implementation of this requirement has included:</p> <ul style="list-style-type: none"> <li>-the opportunity for Aboriginal groups to comment on Section 14 heritage reports and Section 14 and 12 permit amendments in accordance with the Heritage Conservation Act where the Aboriginal Group is listed in the permit,</li> <li>- Offers to present heritage work results to Aboriginal Groups and,</li> <li>-providing archaeology crew field assistant employment opportunities for Aboriginal people.</li> </ul>
EAC 62	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.	Ongoing	In Compliance	<p>This is addressed in the final HRMP, dated June 5, 2015.</p> <p>Implementation of this requirement has included:</p> <ul style="list-style-type: none"> <li>-in accordance with the Heritage Conservation Act, Aboriginal Groups that may be affected by a permitting decision and who are listed in the permit, are provided a review period of between 15 and 30 days and an opportunity for comment, and</li> <li>-providing archaeology crew field assistant employment opportunities for Aboriginal people.</li> </ul>
EAC 62	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.	Completed	In Compliance	The draft HRMP was submitted to the Archaeology Branch of FLNR, and Aboriginal Groups on October 17, 2014.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 62	The Heritage Resources Management Plan must include Archaeological Impact Management and Heritage Resources Monitoring and Follow-Up Programs.	Ongoing	In Compliance	Section 6 of the HRMP describes Heritage Resources Impact Management.  Management measures implemented to date have included: -inclusion of heritage requirements in contractor EPPs, as applicable to the scope of work covered by the EPP, -undertaking archaeological work for the Heritage Resources Impact Assessment in accordance with the terms and conditions of Heritage Conservation Act Section 14 (Heritage Inspection) permits, and -undertaking any land-altering work in accordance with Section 12 Heritage Conservation Act (Site alteration) permit.
EAC 62	The field and reporting portions of each program will be of a scope, duration and frequency prescribed by the BC Heritage Conservation Act permits.	Ongoing	In Compliance	Annual reports for field work completed in 2017 under these permits, and for palaeontological resources, will be submitted to regulatory agencies on March 31, 2017.
EAC 62	The Archaeology Impact Management Program must be developed by a QEP qualified to hold Section 14 Heritage Inspection and Investigation Permits.	Completed	In Compliance	Section 10.0 of the HRMP lists the QEPs who prepared the plan.
EAC 62	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 resources	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 62	· Implement mitigation measures, systematic data recovery or emergency salvage operations in accordance with the Heritage Resources Management Plan.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 62	<ul style="list-style-type: none"> <li>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.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 62	<ul style="list-style-type: none"> <li>Establish a reporting structure for reporting to Aboriginal Groups and the Archaeology Branch beginning 180 days following the commencement of operations.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 62	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.	Completed	In Compliance	The final HRMP was submitted to EAO, the Archaeology Branch of FLNR, and Aboriginal Groups on June 5, 2015.
EAC 62	The EAC Holder must develop, implement and adhere to the final Heritage Resources Management Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	Annual reports for field work completed in 2017 under these permits and for palaeontological resources will be submitted to regulatory agencies on March 31, 2018.
EAC 63	The EAC Holder must manage adverse Project effects on cultural resources by implementing mitigation measures detailed in a Cultural Resources Mitigation Plan.	Ongoing	In Compliance	BC Hydro is engaging Aboriginal groups on the development and implementation of mitigation measures respecting the potential effects of the Project on Aboriginal culture and heritage. BC Hydro submitted the 2016-2017 Cultural Resources Mitigation Plan (CRMP) Annual Report to the EAO on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in July, 2018. BC Hydro is currently in the process of updating the CRMP plan based on feedback from the EAO and new information from Aboriginal groups. BC Hydro will continue to implement initiatives described in the plan throughout construction.

No.	EAC Condition	Implementation Status	Compliance Status	Description
				<p>In April 2017, the Environmental Assessment Office initiated an inspection in response to a complaint from West Moberly First Nations and Prophet River First Nation regarding the effects of the Highway 29 realignment on cultural and heritage resources in the area of Bear Flats (near the confluence of Cache Creek and the Peace River).</p> <p>BC Hydro and the Ministry of Transportation and Infrastructure are currently working with Aboriginal communities and others on the redesign of the Highway 29 realignment at Cache Creek, and have begun consultation on alternative route options to avoid, and reduce the effects on potential burial sites and sacred places at Cache Creek.</p> <p>BC Hydro continues to consult with Aboriginal groups regarding construction plans, and support Aboriginal groups in ground truthing of traditional land use areas within the Project activity zone prior to construction. BC Hydro has provided funding to Aboriginal groups for ground truthing through Consultation and Capacity Funding Agreements as well as providing additional funding to Doig River First Nation, Halfway River First Nation, and Blueberry River First Nations for specific cultural investigations. Some Aboriginal groups have confidentially identified cultural sites of concern within or near the project area, and BC Hydro is continuing to engage with these groups around mapping of their cultural interests, and potential measures to avoid or mitigate impacts.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 63	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.	Ongoing	In Compliance	<p>The 2016-2017 Cultural Resources Mitigation Plan Annual Report was submitted to the EAO on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in July, 2018. BC Hydro will update the plan as required based on new information, and will continue to implement initiatives described in the plan throughout construction.</p> <p>The CRMP includes formation of a Cultural and Heritage Resource Committee. While BC Hydro has continued to invite all 13 Aboriginal groups named in the EAC and FDS, to date, only representatives from 9 of the Aboriginal groups have attended (Doig River, Blueberry River, Halfway River, Dene Tha', Duncan's, and Horse Lake First Nations, McLeod Lake Indian Band, Métis Nation BC, and Kelly Lake Métis Settlement Society). The Committee has continued to work collaboratively on cultural resources mitigation initiatives, such as identifying measures to commemorate sites that will be lost to inundation, identification and naming of key cultural sites, documenting historical use of the area, including trails, sites, and stories, and discussing and developing an approach to Aboriginal cultural awareness and orientation of the workforce. Initiatives underway include signage shelters at the Site C north bank viewpoint and traveling museum exhibit that could travel Aboriginal communities and to ultimately reside in the Fort St John Museum.</p>
EAC 63	The Cultural Resources Mitigation Plan must include consideration of the following elements and/or others that may be recommended by the Committee: <ul style="list-style-type: none"> <li>· Identification and naming of key cultural sites</li> <li>· Documenting historical use of the area, including trails, sites, and stories.</li> <li>· Commemoration of sites lost to</li> </ul>	Ongoing	In Compliance	The Cultural Resource and heritage Committee has continued to work collaboratively on cultural resources mitigation initiatives, such as identifying measures to commemorate sites that will be lost to inundation, identification and naming of key cultural sites, documenting historical use of the area, including trails, sites, and stories, and discussing and developing an approach to Aboriginal cultural awareness and orientation of the workforce. Initiatives underway include Aboriginal interpretive signage

No.	EAC Condition	Implementation Status	Compliance Status	Description
	inundation. · Cultural awareness and orientation of workforce. · Support for cultural camps through financial or in-kind support.			at the Site C north bank public viewpoint and a potential traveling museum exhibit that could travel to Aboriginal communities and to ultimately reside in the Fort St John Museum.  In early 2017, in an effort to make Committee meetings more effective, BC Hydro secured a facilitator in April 2017. This facilitator has helped facilitate two meetings during this reporting period, and advanced discussions around measures to improve upon Committee meetings.
EAC 63	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.	Completed	In Compliance	The draft Cultural Resources Mitigation Plan was submitted to Aboriginal Groups on October 17, 2014.
EAC 63	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.	Completed	In Compliance	The final Cultural Resources Mitigation Plan was submitted to Aboriginal Groups on June 5, 2015.
EAC 63	The EAC Holder must develop, implement and adhere to the final Cultural Resources Mitigation Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	The 2016-2017 Cultural Resources Mitigation Plan Annual Report was submitted to the EAO on October 31, 2017. The 2017-2018 Annual Report will be submitted to the EAO in July, 2018. BC Hydro will update the plan as required based on new information, and will continue to implement initiatives described in the plan throughout construction.
EAC 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.	Initial Planning	Future Requirement	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. The allocation of the funding is planned for Year 5 of Construction.



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 64	These funds must be provided only to facilities that agree to work with interested Aboriginal Groups on the display and curation of those artefacts.	Initial Planning	Future Requirement	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. The allocation of the funding is planned for Year 5 of Construction.
<b>ENVIRONMENTAL PROTECTION AND MANAGEMENT</b>				
<b>Greenhouse Gas Emissions</b>				
EAC 65	The EAC Holder must monitor the levels of Greenhouse Gas (GHG) emissions resulting from the Project as detailed in a Greenhouse Gases Monitoring and Follow-Up Program to confirm predictions of the GHG model.	Initial Planning	Future Requirement	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.
EAC 65	The Program must include at least the following: · Protocols for monitoring GHG emissions from Site C reservoir for the first 10 years of operations.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 65	· Protocols for monitoring and reporting GHG emissions during operation and maintenance activities.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 65	· 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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 65	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	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	commencement of operations.			
EAC 65	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 65	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
<b>ENVIRONMENTAL MANAGEMENT PLANS, FOLLOW-UP AND MONITORING</b>				
EAC 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 conditions in an Environmental Oversight Program.	Completed	In Compliance	Environmental Management Roles and Responsibilities are described in Section 2.0 of the CEMP.
EAC 66	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.	Ongoing	In Compliance	The BC Hydro environmental team onsite inspects and audits against the various environmental documentation and commitments. Contractors and BC Hydro keep a non-compliance report tracking program and share the information to ensure the identified items are acted upon. Some generic items have been identified; moving forward BC Hydro will ensure Non-compliance Reports are specific, actionable with accountable individuals assigned and a due date which is timely but able to be met. If BC Hydro or the IEM identify a non-compliance, contractors are required to investigate, document and rectify the non-compliance, keeping BC Hydro involvement to an inspection, audit, and oversight role.
EAC 66	The EAC Holder must submit the draft Environmental Oversight Program to EAO 90 days prior to commencing construction.	Completed	In Compliance	The draft CEMP was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 66	The EAC Holder must submit the final Environmental Oversight Program to EAO 30 days prior to commencing construction.	Completed	In Compliance	The final (Revision 1) of the CEMP was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. Revision 2 of the CEMP was issued in February 2016 and Revision 4 in July 2016 (Revision 3 was not formally published).
EAC 66	The EAC Holder must develop, implement and adhere to the final Environmental Oversight Program, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	The BC Hydro environmental team onsite inspects and audits against the various environmental documentation and commitments. Contractors and BC Hydro keep a non-compliance report tracking program and share the information to ensure the identified items are acted upon. Some generic items have been identified; moving forward BC Hydro will ensure Non-compliance Reports are specific, actionable with accountable individuals assigned and a due date which is timely but able to be met. If BC Hydro or the IEM identify a non-compliance, contractors are required to investigate, document and rectify the non-compliance, keeping BC Hydro involvement to an inspection, audit, and oversight role.
EAC 67	The EAC Holder must appoint an IEM acceptable to EAO, at least three months prior to construction.	Completed	In Compliance	BC Hydro retained Environmental Dynamics Inc. as the Independent Environmental Monitor for the Project on January 13, 2015. EAO approved this on May 7, 2015.
EAC 67	The IEM will be responsible for monitoring the course of construction of the Project as directed by EAO.	Ongoing	In Compliance	BC Hydro retained Environmental Dynamics Inc. as the Independent Environmental Monitor for the Project on January 13, 2015. EAO approved this on May 7, 2015. EDI provides a weekly environmental monitoring report to BC Hydro and regulators.
EAC 67	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.	Ongoing	In Compliance	BC Hydro retained Environmental Dynamics Inc. as the Independent Environmental Monitor for the Project on January 13, 2015. EAO approved this on May 7, 2015. EDI provides a weekly environmental monitoring report to BC Hydro and regulators.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 67	These Reports must be developed and reported to the satisfaction of EAO.	Ongoing	In Compliance	BC Hydro retained Environmental Dynamics Inc. as the Independent Environmental Monitor for the Project on January 13, 2015. EAO approved this on May 7, 2015. EDI provides a weekly environmental monitoring report to BC Hydro and regulators.
EAC 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.	Ongoing	In Compliance	<p>BC Hydro is auditing the implementation of measures in the CSMP by:</p> <ul style="list-style-type: none"> <li>- reviewing Safety Management Plans /Public Safety Management Plans submitted by the contractors,</li> <li>- holding regular meetings with the contractors to discuss safety performance and exploring opportunities for improvement, and</li> <li>- conducting safety audits during construction to verify that requirements of the Plan are being considered and implemented as required.</li> </ul> <p>BC Hydro has also required that the MCWs contractor retain independent third party auditors to conduct safety audits on an annual basis. The MCW contractor obtained their Certificate of Recognition after achieving 96% on their Health, Safety and Environment audit.</p>
EAC 68	The Construction Safety Management Plan must be developed by a QEP.	Completed	In Compliance	Section 6.0 of the CSMP lists the QPs who prepared the plan.
EAC 68	The Construction Safety Management Plan must include the following component plans: <ul style="list-style-type: none"> <li>· Fire Hazard and Abatement Plan;</li> </ul>	Ongoing	In Compliance	<p>The Fire Hazard and Abatement plan is described in Section 5.2 of the CSMP.</p> <p>Fire abatement practices are part of every day work. The BC Hydro Fire Marshall has been actively engaged in fire management planning and fire code review in each phase of construction and site services. The Fire Marshall and/or her representative has been actively engaged in Fire audit work at Site C. Fire Marshall recommendations have formed the basis of corrective action plans to the satisfaction of the Fire Marshall. Fire systems tests have been ongoing at the</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
				worker accommodation camp since it opened.
EAC 68	Public Safety Management Plan;	Ongoing	In Compliance	<p>BC Hydro is meeting this requirement.</p> <p>Section 5.3 of the CSMP describes the Public Safety Management Plan as well as planning for future aspects of the project. 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. See comments for EAC condition 38.</p>
EAC 68	Traffic Management Plan; and	Ongoing	In Compliance	<p>The Traffic Management Plan is contained in Section 5.4 of the CSMP.</p> <p>The Traffic Management Plan applies to the dam site, other work sites that will be influenced by Project-related traffic including, but not limited to, public roads in the Peace River Regional District, Wuthrich Quarry, West Pine Quarry, Highway 29, Hudson's Hope Shoreline Protection, Petroleum Development Roads, Project Access Roads, Jackfish Lane Road, Highway 97 and the transport of extraordinary loads.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 68	<ul style="list-style-type: none"> <li>· Worker Safety and Health Management Plan;</li> </ul>	Ongoing	In Compliance	<p>The Worker Safety and Health Management Plan is contained in CSMP Section 5.5 and its sub-sections.</p> <p>BC Hydro is auditing the implementation of measures in the CSMP by:</p> <ul style="list-style-type: none"> <li>- reviewing Safety Management Plans /Public Safety Management Plans submitted by the contractors,</li> <li>- holding regular meetings with the contractors to discuss safety performance and exploring opportunities for improvement , and</li> <li>- conducting safety audits during construction to verify that requirements of the Plan are being considered and implemented as required.</li> </ul> <p>BC Hydro has also required that the MCW contractor retain independent third party auditors to conduct safety audits on an annual basis.</p> <p>This condition is being met by BC Hydro. The draft and final CSMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively.</p>
EAC 68	<p>Each component plan in addition to plan specific conditions in this document must include the following:</p> <ul style="list-style-type: none"> <li>· Clear statement of Objectives;</li> </ul>	Ongoing	In Compliance	<p>The draft and final CSMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively. The CSMP contains a clear statement of objectives.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 68	<ul style="list-style-type: none"> <li>· Description of potential Project effects and safety hazards, through consideration of baseline conditions and sensitive receptors;</li> </ul>	Ongoing	In Compliance	<p>BC Hydro is auditing the implementation of measures in the CSMP by:</p> <ul style="list-style-type: none"> <li>- reviewing Safety Management Plans /Public Safety Management Plans submitted by the contractors,</li> <li>- holding regular meetings with the contractors to discuss safety performance and exploring opportunities for improvement</li> <li>•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.</li> </ul> <p>This condition is being met by BC Hydro. The draft and final CSMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively..</p>
EAC 68	<ul style="list-style-type: none"> <li>· Clear documentation of all measures to be implemented and actions to be taken to mitigate potential effects and safety hazards;</li> </ul>	Ongoing	In Compliance	<p>Unexpected hazards encountered during construction are communicated to all contractors.</p>
EAC 68	<ul style="list-style-type: none"> <li>· Description of worker qualifications and training requirements pertaining to the Construction Safety Management Plan;</li> </ul>	Ongoing	In Compliance	<p>CSMP requires that workers are appropriately qualified. The audit cycle ensures that this takes place, and WorkSafe BC also audits for compliance with worker qualifications.</p> <p>Requirements for safety training, orientation, training and tailboard meetings are also discussed in Section 3 of the CSMP.</p> <p>BC Hydro and Work Safe BC also audit for compliance with worker qualifications.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 68	· Description of reporting requirements; and	Ongoing	In Compliance	<p>BC Hydro is auditing the implementation of measures in the CSMP by:</p> <ul style="list-style-type: none"> <li>- reviewing Safety Management Plans /Public Safety Management Plans submitted by the contractors,</li> <li>- holding regular meetings with the contractors to discuss safety, performance and exploring opportunities for improvement, and</li> <li>- conducting safety audits during construction to verify that requirements of the Plan are being considered and implemented as required.</li> </ul> <p>BC Hydro has also required that the MCW contractor retain independent third party auditors to conduct safety audits on an annual basis.</p> <p>The draft and final CSMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively.</p> <p>Reporting requirements are being met by: BC Hydro's Incident Management System reporting, weekly reports on upcoming work to WorkSafe BC, and various weekly reports on safety including statistics, monthly business reviews on safety, reviews of incidents and investigations.</p>
EAC 68	· Process for revising and updating the Construction Safety Management Plan.	Ongoing	In Compliance	The CSMP is updated as needed and if conditions on site change.
EAC 68	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.	Completed	In Compliance	The draft CSMP was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014.



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 68	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.	Completed	In Compliance	The final CSMP was submitted to regulatory agencies, governments, and Aboriginal Groups on June 5, 2015. Revision 2 of the CSMP was issued March 22, 2017 and contains updates to Section 5.4.12 Traffic Monitoring and Appendix C.
EAC 68	The EAC Holder must develop, implement and adhere to the final Construction Safety Management Plan, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	<p>BC Hydro is auditing the implementation of measures in the CSMP by:</p> <ul style="list-style-type: none"> <li>- reviewing Safety Management Plans /Public Safety Management Plans submitted by the contractors,</li> <li>- holding regular meetings with the contractors to discuss safety performance and explore opportunities for improvement, and</li> <li>- conducting safety audits during construction to verify that requirements of the Plan are being considered and implemented as required.</li> </ul> <p>BC Hydro has also required that the MCW contractor retain independent third party auditors to conduct safety audits on an annual basis.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 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).	Ongoing	In Compliance	<p>The draft and final CEMPs were submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014 and June 5, 2015, respectively.</p> <p>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 as part of discussions related to early leaves to Commence Construction for the Project. Revision 4 of the CEMP was issued on July 26, 2016 and it included a number of minor edits and significant additional requirements related to Erosion and Sediment Control and water quality management. As of March 2017, all Contractors on the Site C Project are working under Revision 4 of the CEMP. As of February 2018 BC Hydro is working on finalizing edits to CEMP Revision.</p> <p>BC Hydro is auditing those measures of the CEMP by:</p> <ul style="list-style-type: none"> <li>- reviewing EPPs submitted by the contractors,</li> <li>- conducting environmental inspections during construction to verify that requirements of the Plan are being considered and implemented as required, and</li> <li>- responding to issues identified by IEM in its weekly inspection reports.</li> </ul>
EAC 69	The CEMP must be developed by a QEP.	Completed	In Compliance	Section 6.0 of the CEMP lists the QPs who prepared the plan.
EAC 69	The CEMP must provide details on how potential adverse effects will be avoided, mitigated, or compensated.	Completed	In Compliance	The CEMP provides details on how potential adverse effects will be avoided, mitigated, or compensated.
EAC 69	The CEMP must include the following: <ul style="list-style-type: none"> <li>· Acid Rock Drainage and Metal Leachate Management Plan;</li> </ul>	Completed	In Compliance	Appendix E of the CEMP contains the Acid Rock Drainage and Metal Leachate Management Plan.
EAC 69	<ul style="list-style-type: none"> <li>· Air Quality Management Plan;</li> </ul>	Completed	In Compliance	Appendix B of the CEMP contains the Air Quality Monitoring Program.
EAC 69	<ul style="list-style-type: none"> <li>· Blasting Management Plan;</li> </ul>	Completed	In Compliance	Blasting Management is described in Section 4.2 of the

No.	EAC Condition	Implementation Status	Compliance Status	Description
				CEMP
EAC 69	· Contaminated Sites Management Plan;	Completed	In Compliance	Contaminated Sites Management is described in Section 4.3 of the CEMP.
EAC 69	· Erosion Prevention and Sediment Control Plan;	Completed	In Compliance	Erosion Prevention and Sediment Control Management is described in Section 4.4 of the CEMP.
EAC 69	· Fisheries and Aquatic Habitat Management Plan;	Completed	In Compliance	The Fisheries and Aquatic Habitat Management Plan is described in Section 4.5 of the CEMP.
EAC 69	· Fuel Handling and Storage Management Plan;	Completed	In Compliance	Fuel Handling and Storage Management is described in Section 4.6 of the CEMP.
EAC 69	· Groundwater Protection Plan;	Completed	In Compliance	Groundwater Protection is described in Section 4.7 of the CEMP.
EAC 69	· Hazardous Waste Management Plan;	Completed	In Compliance	Hazardous Wastes Management is described in Section 4.8 of the CEMP.
EAC 69	· Heritage Resources Management Plan;	Completed	In Compliance	Heritage Resource Management is described in Section 4.9 of the CEMP.
EAC 69	· Ice Management Plan;	Completed	In Compliance	Ice Management is described in Section 4.10 of the CEMP. BC Hydro will retain a QP to develop and implement a Head Pond Ice Monitoring Plan for the Stage 2 diversion stage of construction.
EAC 69	· Noise and Vibration Management Plan;	Completed	In Compliance	Noise and Vibration Management is described in Section 4.11 of the CEMP.
EAC 69	· Smoke Management Plan;	Completed	In Compliance	Appendix A of the CEMP contains the Smoke Management Plan
EAC 69	· Soil Management, Site Restoration, and Revegetation Plan;	Completed	In Compliance	Appendix H of the CEMP contains the Soil Management, Site Restoration, and Revegetation Plan
EAC 69	· Spill Prevention and Response Plan;	Completed	In Compliance	Spill Prevention and Response is described in Section 4.13 of the CEMP.
EAC 69	· Surface Water Quality Management Plan;	Completed	In Compliance	Surface Water Quality Management is described in Section 4.14 of the CEMP.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 69	Vegetation and Invasive Plant Management Plan;	Completed	In Compliance	<p>Section 4.15 of the CEMP requires that Contractor EPPs address this requirement. BC Hydro audits compliance with this requirement by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.</p> <p>The IWMAMP includes herbicide based invasive plant management in the dam site area, and the expansion of the vehicle cleanliness program, including the use of vehicle inspection forms. Rev 6 of the IWMAMP was completed and has been rolled out to some contractors.</p> <p>To date, contractors have completed the following: invasive plant removal through hand pulling, on-going inventories of invasive plant locations, extensive hydroseeding of exposed slopes across the Project area, regular vehicle inspections and cleaning through various methods to ensure vehicles are clean and free of dirt and invasive plants when transitioning between sites and into the Project area. BC Hydro implemented an Invasive Species Management Contractor that completed a control program across the dam site in September and October 2017. The Main Civil Works contractor has retained an invasive plant species specialist to advise on invasive plant species management. BC Hydro installed two temporary wash stations at Gate A and Gate B in July 2017. The temporary wash stations were decommissioned at the onset of winter conditions in 2017 and procurement is ongoing for a permanent wash station to be installed for spring 2018. The procurement process is ongoing for an Invasive Species Management Contractor to be sourced by BC Hydro and utilized on the dam site, transmission line, reservoir, Hwy 29 realignment and other off-site locations to begin/continue invasive species management for the remainder of the project lifespan.</p>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 69	· Waste Management Plan; and	Completed	In Compliance	The Waste Management Plan is described in Section 4.16 of the CEMP.
EAC 69	· Wildlife Management Plan.	Completed	In Compliance	The Wildlife Management Plan is described in Sections 3.0 and 4.17 of the CEMP and Section 8.6.2 of the VWMMP.
EAC 69	· Process for revising and updating the CEMP.	Ongoing	In Compliance	The process for revising and updating the CEMP is described in Section 2.6 of the CEMP.
EAC 69	The CEMP is to be prepared by BC Hydro.	Completed	In Compliance	The CEMP is prepared and revised by BC Hydro.
EAC 69	Detailed Environmental Protection Plans will be developed which must include the following: <ul style="list-style-type: none"> <li>· Clear statement of objectives;</li> <li>· Description of potential Project effects and safety hazards, through consideration of baseline conditions and sensitive receptors;</li> <li>· 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;</li> <li>· Clear documentation of measures to be implemented and actions to be taken to mitigate or compensate potential effects;</li> <li>· Description of worker qualifications and training requirements pertaining to each of the plans associated with the Constructive Environmental Management Plan; and</li> <li>· Description of Monitoring and Reporting Requirements.</li> </ul>	Ongoing	In Compliance	Environmental Protection Plan requirements are detailed in Section 2.4 of the CEMP. BC Hydro audits compliance with this requirement by reviewing contractor EPPs.
EAC 69	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	Completed	In Compliance	The draft CEMP was submitted to regulatory agencies, governments, and Aboriginal Groups on October 17, 2014

No.	EAC Condition	Implementation Status	Compliance Status	Description
	prior to the commencement of construction.			
EAC 69	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.	Completed	In Compliance	The final (Revision 1) of the CEMP was provided to regulatory agencies, governments and Aboriginal Groups on June 5, 2015. Revision 2 of the CEMP was issued in February 2016 and Revision 4 in July 2016 (Revision 3 was not formally published).
EAC 69	The EAC Holder must develop, implement and adhere to the CEMP, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	BC Hydro audits compliance with the CEMP by reviewing contractor EPPs and conducting environmental audits during construction to verify implementation of EPPs.
EAC 70	The EAC Holder must manage Project effects through construction and operations by implementing measures detailed in mitigation and monitoring plans.	Ongoing	In Compliance	BC is implementing mitigation measures as outlined in mitigation and monitoring plans developed to date, as required by the EAC.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 70	<p>Each mitigation and monitoring plan in addition to plan specific conditions in this document must include the following:</p> <ul style="list-style-type: none"> <li>· Plan objectives;</li> <li>· Plan scope;</li> <li>· 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;</li> <li>· 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</li> <li>· Description of plan reporting requirements.</li> </ul>	Ongoing	In Compliance	<p>Final mitigation plans have been submitted to the EAO in accordance with the requirements of the EAC.</p> <p>These plans address the content requirements set out by the EAC. Plans submitted to date are as follows:</p> <ul style="list-style-type: none"> <li>- Aboriginal Plant Use Mitigation Plan</li> <li>- Aboriginal Training and Inclusion Plan</li> <li>- Agricultural Monitoring and Follow-up Program</li> <li>- Agricultural Mitigation and Compensation Plan Framework</li> <li>- Business Participation Plan</li> <li>- Construction Environmental Management Plan (Rev4)</li> <li>- Construction Safety Management Plan (Rev 2)</li> <li>- Cultural Resources Mitigation Plan</li> <li>- Del Rio Pit Development Plan</li> <li>- Emergency Services Plan</li> <li>- Fisheries and Aquatic Habitat Management Plan</li> <li>- Fisheries and Aquatic Habitat Monitoring and Follow-up Program</li> <li>- Healthcare Services Plan</li> <li>- Heritage Resources Management Plan</li> <li>- Housing Plan and Housing Monitoring and Follow-up Program (Rev2)</li> <li>- Impervious Core Materials Source Development Plan (85th Ave Industrial Lands Detailed Operations Plan)</li> <li>- Labour and Training Plan</li> <li>- Outdoor Recreation Mitigation Program</li> <li>- Recreation Program</li> <li>- Vegetation Wildlife Mitigation and Monitoring Plan</li> <li>- Vegetation Clearing and Debris Removal Plan</li> <li>- West Pine Quarry Development Plan; and</li> <li>- Wuthrich Quarry Development Plan</li> </ul>

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 71	The EAC Holder must manage environmental protection and management by implementing measures in the following Development Plans: <ul style="list-style-type: none"> <li>· Del Rio Pit Development Plan;</li> </ul>	Ongoing	In Compliance	The draft and final Development Plans for Del Rio Pit were submitted to regulatory agencies, governments and Aboriginal Groups on April 7, 2015 and June 5, 2015, respectively. The plan sets out the plan purpose, scope, details, safety and environmental management, and site reclamation strategy (as appropriate). To date, no activities have taken place at Del Rio Pit.
EAC 71	<ul style="list-style-type: none"> <li>· Impervious Core Materials Source Development Plan;</li> </ul>	Ongoing	In Compliance	The draft and final Impervious Core Materials Source Development Plan (Detailed Operations Plan for 85th Avenue Industrial Lands) were submitted to regulatory agencies, governments and Aboriginal Groups on September 21, 2016 and November 22, 2016, respectively.  The plan sets out the plan purpose, scope, details, safety and environmental management, and site reclamation strategy (as appropriate). To date, site preparation activities have taken place at 85 <sup>th</sup> avenue.
EAC 71	<ul style="list-style-type: none"> <li>· Portage Mountain Quarry Development Plan; and</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition, Quarry works at Portage Mountain have not yet commenced. A Development Plan will be submitted a minimum of 90 days prior to the commencement of construction activities that require the Development Plan.
EAC 71	<ul style="list-style-type: none"> <li>· Wuthrich Quarry Development Plan.</li> </ul>	Ongoing	In Compliance	The draft and final Development Plans for Wuthrich Quarry were submitted to regulatory agencies, governments and Aboriginal Groups on April 7, 2015 and June 5, 2015, respectively. The plan sets out the plan purpose, scope, details, safety and environmental management, and site reclamation strategy (as appropriate).



No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 71	Each Development Plan will include the following: <ul style="list-style-type: none"> <li>· Plan purpose;</li> <li>· Plan scope;</li> <li>· Plan details;</li> <li>· Summary of safety and environmental management; and</li> <li>· Site reclamation strategy.</li> </ul>	Ongoing	In Compliance	All Development Plans submitted to date describe the purpose, scope, details, safety and environmental management, and site reclamation strategy (as appropriate).
EAC 71	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.	Completed	In Compliance	The draft Development Plans for Del Rio Pit, Impervious Core Materials Source (85th Avenue Industrial Lands), and Wuthrich Quarry, were submitted to regulatory agencies, governments and Aboriginal Groups on April 7, 2015, September 21, 2016 and April 7, 2015, respectively.
EAC 71	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.	Completed	In Compliance	The final Development Plans for Del Rio Pit, Impervious Core Materials Source (85th Avenue Industrial Lands), and Wuthrich Quarry, were submitted to regulatory agencies, governments and Aboriginal Groups on June 5, 2015, November 22, 2016 and June 5, 2015, respectively.
EAC 71	The EAC Holder must develop, implement and adhere to the Final Development Plans, and any amendments, to the satisfaction of EAO.	Ongoing	In Compliance	Works at West Pine Quarry and Wuthrich Quarry are conducted in accordance with the Final Development Plans (located here: <a href="https://www.sitecproject.com/document-library/environmental-management">https://www.sitecproject.com/document-library/environmental-management</a> ) . These are the only active quarries to date. The 2017 Annual Summary Reports for West Pine Quarry, and Wuthrich Quarry will be submitted to regulatory agencies and Aboriginal Groups on March 31, 2018.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 72	The EAC Holder must manage effective communications for the Project by implementing measures in communication plans and a business participation plan.	Ongoing	In Compliance	<p>BC Hydro is meeting this condition (see also Condition 58).</p> <p>The Site C project team is implementing the Construction Communication Plan and Aboriginal Group Communication Plans to ensure that residents, stakeholders and Indigenous groups are provided with advance notification about construction.</p> <p>The Site C project team is implementing the Business Participation Plan to keep businesses informed and updated on the opportunities associated with the construction of the Project.</p> <p>Examples of implementation measure include: mail drops and letters, construction updates and bulletins, presentations, Indigenous construction notification letters and updates to the project website. Other tactics also being used to provide construction-related and business opportunity information include Council Presentations, Regional Community Liaison Committees, presentations to stakeholders, government relations and property owner liaison.</p>
EAC 72	The following communication and participation plans are to be developed and implemented:	Ongoing	In Compliance	The response to Condition 58 and the response to Condition 72 describe compliance with the Business Participation Plan.
EAC 72	<ul style="list-style-type: none"> <li>· Business Participation Plan;</li> </ul>	Ongoing	In Compliance	See response to Condition 27 (Aboriginal construction communications) and Condition 72.
EAC 72	<ul style="list-style-type: none"> <li>· Construction Communication Plan; and</li> </ul>	Ongoing	In Compliance	Condition 27 describes compliance with the Aboriginal Group Communications Plan.
EAC 72	<ul style="list-style-type: none"> <li>· First Nations Communication Plan.</li> </ul>	Ongoing	In Compliance	Condition 27 describes compliance with the Aboriginal Group Communications Plan.
EAC 72	<p>Each plan in addition to plan specific conditions identified in this document will include:</p> <ul style="list-style-type: none"> <li>· Clear Statement of Objectives;</li> </ul>	Ongoing	In Compliance	Condition 27 describes compliance with the Aboriginal Group Communications Plan.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	<ul style="list-style-type: none"> <li>· Audiences;</li> <li>· Key activities and tools; and</li> <li>· Annual summary reporting.</li> </ul>			
EAC 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.	Initial Planning	Future Requirement	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.
EAC 73	The Operations Safety Management Plan must be developed by a QEP.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 73	The Operations Safety Management Plan must include the following component plans: <ul style="list-style-type: none"> <li>· Public Safety Management Plan (including the Reservoir Shoreline Monitoring and Management Plan); and</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 73	<ul style="list-style-type: none"> <li>· Worker Safety and Health Management Plan.</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 73	Each component plan must include the following: <ul style="list-style-type: none"> <li>· Clear Statement of Objectives;</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 73	<ul style="list-style-type: none"> <li>· Description of potential Project effects and safety hazards, through consideration of baseline conditions and sensitive receptors;</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 73	<ul style="list-style-type: none"> <li>· 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;</li> </ul>	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 73	· Clear documentation of compliance and effectiveness monitoring to be undertaken;	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 73	· Description of worker qualifications and training requirements pertaining to the Plan(s);	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 73	· Description of reporting requirements; and	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 73	· Process for revising and updating the Operations Safety Management Plan.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 73	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 73	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 73	The EAC Holder must develop, implement and adhere to the final Operations Safety Management Plan, and any amendments, to the satisfaction of EAO.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 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).	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.  BC Hydro will submit a draft and final OEMP, 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.
EAC 74	The OEMP must be developed by a QEP.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	The OEMP must include the following plans: · Hazardous Waste Management Plan;	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	· Ice Management Plan;	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	· Vegetation and Invasive Plant Management;	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	· Waste Management Plan (including Materials Management); and	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	· Water Management Plan.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	Each plan must include the following: · A Clear Statement of Objectives;	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	· Description of potential Project effects, through consideration of baseline conditions and sensitive receptors;	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	· 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;	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	· Clear documentation of compliance and effectiveness monitoring to be undertaken;	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	· Description of reporting requirements; and	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	· Process for revising and updating the	Initial Planning	Future	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
	Plan.		Requirement	
EAC 74	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 74	The EAC Holder must develop, implement and adhere to the final OEMP, and any amendments, to the satisfaction of EAO.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 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.	Ongoing	In Compliance	Prior to the start of field activities, Field Crew Supervisors, QEPs and Environmental Monitors attend an environmental overview and training workshop. The workshop includes Briefings 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 works.
<b>DAM SAFETY</b>				
EAC 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,	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

No.	EAC Condition	Implementation Status	Compliance Status	Description
EAC 76	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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.
EAC 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.	Initial Planning	Future Requirement	BC Hydro acknowledges and understands this condition.

**Site C Clean Energy Project**

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**Annual Progress Report No. 3  
(Combined with Quarterly Progress Report No. 14)**

**Appendix H**

**Summary of Individual Contracts  
Exceeding \$10 Million**

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**Appendix I**

**Project Progression**

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**Appendix J**

**Detailed Project Expenditure**

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