



## Environmental Assessment Office

### Inspection Record

Project Name: <input type="text" value="Site C Clean Energy Project"/>	Inspection Status: <input type="text"/>
Certificate #: <input type="text" value="E14-02"/>	Inspection No: <input type="text"/>
Certificate Status: <u>Certified</u>	Inspection Date: <input type="text" value="2015-12-09"/>
Region: <u>Peace</u>	Office: <u>Victoria</u>
Trigger: <u>Planned</u>	<b>Incidents of Non-Compliance Observed: <u>Yes</u></b>
Non-Compliance Decision Matrix Level: <u>Level 3 - Moderate temporary impact likely</u>	Non-Compliance Decision Matrix Category: <u>Few NCs, not aware/capable to comply</u>
Inspector Name(s): <input type="text" value="Chris Parks, Senior Compliance Officer, Environmental Assessment Office (EAO),"/>	
Audit Record(s): <input type="text" value="N/A"/>	Total Non-Compliance(s): <input type="text"/>
Proponents Name: <input type="text" value="BC Hydro"/>	
Proponents Contact(s): <input type="text" value="Bettina SANDER, Regulatory Manager, Site C Clean Energy Project"/>	
Mailing Address: <input type="text" value="BC Hydro"/>  <input type="text" value="Four Bentall Centre"/> <input type="text" value="600-1055 Dunsmuir Street"/> <input type="text" value="Vancouver, B.C. V7X 1V5"/>	
Phone No: <input type="text" value="604.695.5234"/>	Fax No: <input type="text" value="604.695.5290"/>
Contact Email: <input type="text" value="bettina.sander@bchydro.com"/>	
Location Description: <input type="text" value="The Site C Project is an up-to 1100 megawatt hydroelectric facility located approximately 7 km southwest of Fort St. John BC. The Project includes an approximately 77km transmission line consisting of 2 500kV lines connecting the Project to the existing Peace Canyon Substation. The coordinates provided below are for the Site C dam location."/>	
Lat: <input n"="" type="text" value="56°11'37.72"/> N	Long: <input type="text" value="120°54'26.66" w"=""/> W
Sector: <u>Energy</u>	

# Summary

**MONITORING AND REPORTING REQUIREMENTS**

Inspection Period:

**From:** 2015-12-09 **To:** 2016-02-17

Certificate or Act:

Certificate under the Environmental Assessment Act

Activity: On Site

**Inspection Summary:**

This record details the results of inspections against conditions attached to EAC# E14-02, that occurred between December 9 and 11, 2015, and on February 17, 2016. The inspections were conducted by Chris Parks, Senior Compliance Officer, BC Environmental Assessment Office (C&E Parks). Kathleen Dyke and Tamara Jacobs, Natural Resource Officers, Ministry of Forests, Lands, and Natural Resource Operations (FLNRO), attended the Project during the December 9 through 11 inspection for information and project orientation purposes.

In addition to NROs Dyke and Jacobs, C&E Parks was accompanied during the December 9 through 11, 2015 inspection by the following: Anna Gerrard and Vanessa Dunae, Project Assessment Officers, EAO; Cam FORRESTER, Cam PENFOLD and Karen VON MUEHLDOERFER, BC Hydro; and Jason YARMISH, Site C Independent Environmental Monitor (IEM), Environmental Dynamics Inc. (EDI). Project contractors representatives attended various portions of the inspection specific to their contract area, including Scott RAMEY (Triton Environmental Consultants, on behalf of Morgan), and Dave COBLE (Atco). On February 17, 2016, C&E Parks was accompanied by FORRESTER and Kevin CHRISTIE, Site C IEM Designate (EDI).

Between December 9 to 11, 2015 C&E Parks inspected construction works on the north and south side of the Peace River, including the Wuthrich Quarry, clearing for project components (dam footprint, access roads, camps, and substation), access and haul roads, worker accommodation camp construction, earthworks in and around the "L3" ravine, fuelling locations, in-river excavation, River Road construction, Peace River Bridge construction, and construction equipment. On February 17, 2016, C&E Parks inspected the L3 ravine and the north bank Morgan construction area.

C&E Parks completed a verbal debrief of inspection observations with BC Hydro representatives MUEHLDOERFER and FORRESTER at approximately 1500 on December 11, 2015, and with PENFOLD and CHRISTIE at approximately 1800 on February 17, 2016.

On March 22, 2016, C&E Parks provided VON MUEHLDOERFER with a copy of this inspection record in order for BC Hydro to have the opportunity to review the record, identify any factual errors or omission, and respond to findings of non compliance. On April 1 and 15, BC Hydro provided information in response to the inspection record.

After review of observations and information obtained during the inspection, and

**Response:**

Warning

information subsequently provided by BC Hydro, the following preliminary compliance determinations have been made:

1. The Project is in compliance with Condition 13 with respect to mulching of merchantable timber.
2. The Project is in compliance with Condition 13 with respect to equipment crossing the Peace River by fording for the purposes of logging.
3. The project is out of compliance with conditions 2 and 69, with respect to erosion and sediment control requirements.
4. The Project is out of compliance with condition 18, with respect to the non compliant handling of anthropogenic wildlife attractants.
5. The Project is out of compliance with condition 56, which requires monitoring of potentially effected potable water wells within 1 km of the Project.
6. The Project is out of compliance with condition 69, with respect to conformance with the "Spill Prevention and Response Plan" and contractor Environmental Protection Plans (EPPs).
7. The Project is out of compliance with condition 69, with respect to conformance with the "Waste Management Plan" and contractor Environmental Protection Plans (EPPs).
8. The Project is in compliance with condition 69, which requires wildlife mitigation measures specific to the protection of eagle nests.

EAO COMPLIANCE AND ENFORCEMENT HAS CONFIRMED THAT BC HYDRO IS IN NON COMPLIANCE WITH CONDITIONS 2, 13, 18, 56, AND 69 OF EAC#09-02, ISSUED FOR THE SITE C CLEAN ENERGY PROJECT. PLEASE REFER TO THE "ACTIONS REQUIRED BY PROPONENT" SECTION OF THIS INSPECTION RECORD FOR DETAILS OF ENFORCEMENT MEASURES.

SEE ALSO REGULATORY CONSIDERATIONS SECTION FOR ADDITIONAL INFORMATION REGARDING NON COMPLIANCE WITH CONDITION 2 AND 69 WITH RESPECT TO EROSION AND SEDIMENT CONTROL REQUIREMENTS.

<b>Compliance Summary</b>	<b>In</b>	<b>Out</b>	<b>N/A</b>	<b>N/D</b>
Automatically populated upon upload				

## Inspection Details

### **Types of Compliance:** Construction

#### **Requirement Description:**

Condition 13, requires BC Hydro to develop and implement a Vegetation Clearing and Debris Management Plan, to the satisfaction of EAO.

Section 3.6.1 of the Vegetation Clearing and Debris Management Plan (Appendix A) states that "specifications will be provided in each clearing contract to increase the merchantable value recovered, for example by specifying the roadside or central collection areas for harvested merchantable coniferous and deciduous trees for processing, specifying the processing of trees such as removing the limbs and tops, cutting the stems into commercial log lengths for loading, or chipping on site for pulp."

#### **Findings:**

Section 3.6.1 of the Vegetation Clearing and Debris Management Plan identifies options for the handling of merchantable timber on the Project. A complainant provided information to EAO C&E on November 17, 2015, that merchantable timber had been mulched and spread in the area of Garbage Creek, on the north bank of the Peace River. On December 11, 2015, PENFOLD stated to C&E Parks that merchantable timber had been mulched and spread upstream of Garbage Creek.

Section 3.6.1 of the Vegetation Clearing and Debris Management Plan does not identify as allowable or specifically preclude mulching and spreading merchantable timber on the Project. The purpose of the activities outlined in section 3.6.1 is to "increase the merchantable timber value recovered". Although mulching and spreading of this material does not appear to meet the intent of "maximizing value", it is not specifically precluded, and in the absence of other language such as "all merchantable timber will be recovered and processed", C&E Parks has determined that BC Hydro is compliant with this requirement specific to the mulching and spreading of merchantable timber upstream of the confluence of Garbage Creek and the Peace River.

**Compliance:** In

### **Types of Compliance:** Construction

#### **Requirement Description:**

Condition 13, Vegetation Clearing and Debris Management Plan.

Section 9.1.4 of the Vegetation Clearing and Debris Management Plan (Appendix A) requires that "access to islands in the Peace River will be by temporary bridge and by helicopter (where road access was restricted). Access to islands and to isolated timber along the Halfway and Moberly rivers will be by snow and ice crossings if water levels and temperatures permit, or by temporary bridge where the conditions did not warrant a snow or ice crossing."

#### **Findings:**

On September 24, 2015, contractors to BC Hydro crossed a channel of the Peace River with construction equipment for the purposes of logging. C&E Parks initially determined that this was allegedly contrary to the requirements of Condition 13. See Appendix B, photograph 1.

On April 15, 2016, BC Hydro provided a response to C&E Parks disputing the allegation of non-compliance with Condition 13. In that response, BC Hydro noted that section 9.1.4 of the Vegetation Clearing and Debris Management Plan pertains to clearing activities within the reservoir basin; that the machine ford crossings in question occurred within the Dam Site Area which is covered in section 6 of the plan; and that fording is allowable under section 6 of the plan.

C&E Parks notes that section 6 of the Vegetation Clearing and Debris Management Plan pertains to "Clearing for Construction Material Sites", not the dam site area, and does not refer to watercourse crossings. Section 4 of the Vegetation Clearing and Debris Management Plan does pertain to clearing at

the dam site area. Section 4 does not specifically identify fording of the Peace River as allowable, however it does state that "OLTC applications include specific application areas, and any specifications relevant to environmentally sensitive areas, and subsequent permits are anticipated to establish such requirements".

C&E Parks reviewed the OLTC permits issued for Site C (Appendix C). Note that the OLTC does not include the river bed of the Peace River, and as such cannot authorize or otherwise permit a ford crossing of the Peace River.

However, BC Hydro proceeded with the ford crossings under a Water Act Notification. The Notification response includes requirements for the protection of the environment during the ford crossings, including the preparation of an Environmental Protection Plan to oversee the crossings, and onsite monitoring by the Independent Environmental Monitor during the crossings. This documents are included as Appendix D.

Based on the above analysis, C&E Parks has determined that the ford crossing of the Peace River on September 24 was compliant with Condition 13. Section 4 of the Vegetation Clearing and Debris Management Plan identifies that "subsequent permits" will establish environmental requirements for harvesting activity in the dam site area. The ford crossing proceeded under Water Act permitting authority, consistent with section 4 of the Vegetation Clearing and Debris Management Plan.

**Compliance:** In

**Types of Compliance:** Construction

**Requirement Description:**

Conditions 2 and 69, Erosion and Sediment Transport.

Erosion and sediment control measures are required to be implemented during construction in accordance with DFO's Land Development Guidelines for the Protection of Aquatic Habitat and MoE's Standards and Best Practices for Instream Works to prevent the erosion of soils and the entry of sediment into watercourses. Spoil piles are required to be covered or vegetated. Runoff is required to be directed away from construction areas where excavation, spoil placement, and staging activities occur. See appendices E (Table of Conditions) and F (Construction Environmental Management Plan (CEMP)) for detailed requirements.

**Findings:**

Between December 9 and 11, 2015, and on February 17, 2016, C&E Parks observed areas of bare soil with no erosion control mitigations in place, uncovered spoil piles, and constructed drainage patterns that will direct runoff to areas of active construction. Evidence of rill and gully erosion, and incorrectly installed erosion and sediment control measures were observed on February 17, 2016 in and around the L3 ravine. See photos 2 through 5.

**Compliance:** Out

**Types of Compliance:** Construction

**Requirement Description:**

Condition 18, Human-Wildlife Conflict.

Condition 18 requires that all construction areas be clean and free of discarded anthropogenic food sources, and that garbage be securely stored in verified bear-proof containers or removed from site.

**Findings:**

Between December 9 and 11, C&E Parks observed discarded anthropogenic food sources and garbage stored in non bear-proof containers at the Wuthrich Quarry and the north bank construction area. See photographs 6 through 8 for examples.

**Compliance:** Out

**Types of Compliance: Construction**

**Requirement Description:**

Condition 56 requires that "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. Monitoring must be done twice a year for 10 years, beginning annually from the outset of construction."

**Findings:**

BC Hydro provided C&E Parks with records detailing groundwater quality sampling which commenced in June of 2015, at the commencement of construction, as required by the condition (Appendix G). However, the response notes that "groundwater well sample locations were selected to represent the water quality of homeowner wells (same aquifer and proximity). BC Hydro has not sampled directly from homeowner wells as BC Hydro cannot control the operation, maintenance, or possible contamination of these wells".

Condition 56 specifically requires that BC hydro monitor "potentially affected wells", as opposed to representative wells, as stated in the response. C&E Parks also notes that the water sample submission forms clearly identify that the samples provided to the laboratory are NOT drinking water. The intent of the condition is to ensure that potentially effected wells "continue to function as reliable and safe sources of water for human consumption".

**Compliance:** Out

**Types of Compliance: Construction**

**Requirement Description:**

Condition 69 CEMP, section 4.13, Spill Prevention and Response Plan .

The Spill Prevention and Response Plan requires that fuel storage and handling procedures shall be consistent with "A Field Guide to Fuel Handling, Transportation, and Storage (BC MWLAP, 2002) (Appendix H).

**Findings:**

C&E Parks inspected vehicles and equipment on the north and south bank construction areas and at the Wuthrich Quarry. An improvement in spill prevention and hydrocarbon management practices was noted over the observations made during the September 22 to 23, 2015 inspection (Appendix I) on the north bank and construction area, however unmitigated spills to ground and non-compliant spill kits were identified at the Wuthrich Quarry (Morgan equipment) and in the south bank construction area (Photograph 9), contrary to the requirements of the Spill prevention and Response Plan.

**Compliance:** Out

**Types of Compliance: Construction**

**Requirement Description:**

Condition 69 CEMP, section 4.16, Waste Management.

The Waste Management Plan requires that contractors develop and implement Environmental Protection Plans (EPPs) consistent with "A Best Practices Guide to Solid Waste Reduction (Canadian Construction Association 2001)(Appendix J).

**Findings:**

The Morgan EPP for the North Bank identifies that "all waste will be classified and sorted based on waste category. All materials with potential for reuse or for recycling will be segregated based on category". These practices are consistent with the best practice guide presented in Appendix H. However, during the course of the December 9 through 11 component of the inspection C&E Parks observed that municipal waste, recycling, and hazardous waste were disposed of in single bins, and not segregated as required by the condition. See photos 10 and 11, which show multiple waste types including recyclables,

food waste, and hazardous waste containing hydrocarbons disposed of in a single waste bin marked "municipal waste" at the Wuthrich Quarry location, and photo 12 which shows non-compliant waste management practice at the Atco contracting area.

**Compliance:** Out

**Types of Compliance:** Construction

**Requirement Description:**

Condition 69 CEMP, section 4.17, Wildlife Mitigation Measures

Wildlife Mitigation Measures identified in the CEMP include the requirement that BC Hydro "Obtain a BC Wildlife Act permit prior to removal of any Bald Eagle nest. Nests will be removed in compliance with permit conditions". General Condition 5 of Wildlife Act Permit FJ14-154018 (Appendix K) states "This permit does not authorize the molestation or destruction of active bald eagle nests. The removal or destruction of nests must be undertaken and completed outside of the critical period for raptors (April 1 to July 31). If removal or destruction of a bald eagle nest must be conducted within the raptor cautionary period (March 1 to March 31 and August 1 to September 30) a qualified professional must confirm the nest is inactive.

**Findings:**

In the course of logging activity BC Hydro destroyed an eagle nest (nest #17) from a mid-channel island on the Peace River on September 27, 2015. In response to a request from C&E Parks for confirmation that the nest was inactive at the time of destruction, BC Hydro provided a September 23, 2015 letter from Todd MANNING Strategic Resource Solutions (SRS) to BC Hydro (Appendix L). The letter states that in the opinion of Michael SHEPARD, R.P. Bio., the nest was "currently not occupied" as of the date of the letter (September 23).

In the letter, MANNING notes that a qualified professional did not visit nest #17 to conduct an assessment, but that crews from SRS had boated past the nest on numerous occasions, and that the nest was not occupied on September 17, the most recent time that SRS crews boated past the nest prior to its destruction on the 27th.

C&E Parks reviewed the requirements of permit FJ14-154018, and referred the matter to FLNRO permitting staff Graham SUTHER and Christopher ADDISON for a determination regarding whether the letter presented in Appendix L is sufficient to confirm compliance with the permit. After consulting with FLNRO staff, and in order to confirm compliance with Section 4.17 of the CEMP, C&E parks requested that BC Hydro provide the following information:

1. Confirmation the Mr. Michael Shepard is appropriately qualified to assess bald eagle nest activity;
2. Clarification regarding whether the statement "currently not occupied" means "inactive" as specified in permit FJ14-154018;
3. Clarification regarding whether SHEPARD was a member of the SRS crews referenced in the letter;
4. Records detailing the number of and results of observations or assessments conducted of nest #17, and who completed these observations; and
5. Confirmation that boating past the nest in the manner described by MANNING is, in the opinion of an appropriately qualified professional, a sufficient assessment methodology to identify if nest#17 was active or inactive at the time of destruction.

On April 15, 2016, BC Hydro provided a response to C&E Parks (Appendix M). That response provides the information and clarifications requested. C&E Parks forwarded the response to FLNRO permitting staff who identified that the removal of nest #17 was conducted in compliance with the requirements of permit FJ14-154018.

**Compliance:** In

*ACTIONS REQUIRED BY PROPONENT(S) & ADDITIONAL COMMENTS:*

BC HYDRO IS HEREBY WARNED THAT THE PROJECT IS NOT COMPLIANT WITH CONDITIONS 2, 13, 18, 56, AND 69 OF EAC#E14-02. EAO C&E WILL CONDUCT AN INSPECTION TO DETERMINE IF THE SITE C CLEAN ENERGY PROJECT HAS BEEN BROUGHT BACK INTO COMPLIANCE WITH THESE REQUIREMENTS. CONTINUED NON COMPLIANCE WITH THESE REQUIREMENTS MAY RESULT IN ADDITIONAL ENFORCEMENT UNDER THE ENVIRONMENTAL ASSESSMENT ACT. SEE REGULATORY CONSIDERATIONS SECTION FOR ADDITIONAL INFORMATION.

*INSPECTION CONDUCTED BY:*

*Signature*

*Date Signed :*

Chris Parks, Senior Compliance and Enforcement Officer

2016-04-21

*ENCLOSURE(S) TO PROPONENT(S) & DESCRIPTION:*

Appendix A: Vegetation Clearing and Debris Management Plan  
Appendix B: Inspection Photographs  
Appendix C: Occupancy Licence To Cut (OLTC) permit  
Appendix D: Water Act Notification Response Letter, Peace River Ford EPP and other documents specific to compliance with Condition 13  
Appendix E: Table of Conditions  
Appendix F: Site C Construction Environmental Management Plan  
Appendix G: Water Well Monitoring response from BC Hydro  
Appendix H: A Field Guide to Fuel Handling, Transportation, and Storage (BC MWLAP, 2002)  
Appendix I: EAO Inspection Record, Site C September 9 to 11 Inspection  
Appendix J: A Best Practices Guide to Solid Waste Reduction (Canadian Construction Association 2001)  
Appendix K: Wildlife Act Permit FJ14-154018  
Appendix L: SRS Inc. QP Nest Activity Assessment  
Appendix M: BC Hydro response regarding destruction of Nest #17

*REGULATORY CONSIDERATIONS:*

A subsequent inspection of the Site C Project was conducted between March 29 and April 1, 2016 to follow up on the non-compliances noted in this inspection record, and to further monitor compliance of the Project with EAC#E14-02. The record for that inspection is in preparation as of the issuance of this inspection record. However, during that inspection continued non-compliance with conditions 2 and 69 was noted by C&E Parks specific to erosion and sediment control requirements. In response to this continued non-compliance C&E Parks issued an Order to Remedy under section 34 of the Environmental Assessment Act on April 8, 2016. That Order can be viewed at [eao.gov.bc.ca](http://eao.gov.bc.ca).

Environmental  
Assessment Office

Mailing Address:  
1st Floor 836 Yates St  
PO Box 9426 Stn Prov Govt  
Victoria BC V8W 9V1

General Inquiries: (250) 356-7479  
Fax: (250) 356-7440  
E-mail: [eaoinfo@gov.bc.ca](mailto:eaoinfo@gov.bc.ca)  
Website: <http://www.eao.gov.bc.ca>