

# *Accidents and Malfunctions Plan Annual Update: 2019*

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*Site C Clean Energy Project*

*March 31, 2020*

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Canadian Environmental Assessment Agency  
160 Elgin Street, 22nd Floor  
Ottawa, ON K1A 0H3

Attention: Mr. Nicolas Courville

Dear Mr. Courville:

**Re: Site C Clean Energy Project - Accidents and Malfunctions Plan 2019 Annual Update**

I am writing to provide an annual update on BC Hydro's Accidents and Malfunctions Plan for 2019. This update is being submitted in accordance with Condition 2.6 of the Site C Project Clean Energy Project's Decision Statement, issued to BC Hydro on November 25, 2014, and with reporting requirements outlined in the Accidents and Malfunctions Plan.

As per Condition 2.6 of the Decision Statement:

*"The Proponent shall implement the plan and provide to the Agency a review and summary of the implementation of the plan as well as any updates required to the plan on an annual basis commencing with construction. In the event of an occurrence of an accident or malfunction, the Proponent shall update the plan to incorporate new procedures and measures to avoid a reoccurrence, as necessary."*

As per Section 5.0 Reporting of BC Hydro's Accidents and Malfunctions Plan, BC Hydro will:

*"... develop a procedure for notifying BC Ministry of Environment; BC Ministry of Forests, Lands and Natural Resource Operations; Environment Canada and Fisheries and Oceans Canada in the event that an accident or malfunction as described in Section 3 occurs. The procedure will be developed in consultation with the named agencies prior to commencement of dam construction."*

In accordance with Decision Statement 2, the Accidents and Malfunctions Plan was developed by BC Hydro, in consultation with Environment Canada and the Environmental Assessment Agency, to prevent accidents and malfunctions and outline procedures in the case of occurrence of an accident or malfunction. The draft Accidents and Malfunctions Plan was submitted to the CEA Agency (now the Impact Assessment Agency of Canada, or IAAC) and Environment Canada on October 17, 2014. The final was submitted on June 5, 2015, and is available on the Site C Project Website at: [https://www.sitecproject.com/sites/default/files/Accidents\\_and\\_Malfunctions\\_Plan.pdf](https://www.sitecproject.com/sites/default/files/Accidents_and_Malfunctions_Plan.pdf)

## Background

Construction began at the Site C Project on July 27, 2015 and has been ongoing since. In 2019, significant progress was made across the project. On the dam site, the main civil works contractor continued excavation on the south bank and work on the spillways roller-compacted concrete buttress, as well as preparation for river diversion, specifically the completion of the tunnel excavation and commencement of the tunnel lining process, and construction of the inlet and outlet gate structures. Construction on the temporary fish passage also commenced in 2019.

The generating station and spillways civil work contractor continued the placement of concrete in the powerhouse and started the assembly and installation of the penstocks and intakes. River diversion is scheduled to commence in fall of 2020 with reservoir filling and operations beginning in 2023.

Clearing of the future reservoir area continued on the north and south banks of the Peace River. Clearing has been completed up to the middle reservoir area, east of Halfway River. Merchantable timber is being hauled to local mills, while non-merchantable timber is being disposed of or removed from site. The installation of a debris pile structure commenced on the Moberly River in late 2019 and is expected to be completed by spring 2020.

Clearing and construction activities continued on the transmission line in 2019. 500 kV steel lattice towers were assembled and installed along the transmission line and transmission line stringing is underway. The upgrade to the Peace Canyon substation was completed in July 2019, making it the first official Site C asset in service. Construction continued on the Site C substation which is now substantially complete.

Construction commenced on segments of the Highway 29 realignment, including Cache Creek West, Halfway River and Lynx Creek.

Construction of the downstream fish habitat enhancements on the Peace River and the Golata Creek wetlands were completed 2019.

## 2019 Accidents and Malfunctions

BC Hydro reported 808 environmental incidents within the internal BC Hydro incident management system (IMS) from January 1<sup>st</sup> to December 31<sup>st</sup>, 2019. The incident type summary for all reported environmental issues is as follows:

- 757 Spill/Pollution
- 22 Fish/Water
- 11 Land/Vegetation
- 11 Bird/ Wildlife
- 7 Archeological

The vast majority of incidents on the Site C Project in 2019 were related to small volume spills of less than 5 litres. In these incidents, workers deploy spill response measures and

contaminated soil is disposed of appropriately. A Bear Awareness campaign was initiated in 2019, and included the distribution of posters and discussions with employees and contractors to keep the working areas clear of animal attractants.

## Reporting

Through its Fish Hydro Management Committee (FHMC), which has representation of Fisheries and Oceans Canada (DFO) and the Province of B.C., BC Hydro has established an agency notification protocol that defines the nature of an accident/incident, its level/severity, who to notify and how (i.e., by phone, website, or e-mail). Although Environment Canada is not represented at FHMC, DFO did ensure that any notifications to them related to a deleterious substance spill to water would be conveyed to Environmental Canada upon receipt of an applicable notification. This notification procedure was agreed upon by FHMC on July 23, 2015, within roughly one week of the start of Site C Construction. A detailed description of this notification procedure is provided in Appendix A.

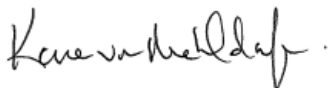
## Plan Updates

Section 6 of the Accidents and Malfunctions Plan requires that the Plan is updated annually. In 2019 BC Hydro reviewed this plan and since there were no significant learnings or modifications to procedures developed to avoid reoccurrence of incidents, BC Hydro determined that an update to the Plan was not required for 2019.

## Closure

Please do not hesitate to contact me at if you have any questions.

Regards,



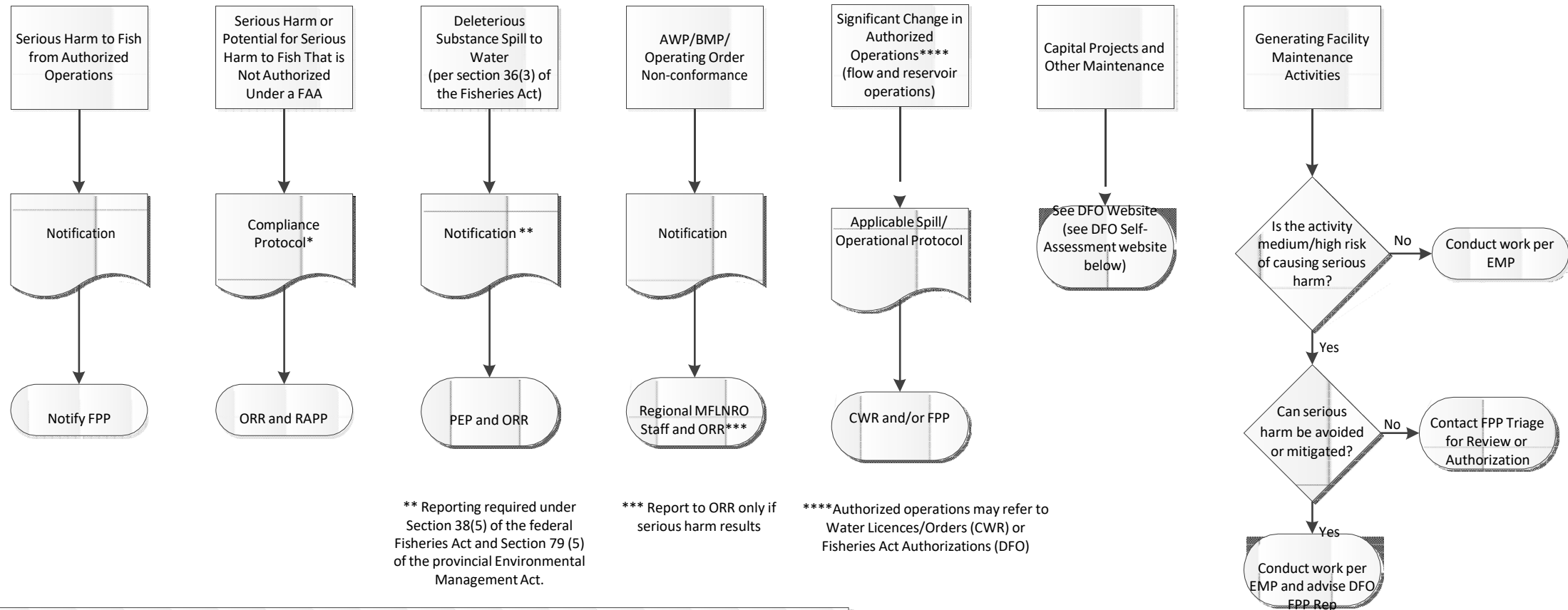
Karen von Muehldorfer  
Regulatory Manager  
Site C Clean Energy Project

Attachments

Appendix A – Agency Notification Process Chart

# Agency Notifications

Applicable to incidents, agreement non-compliance and generating plant maintenance. Does not include notifications in advance of projects related to request for review, permits or authorization.



**Note on notification:** ensure that any reports to regulatory agencies state whether the event being reported is authorized/licenced/permitted or not and which regulatory requirement (e.g. serious harm, deposit of a deleterious substance, etc.) has triggered the notification.

### \*Compliance Protocol timelines:

(notification of Serious Harm required per Section 38(4) of the Fisheries Act)

1. Report to local contacts as soon as possible.
2. Preliminary assessment within 24 hour or such time frame as otherwise agreed.
  - depending on nature of incident, assessment may include stranding and/or salvage.
3. Within 5 days or a time frame agreed to by all parties, review of the preliminary assessment and notify location contacts as to the status of compliance with all Acts, regulations, licenses, permits and authorizations.

See full Compliance Protocol for complete process.

### Types of Incidents

- Serious Harm: Stranding, entrainment, TDG, destruction of fish, habitat
- Protocols and procedures: deviation from ordered operational requirements and BMPs
- AWP Non-conformance: clearing exceedance, riparian area trespass
- Spills of Deleterious Substances to Water (administered by EC federally, MoE provincially)

### Contacts:

#### Department of Fisheries and Oceans

##### Triage & Planning Unit (Authorizations & Reviews)

Telephone: Toll free 1-866-845-6776  
 Email: ReferralsPacific@dfo-mpo.gc.ca  
 Self-Assessment Website: <http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>

##### Observe, Record & Report (ORR)

Telephone: Toll free 1-800-465-4336  
 Email: PACRadioRoomRHQ@pac.dfo-mpo.gc.ca

#### DFO Fisheries Protection Program – Large Hydro Unit

Brian Naito (Large Hydro Lead and Peace)  
 Telephone: 604-790-4260  
 Email: Brian.Naito@dfo-mpo.gc.ca

Dan Sneep (Lower Mainland and Coastal)  
 Telephone: 604-209-5764  
 Email: Daniel.Sneep@dfo-mpo.gc.ca

Dean Watts (Columbia)  
 Telephone: 250-371-1286  
 Email: Dean.Watts@dfo-mpo.gc.ca

### Contacts:

#### Province of BC

Report All Poachers and Polluters (RAPP)  
 Telephone: 1-877-952-7277

Provincial Emergency Program (PEP)  
 Telephone: Toll free 1-800-663-3456