

Site C Clean Energy Project

Virtual Town Hall with Community of Old Fort – Meeting Notes

Thursday, July 16, 2020
7pm – 8pm

Attendees:

BC Hydro Site C staff

Peace River Regional District
Representatives

BC Hydro Operations staff

Old Fort Residents

Agenda:

1. Opening & welcome

- a. Attendees were welcomed and thanked for joining this evening.
- b. Recognition that we were meeting on the traditional territory of Treaty 8 First Nations.

2. Review of agenda

- a. A high-level overview of the call was provided; as well as a discussion on the unlikely possibility of a breach of the cofferdam and the potential impacts to some of the properties, river diversion.
- b. An explanation was given that BC Hydro would have liked to have done this meeting in person, but due to COVID-19, that it was not possible.

3. River diversion update

- a. Diversion tunnel and approach channel update was given.
- b. An explanation was provided that we have debris booms and where they are located upstream from the dam site.
- c. Diversion tunnels are completed, and some small repairs are being done at the moment.
- d. The diameter of the tunnels was increased to 10.8 metres, 3,000 cubic metres per second (m³/s) can pass thorough when they are open. The tunnels will be capable of passing the largest flow/flood on record (3000 m³/s is the highest on record). It will be able to withstand a 1 in 200-year flooding event.
- e. A fish ladder and sorting facility to catch fish is being constructed at the outlet of the diversion tunnels. The fish will be moved upstream to continue to where they would

usually go on their migratory path. Fish can safely swim downstream through the tunnels.

- f. Cofferdams are under construction now. They are constructed of three components, rockfill berm, steel plates and an impermeable membrane.
- g. Once the river is diverted, there will be head ponding upstream from the cofferdam. There will be elevation changes to the head pond, and BC Hydro will be working to manage those flows. There will be periods of low flow when BC Hydro will close the river as well as when BC Hydro closes the tunnels and fills the reservoir.

4. Cofferdam safety and monitoring

- a. The cofferdam meets seismic loading requirements for potential earthquakes
- b. During construction, materials are monitored to ensure design requirements are met
- c. Glacial till is coming from the 85th Avenue lands and granular material is coming from the south bench at the dam site.
- d. There will be approximately 70 instruments in the upstream cofferdam including:
 - i. Piezometers that measure water pressure
 - ii. Inclinometers that can detect <mm movements
 - iii. Survey monuments on the crest and slopes to monitor for larger movements
- e. Data from the wi-fi enabled instruments is monitored centrally so even if something happens at night, the computer system can wake up the engineering team to respond to any significant changes.
- f. There is a dedicated team of BC Hydro engineers on-site to monitor the health of the cofferdams, 24 hours a day, 365 days a year.
- g. We have weekly inspections around the cofferdam, looking for vegetation growth, seepage etc. and by doing these inspections, BC Hydro will have built a record of the cofferdam life. BC Hydro are required by the province to report out on the health of the cofferdam.
- h. BC Hydro has started construction of both the upstream and downstream cofferdams. One challenge is that we have to work around river flows. BC Hydro will have built a rock fill berm upstream of the cofferdam; this will take the initial impact of the water and slow the water down. There is a specialist contractor coming on site to install steel piles into the bedrock. This will help prevent river flows through the granular material in the lower part of the cofferdam. The steel wall is expected to be completed by mid-October.

5. Monitoring upstream Peace River flows and weather forecasting

- a. There are two sources of flow upstream, Peace Canyon dam and the WAC Bennett dam.
- b. The biggest concern would be a large weather system that comes over the Site C area from the Gulf of Mexico and gives extremely heavy rainfall for three or more days straight. Systems from the Pacific lose much of their moisture before arriving in the Peace River basin.
- c. Everyone can access real-time data on river flows and rainfall on the Weather Survey of Canada and BC Hydro websites.

- d. BC Hydro has an extra level of conservatism upstream, by reserving some buffer space in the Williston reservoir. This will allow us to reduce discharges from the WAC Bennett Dam and Peace Canyon dam if we were to get a substantial rainstorm over the Site C area.
- e. At least seven days out, BC Hydro can predict if a storm event is coming. The closer to the event you get, the more certain and accurate the information will be on the incoming storm.
- f. BC Hydro uses two different weather models to create forecasts
- g. BC Hydro will be watching the weather 14 days in advance; we can't get a good handle on it until seven days out from a potential heavy rainfall event. By three days out from the event, you have almost certainty that some rainfall is coming. We would have three days notice before the rain starts, and the Moberly River and Halfway River won't hit their peak flows until several days after the rain event starts.

6. Safety and emergency response planning

- a. We have been working with the Peace River Regional District (PRRD), local government, Ministry of Transportation and Infrastructure (MoTI) and local communities on our emergency response plan should there be a breach in the cofferdam. BC Hydro has a lot of equipment and people monitoring this.
- b. BC Hydro has come up with criteria that looks at the forecast, how high is the likelihood of that forecast to bring the water levels to the height of the cofferdam. If there is an extreme forecast that shows the water levels may rise this high, BC Hydro will be reaching out to the PRRD and the Old Fort residents about the rain event. If it moves from an extreme to an expected situation, BC Hydro will be demobilising our equipment at the Site C dam site and would be reaching out to the PRRD and the Old Fort residents.
- c. BC Hydro has plans in place in the event the cofferdam breached, to show what that event would look like. It would mean properties directly adjacent to the Peace River would experience some short-term flooding. A small number would potentially have impacts to their homes.

7. Q&A

- a. Old Fort Resident: I have a general question regarding enforcement and compliance regarding the cofferdam. Can you enlighten the residents as to what your inspection protocols are to ensure compliance with the various regulations? As well, will the regulatory inspections done by government and any routine inspections be available to residents for their review? Further, can you give us an idea as to what the primary legislation is which govern dams in BC? (please let us know the federal legislation and provincial legislation)
 - i. BC Hydro: we have conditions and requirements when building the cofferdam. The cofferdam needs to be 50% stronger than is necessary for it to function on a regular day and 10% stronger than any major event, such as an event that would be a 1 in 2,475-year event. That's a legislative requirement. There is a requirement to provide reports the twice a year.
 - ii. BC Hydro: we don't have the cofferdam fully constructed yet, so we haven't been doing those inspections. We will need to double check whether there will be an

annual report for this. We have 40 annual reports, and this may be one of them. We will check and get back you with the answer.

- iii. BC Hydro: we have an independent engineer who reports to the Water Comptroller each week. The Water Comptroller comes to site on a monthly basis to do inspections. The Water Comptroller needs to review all of our plans, approve them and ensure they are comfortable with the way we are doing our work. They come on site to confirm that we are doing the work according to our plans.
- iv. BC Hydro: Dam Safety Regulation B.C. Reg. 40/2016, we can provide link to that regulation. The regulation has requirements for inspections and reports. BC Hydro shared the link to the regulation mentioned above into the chat function on WebEx.
https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/40_2016
- b. Old Fort Resident: Could you please speak to slope stability and earth movement at Site C and the surrounding area
 - i. BC Hydro: we have done investigations with thousands of boreholes. Work was done to mitigate the potential sliding of the slope. Over 11 million cubic meters of over burden materials were removed from the north bank.
We have installed Geotech features to monitor the slop stability of the dam.
- c. Old Fort Resident: Is there going to be an early warning system for the residents downstream from Site C in case of a breach and how much time would we have to evacuate
 - i. BC Hydro: There is no plan to install warning lights or sirens. BC Hydro is working with the local and regional governments to ensure that effective communication protocols are in place to alert communities of potential emergency situations.
- d. Old Fort Resident: Are we classified as stakeholders? This is classified as a high consequence classification. That means that there could be severe damage to residential buildings. Do you know which residential buildings that can be affected by that?
 - i. BC Hydro: stakeholders are anybody who would be directly impacted by the dam, for example, Old Fort Residents, Peace Island Park etc.
BC Hydro had a call earlier today at 4:00 p.m. with the residents of properties in Old Fort that would be directly impacted in the unlikely event of a breach in the cofferdam.
BC Hydro read out the numbers of the PRRD – 911 property addresses directly adjacent to the Peace River that would be potentially impacted.
- e. Old Fort Resident: Regarding a warning system for the residents of the Old Fort. Is there going to be a siren warning system?
 - i. BC Hydro: No, we are not installing a siren. In the event of an emergency we will go door to door. This is in addition to radio communication.
- f. Old Fort Resident: Noted that their property on Old Fort Road was not listed to be at risk in the event of a breach in the cofferdam. Wouldn't there be any concern of residents that have a mile of channel frontage?
 - i. BC Hydro: we would be to have a conversation offline to help you understand that better.

Action:

#001 Will BC Hydro be required to submit an annual report on our compliance and enforcement of regulations regarding the cofferdam?

#002 Send a link to Dam Safety Regulation B.C. Reg. 40/2016

#003 Contact Old Fort resident to explain why their property is not on the list of impacted properties if there was a breach in the cofferdam.

8. Closing

- a. BC Hydro notified the attendees on the call BC Hydro is trying to build an email distribution list of the Old Fort Community residents so that we can notify them of varying project activities.
- b. BC Hydro thanked everyone who joined the call. We appreciate the time they have given BC Hydro out of their busy schedule.

Meeting ended at 8.01pm