

June 11, 2021

Property Owners
Old Fort, Peace River Area C

Sent via email

RE: Common Questions by Old Fort Residents related to water levels at the community during Site C Operations

As mentioned in our follow-up letter on May 6, 2021, we received many similar questions during our individual property owner calls in April 2021. To assist in sharing consistent information with everyone for these common questions, we have developed the following question and answer document. Questions that were specific to a single owner have been responded to privately.

In some cases, information will not be available to share with residents until closer to Site C operations and has been noted as such in the response.

We encourage residents to reach out to BC Hydro at sitec@bchydro.com or 1-877-217-0777 with any other questions.

We have organized the questions and answers below into the following categories:

1. Backchannel, Island and Operations Phase Flows
2. Emergency Response
3. Property Damage
4. Water Level Monitoring

Backchannel, Island and Operations Phase Flows

Residents were interested in operations phase information regarding flows and water levels in the back channel, access to the island across the back channel and the river front facing the properties east of the back channel.

- 1. What is the minimum and maximum water levels and what is the wetted area for each end of the range?**

Answer:

The minimum discharge for Site C is 390 m³/s, which is similar to the lowest river discharge observed near Old Fort on October 1-3, 2020. The maximum turbine discharge for Site C is 2700 m³/s. This is slightly higher than the highest river discharge that was observed near Old Fort on August 10, 2020. There is a vertical difference of approximately 3.4 metres between the river levels corresponding to the minimum and maximum discharges. Based on operational needs, BC Hydro may operate between these ranges at any time during the year. Please see the attached map showing the minimum and maximum wetted areas.

Site C's water license for diversion and storage is posted publicly on our website here https://www.sitecproject.com/sites/default/files/water-licence-for-diversion-and-storage_1.pdf

Flows immediately downstream of the Site C Dam will, in general, be less extreme (high and low) than flows at the same location under current conditions. With the Site C Project, peak flows from the Halfway River, the largest tributary entering the Site C reservoir downstream of Peace Canyon, will be reduced in almost all events, thus moderating the peak flow downstream of Site C. It is expected that the lowest flows in the reach downstream would be slightly higher with the Project than the lowest flows that can occur today.

In the unusual event of BC Hydro having to use the Site C spillway in addition to the turbines it is possible that the total Site C discharge will exceed the maximum turbine discharge referenced above (2700 m³/s), but this would be a relatively rare event. When this occurs, it will likely be caused by a significant weather/inflow event upstream and would have resulted in a similar level of high flows whether the Site C Dam was present or not.

2. How fast may water levels change between the minimum and maximum wetted area?

Answer:

BC Hydro appreciates the community's concern about safety near the water if rapid river level changes were to occur. Residents of Old Fort will experience much faster changes in water levels than they do currently as the point of control of the Peace River will move from Peace Canyon Dam to Site C, much closer to Old Fort.

Until the final Site C generating units are all in service BC Hydro will not be able to determine the final maximum rate that water levels may change downstream. BC Hydro is reviewing what estimates can be created prior to then and will share that information with Old Fort residents once this is determined.

3. Is BC Hydro still going to carry out the fish habitat projects on the north bank back channel adjacent to Old Fort?

Answer:

Given the recent instability in the area, BC Hydro will not be initiating any work in the area directly adjacent to Old Fort and has been evaluating alternative locations to meet our commitments with the Department of Fisheries and Oceans. BC Hydro understands and respects the concerns of the Peace River Regional District (PRRD) and Old Fort residents regarding any works which could impact slope stability. BC Hydro does not intend to undertake works in areas of stability concern. Works within the Peace River main stem near Old Fort will be assessed by engineers to ensure there will be no interaction with the area of instability.

4. If BC Hydro purchased riparian rights from me in the back channel for the fish enhancement work and I want to get ownership of them back, who do I contact?

Anyone interested in regaining ownership of riparian rights purchased by BC Hydro, please contact James.Thomas@bchydro.com.

5. Does BC Hydro intend to place any restrictions on property owners using and accessing their waterfront?

BC Hydro has no plans to restrict residents use of the waterfront areas of their property. BC Hydro does not typically restrict usage of the river front downstream of our facilities other than directly below the facility for safety reasons.

6. Does BC Hydro anticipate greater shoreline erosion due to water level fluctuations during operations and if so, will any works be done to mitigate it?

Answer:

BC Hydro does not plan to implement any erosion protection works in Old Fort. As noted above, the minimum and maximum turbine discharges from Site C are within the approximate ranges that Old Fort residents experienced in 2020. While water levels may change more frequently at Old Fort during Site C operations, the highest flows from the Halfway River freshet or large summer storms that would otherwise impact Old Fort will usually be reduced by the Site C reservoir.

The highest water levels at Old Fort will also be significantly below the pre-regulation levels. Regulation of the Peace River reduced the average annual maximum daily flow at Taylor from 7,525 m³/s to 2,926 m³/s, a decrease of 61 percent. For context, local residents may remember the Williston Reservoir drawdown in the summer of 1996, when flows exceeded 4,000 m³/s at the Site C Dam site.

7. What area downstream of the dam and spillways will be off-limits for boaters due to safety risks during operations?

Answer:

The final area directly below the facility that needs to be restricted for safety will be finalized closer to commissioning of the facility. Restricted areas will be marked and advertised publicly. It is not anticipated that this area would extend downstream close to Old Fort.

Emergency Response

We encourage residents to review the cofferdam safety, monitoring and downstream emergency response planning information sheet at the link below for more information.
<https://www.sitecproject.com/sites/default/files/SiteC-Cofferdam-Infosheet.pdf>.

In the event of an emergency related to the Site C cofferdams, residents had a number of common questions including:

1. Who will notify residents in the event of an emergency related to the cofferdams?

Answer:

The PRRD has the authority to issue Evacuation Alerts and Orders. In the event of an emergency, BC Hydro would meet regularly with the PRRD and other key agencies and local governments. BC Hydro would provide the expert information the PRRD needs to determine when to issue an Alert or Order. In the event of a rain event significant enough to cause a risk to the Site C cofferdam, there would likely be other washouts and erosion occurring around the

region which might require the PRRD to issue an Alert or Order prior to one needing to be issued due to the cofferdam alone. BC Hydro would also issue public updates on the situation.

We encourage all residents to provide their contact information to BC Hydro at sitec@bchydro.com to ensure they are on BC Hydro's contact list to receive information electronically. In the event of an emergency related to the Site C cofferdams, BC Hydro would also arrange for a hand delivery of information in Old Fort to alert residents of the risk in addition to sending information electronically.

2. What type of events could cause a cofferdam breach?

Answer:

BC Hydro has extensive monitoring and mitigation plans to address risks to the cofferdams and public safety. Please see the information sheet linked above for more information. All these events are very unlikely to occur. The three types of events are 1) a very large summer rain event – one expected to occur less frequently than once every 200 years – could lead to the Peace River upstream of Site C rising and overtopping the cofferdam, 2) debris blocking the diversion tunnels could lead to the Peace River upstream of Site C rising and overtopping the cofferdam and 3) a defect in the cofferdams or diversion tunnels. The upstream cofferdam height of 433.9 metres will be surpassed by the permanent dam as construction progresses, further reducing the risk of a cofferdam breach.

3. How is BC Hydro managing Williston Reservoir to make room for any extreme weather event inflows and provide protection for the Site C cofferdams by reducing discharges?

Answer:

BC Hydro is maintaining additional water “storage space” in Williston Reservoir to accommodate a large inflow event, buffer the flows that would have to be passed on down the Peace River, and protect the Site C cofferdams from overtopping. BC Hydro is doing this by keeping the reservoir at least five feet lower than the normal full reservoir level.

4. What portion of my property is in the inundation area for a cofferdam breach?

Answer:

In the unlikely event of a cofferdam breach, only properties directly adjacent to the Peace River are in the inundation area. Please see the individual property map provided directly to you. No portions of Old Fort Road are in the inundation area. Of the eighteen property owners with properties directly on the Peace River, BC Hydro has successfully contacted all but three. BC Hydro continues to try to reach the final three property owners.

5. How much prior notice would I get if there was a risk of the cofferdam breaching and how fast would the flood reach Old Fort if it did occur?

Answer:

BC Hydro's extensive weather and dam monitoring systems would provide a minimum of 48 hours notice of an emergency to local governments, key agencies and the public. If a cofferdam breach were to occur, it would take approximately 30 minutes for the water to start to rise at Old

Fort and about 2.5 hours for the water to peak at approximately elevation 417.4 metres. The flood waters would recede significantly within 12 hours.

6. When will information about the risks from the failure of the permanent dam be available and how large is the inundation area?

Answer:

BC Hydro will provide updated information to Old Fort residents regarding dam safety during operations in the year prior to creation of the reservoir.

7. Does BC Hydro recommend that all property owners evacuate even if their home is not in the inundation area?

Answer:

BC Hydro recommends that property owners prioritize their safety and follow all instructions and Orders issued by the PRRD.

8. Will there be a siren that would provide warning of a cofferdam breach?

Answer:

While there is no plan by BC Hydro to install warning lights or sirens, BC Hydro is working with the regional governments to ensure that effective communication protocols are in place to alert communities of potential emergency situations. Given the extensive monitoring systems in place to provide prior notice of any emergency, all residents would be notified to evacuate before a siren would be sounded.

Property Damage

1. How can property owners claim for damages from BC Hydro from erosion or if there was a cofferdam failure how could owners claim for damage?

Answer:

BC Hydro considers all damage claims on an individual basis to ensure fair and consistent treatment.

When we are reviewing claims, we require proof of damage or losses and damaged items must be kept until the claim has been settled by all parties involved. We may also ask for pictures of the damaged items, including the make and model number. We may also retain a certified professional to inspect the damage. We'll require original repair bills or estimates as supporting proof. Any request for proof should not be considered as an agreement to pay a claim.

Claim payments will be made only to the properly identified owners of the damaged property, unless the property owner directs otherwise in writing. Payments will not be made to contractors or anyone else engaged in the inspection or repair of damaged property.

Please note that we only pay the depreciated or market value of losses at the time it was damaged. We would also encourage you to check with your insurer for any eligible coverage under your insurance policy. If you submit a claim through your insurer, they may provide compensation for the full replacement value of your losses and we will work directly with your insurer concerning your claim.

We strive to provide prompt and thorough responses to all claims that we receive. Some claims may require additional investigation. We appreciate your patience if there are delays in processing your claim due to additional review or investigation.

2. Will my homeowner's insurance cover damage due to flooding?

Answer: This would be specific to your policy. Please contact your insurance broker for more information.

Water Level Monitoring

Water level information for various locations in the area in addition to our upstream reservoirs is available online at the following links.

1. Water Survey of Canada gauges can be located here-
https://wateroffice.ec.gc.ca/search/real_time_e.html

Local Gauge Names and Numbers

- Peace River Above Pine River – 07FA004
 - Peace River Near Taylor – 07FD002
 - Halfway River Near Farrell Creek – 07FA006
 - Halfway River Above Graham River – 07FA003
 - Graham River Above Colt Creek - 07FA005
2. BC Hydro Regional hydrometeorologic data networks
<https://www.bchydro.com/energy-in-bc/operations/transmission-reservoir-data/hydrometeorologic-data.html>

BC Hydro's Hydrology group manages a network of over 150 automated, real-time reporting climate, snow and surface water stations. Our teams use the data from these stations for reservoir management.

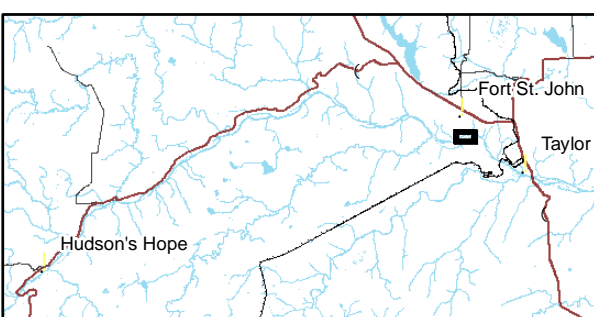
The data posted here includes up to four days of historic data. The data is based on automated readings and is not quality-controlled which means that from time to time the data could be inaccurate. Data is provided as information only and BC Hydro does not guarantee its accuracy.

- Site above the Site C Dam site is called "PEACE RIVER AT TEA CREEK (PTE2)"
- Site below the Site C Dam site is called "PEACE RIVER AT THE CONSTRUCTION BRIDGE 2 (PCB2)"
- Peace River below Bear Flat (PBB)
- Peace River above Bear Flat 2 (PAB2)
- Halfway River near Farrell Creek (HFF)
- Halfway River above Graham River (HFG)
- Moberly River near Fort St. John (MOB)

3. BC Hydro reservoir and related river levels for the Peace Region
<https://www.bchydro.com/energy-in-bc/operations/transmission-reservoir-data/previous-reservoir-elevations/peace.html>

Please visit <https://www.bchydro.com/energy-in-bc/operations/dam-safety.html> for more information about BC Hydro's dam safety program and to review our dam safety reports.

Additional information regarding the Provincial Dam Safety Program can be found here <https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/drought-flooding-dikes-dams/dam-safety>.



Map Notes:
 1. Datum: NAD83
 2. Projection: UTM Zone 10N
 3. Base Data: Province of B.C.
 4. Imagery: Sep. 2019 Lidar orthophotos.
 5. There is greater uncertainty in the extent of inundation shown along the side channels particularly at 390 m³/s.

- Legend**
- Site C Powerhouse Maximum Flow (Q =2700 m³/s)
 - Site C Powerhouse Minimum Flow (Q =390 m³/s)
 - Contours (5 m)

Note:
 Peace River in-channel works are still being reviewed and designed, this work may slightly alter the wetted areas shown on this map. A final map will be produced once all in-channel works are complete.

1:7,000 0 200 m



**Peace River near Old Fort Inundation Map
 Site C Powerhouse Minimum and Maximum Flows**

Date	Jun. 2, 2021	DWG NO	1016-N11-01122	R 0
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