

BC Hydro & Premier Horgan Roll the Dice again on Site C

Despite known foundation problems with unknown solutions or cost, and numerous calls to halt work while that is determined, work on the Site C Dam has carried on.

Now, BC Hydro has ignored its own Site C experts and is completing diversion of the Peace River after the latest possible deadline of September 30th, further increasing cost overrun and dam safety risks.

Since Site C was delayed one year in response to geotechnical problems, BC Hydro has consistently argued – before both courts and the BCUC – that missing the mid-September diversion date would delay the project for a year.

The river diversion was basically achieved on October 3rd and 4th - two weeks later than BC Hydro's plans:

*"River diversion can only take place after Labour Day holiday (first Monday in Sept) and must be completed by mid-September"*ⁱ

Site C must meet several critical dates in order to stay on schedule. To complete the dam, the river must be diverted into tunnels in September, 2020. The diversion date is critical since the preliminary dam must be completed before the spring freshet:

"The latest permitted start date for river closure is October 1st as a result of the following constraints:

a) Requirement to reliably construct the upstream cofferdam to the final crest elevation prior to the start of the flood window the following year. Previous analysis has indicated that the current upstream cofferdam construction schedule is nearing the limit of what can be reliably constructed in the available window.

*b) Consequences to the BC Hydro Generation System to meet restricted flow requirements during winter. Extending restricted flow controls into the winter months will have a high likelihood of restricting upstream Peace discharges throughout the entire winter period due to the downstream ice formation. This imposed winter restriction would have a cascading impact on GM Shrum and Peace Canyon generation, and consequently system reliability during this winter season, since these two plants generally supply 1/3 of the BC Hydro load during the winter months."*ⁱⁱ

The engineering documents give specific details.ⁱⁱⁱ Simply stated, BC Hydro has stated before courts and regulators that the September delay will risk power supplies and completion dates. These are not minor risks – if the preliminary dams are not completed before the spring freshet, the risk of a dam breach exists:

"5.2.1.2 FID schedule contingency

A critical milestone is the Start of River Diversion, as it is both significantly time sensitive and on the critical path. It requires construction of cofferdams, which must be completed outside of the May-through-August period due to the risk of floods, and outside of the winter period due to constructability constraints. In addition, construction of the

cofferdams must occur in a period with a high likelihood of controlled low discharges from the upstream W.A.C. Bennett Dam.

This schedule restricts the Start of River Diversion to a window between September 1 and October 1 of a given year. If the diversion window is missed, the Start of River Diversion would be rescheduled to the following year, directly impacting schedule contingency and project completion."^{iv}

In summary, the initial Site C river diversion was achieved not only one year behind schedule, but has missed BCH's own drop dead date required for a successful series of critical events to take place in the coming months. Meanwhile, the BC Government and BC Hydro are not even talking about this 'historic' milestone being achieved. Site C seems to be the \$11 Billion and counting megaproject that proponents do not want to talk about.

Ken Boon, Peace Valley Landowner Association

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ⁱ YM-80004 Schedule Basis: Site C Implementation Phase, page 12 at <https://www.sitecproject.com/sites/default/files/144-Site-C-Review-Deloitte-Questions-August-2017-Attachment-Schedule-Basis-YM80004.pdf>

ⁱⁱ Site C Review - Responses to questions raised by Deloitte, August 22nd, 2017, CONFIDENTIAL, No. 159, Date/Source of Question: Email from August 22, 2017 at 9:06 am follow up from BCUC tour on 08/18/2017, page 1 at <https://www.sitecproject.com/sites/default/files/159-Site-C-Review-Deloitte-Questions-August-2017.pdf>

ⁱⁱⁱ "PART 1 Start and Finish Constraints

Start and finish constraints include:

- a. Start after freshet flooding.
 - b. Finish before winter low temperature limits fill placement.
 - c. Finish before high water levels due to ice formation.
 - d. Manage environmental constraints
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1. Freshet Constraint- freshet season is normally May 15 to July 15, but local storm floods can occur in August. Assume September 1st as a safe date.
 2. Winter low temperature
 - a. Main Dam - Impervious material should not be placed when air temperature is below -2 degrees, and granular material cannot be placed when air temperature is below -5 degrees. The average (1953 to 2112) range of dates with these temperatures is as follows:

Impervious Fill at above -2 degrees Start 25 March Finish 6 November

Granular Fill at above -5 degrees Start 16 March Finish 12 November
 - b. Cofferdams - Impervious material should not be placed when air temperature is below -5 degrees, and granular material cannot be placed when air temperature is below -10 degrees. The average (1953 to 2112) range of dates with these temperatures is as follows:

Impervious Fill at above -5 degrees Start 16 March Finish 12 November

Granular Fill at above -10 degrees Start 1 March Finish 30 November

3. Downstream ice formation -floods due to ice backup can raise effective tailwater levels by approximately 6 m above normal levels to a maximum of El. 417.0 m. This rise in tailwater levels would generate a corresponding rise in headwater levels at the upstream cofferdam to a maximum elevation of 425.7 by mid-January at the earliest.

The upstream cofferdam must, therefore, be constructed higher than 425.7 m prior to mid January to prevent possible overtopping. This ice jam condition would only occur once every 12 years on average based on historic data and the ice front could reach Site C between mid-January and late February.”

Appendix 2 at <https://www.sitecproject.com/sites/default/files/144-Site-C-Review-Deloitte-Questions-August-2017-Attachment-Schedule-Basis-YM80004.pdf>

^{iv} British Columbia Utilities Commission Site C Construction Review, Deloitte, September 8, 2017, page 18.
https://www.b cuc.com/Documents/wp-content/10/00699_A-8_Site-C-Inquiry_Deloitte-LLP-Independent-Report-No1-1.pdf