

MacLaren, Les MEM:EX

From: Haslam, David GCPE:EX
Sent: Saturday, July 22, 2017 11:05 AM
To: Mungall, Michelle
Cc: Lori Winstanley; Nikolejsin, Dave MNGD:EX; MacLaren, Les MEM:EX
Subject: Re: Tension crack at site c.

Minister. Below are BCH key messages which will be provided to reporters. I will forward our issues note on the tension crack this afternoon. Cheers.

- The Peace River Valley has unstable soils and many pre-existing slides.
- Work has been underway for the past two years to remove those unstable soils and pre existing slides from the north bank at Site C to create stable slopes for eventual dam construction.
- One of those pre existing slides has turned out to be deeper than anticipated. The project's engineering team is currently conducting an assessment and working to modify the design and construction methods so the soil can be safely removed.
- For safety reasons work has been stopped in the area while this review is underway but is expected to resume soon.
- This pre existing slide is not as significant as the February tension crack. That crack is now stabilized.

Original Message

From: Haslam, David GCPE:EX
Sent: Saturday, July 22, 2017 10:15 AM
To: Mungall, Michelle
Cc: Lori Winstanley; Nikolejsin, Dave MNGD:EX; MacLaren, Les MEM:EX
Subject: Fw: Tension crack at site c.

Minister. As discussed below is an explanation from BCH coms. I will request key messages from BCH - which they're working on for vaughn and other interested reporters. You'll note they are explaining it as pre-existing slides which are common to the area. We'll also ensure you are briefed on Monday. I'm also working on a letter to Jessica for Monday and we can decide on approach as discussed. Including Lori, DM and ADM so all in the loop. Cheers. D

As you know the north bank has unstable soil , including some pre existing slides, and work has been underway to remove that unstable soil to create stable slopes

One of the pre existing slides has turned out to be deeper than we anticipated so the project's engineering team is currently conducting an assessment and we are working to modify the design and construction methods so the soil can be safely removed. For safety reasons work has been stopped in the area while this review is underway but we expect work to resume soon.

This pre existing slide is not as significant as the February tension crack. That crack is now stabilized.

MacLaren, Les MEM:EX

From: MacLaren, Les MEM:EX
Sent: Wednesday, July 26, 2017 12:43 PM
To: Gonzalez, Selina FIN:EX; Wieringa, Paul MEM:EX
Subject: RE: BC Hydro delay costs
Attachments: 13A - Site C Schedule Decisions (Rowe) NEW.docx

Hi Selina:

s.13

Les

From: Gonzalez, Selina FIN:EX
Sent: Wednesday, July 26, 2017 12:03 PM
To: Wieringa, Paul MEM:EX; MacLaren, Les MEM:EX
Subject: BC Hydro delay costs

Hi Paul, Les,

s.13

Thanks,

Selina Gonzalez, MA Econ
Treasury Board Analyst
Performance Budgeting Office
Ministry of Finance
P: 250-953-4429
C: 250-580-7438

**MINISTRY OF ENERGY AND MINES
ELECTRICITY AND ALTERNATIVE ENERGY DIVISION
TRANSITION NOTE 2017**

ISSUE: Site C – Schedule Decisions

KEY MESSAGES:

- On May 31, 2017, BC NDP Leader John Horgan wrote to BC Hydro, requesting that the removal of two homes be delayed until the Site C project could be reviewed by the BC Utilities Commission (BCUC). He also asked BC Hydro to refrain from entering into further construction contracts without a “penalty-free clause”.
- Delaying the removal of two homes in the Cache Creek/Bear Flat area pending an independent review of the Site C project would add a year to the project timeline, and around \$630 million (M) to the project’s cost.
- The homes are scheduled to be removed by the end of August 2017, to enable re-alignment of Highway 29 and construction of a new bridge, which will take two years.
- This work must be completed by September 2019, so that the Peace River can be diverted in September 2019 when the river is at low flow, allowing for construction in the main dam area.
- BC Hydro owns the land on which both houses sit, and has offered to relocate them. An agreement has been reached with one of the affected families.
- BC Hydro is proceeding with procurement processes for a number of contracts, including the Highway 29 re-alignment and construction of the new bridge, which is being managed by the Ministry of Transportation and Infrastructure (MoTI).

s.17

- The full cost of cancelling the Site C project is contingent on a number of factors, including the timing of a termination decision. An accurate estimate cannot be provided at this time.
- In addition to the requests made by Mr. Horgan, the West Moberly First Nation and Prophet River First Nation have raised concerns about the

Contact: Les MacLaren
Cell Phone: 250-889-3479
Date: June 9, 2017

Transition Note: 13A

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potential desecration of a First Nations archeological site located in the path of the proposed highway re-alignment. To avoid this, they have requested BC Hydro explore an alternate route.

BACKGROUND:

Project Schedule and Costs

- A key milestone in the Site C construction schedule is the diversion of the Peace River in September 2019, to allow for construction in the main dam area.
- The river must be diverted at low flows, which occur in September each year.
- As flows rise, the upstream and downstream coffer dams will be raised to keep water out of the main dam construction area.
- The coffer dams will raise the level of the river impacting the Cache Creek bridge, which needs to be moved in advance. A corresponding re-alignment of Highway 29 is also required.
- MoTI has provided expert advice confirming that a two year period is required for the highway realignment bridge construction work. To meet the project schedule, this work must commence by August 31, 2017.
- The home of Ken and Arlene Boon is adjacent to an abutment for the new bridge. It must be relocated before August 31 so that bridge and road construction can begin on time.
- BC Hydro already owns the land on which the house sits, and has offered to relocate the home while the Boons move to another structure on their lands, which they could continue to farm (outside the highway right of way) until 2019.
- Delaying relocation pending completion of a BCUC review would mean missing the September 2019 diversion window, adding a year to the project schedule, and an estimated \$630M to the project costs:

| Estimated Costs of One-Year Delay | \$ M |
|---|-------------|
| Direct Costs | |
| Ongoing project costs, incurred during delay period | 95 |
| Site and environmental maintenance for one-year period | 10 |
| Main civil works – overhead, demobilization, mobilization | 120 |
| Turbines and generators - storage | 25 |
| Worker accommodation, fixed costs | 15 |
| Other impacts (e.g. claims, procurement impacts, etc.) | <u>60</u> |
| Total estimated direct costs | 325 |
| Inflation (one-year delay on expenditures) | 105 |
| Interest During Construction | 200 |
| Total Estimated Cost of Delay | 630 |

Contact: Les MacLaren
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- BC Hydro has reached agreement with ^{s.22} to move their house, which is currently occupied by tenants.

First Nations Considerations

- Following BC Hydro's media briefing on June 7, 2017, Chief Roland Willson of the West Moberly First Nations, and Chief Lynette Tsakoza of the Prophet River First Nations wrote to Premier Clark and CEO McDonald with their concerns about the proposed highway re-alignment.
- The Chiefs noted that a Dunne-za (Beaver People) gravesite is located in the centre of the proposed re-alignment route, and that a sweat lodge and other culturally significant sites exist nearby.
- The Chiefs claim that disturbance of these sites would be a violation of BC's Hydro's environmental assessment approvals, and have submitted formal complaints to the BC Environmental Assessment Office and the Canadian Environmental Assessment Agency.
- To resolve the issue, the West Moberly and Prophet River First Nations have proposed that BC Hydro use an alternate route for the Highway 29 re-alignment. As part of their letter, they suggest this could be done without creating a one-year delay in the project schedule.
- BC Hydro is aware of the First Nations' concerns regarding the gravesite. Under the current scenario, disturbance of the gravesite would be avoided by building the new section of highway over it (vs. digging it up).
- The West Moberly First Nation and Prophet River First Nation are also presently engaged in legal action against the Site C project, and have filed for leave to appeal to the Supreme Court of Canada on previous Federal and Provincial Appeal Courts rulings that denied the First Nations' claims. The Supreme Court is expected to make a decision on whether or not to hear the appeal within the next few months.

Alternate Routes for Highway 29 Re-Alignment

- The proposed site of the new bridge and resulting road re-alignment were chosen following extensive public hearings during Joint Panel Review of the Site C project.
- Over time, alternate routes have been investigated, but were rejected by BC Hydro because they were either technically infeasible, ^{s.17,s.22}
- Re-examining the alternate routes would take time, and have the same implications for the project schedule and cost.

Upcoming Contracts

- MoTI plans to issue requests for proposals for road construction to re-align Highway 29 in mid-June, and for construction of the new bridge in early July.

- Procurement for the generating station and spillways is currently underway, with contracts to be awarded in late 2017 or early 2018. Other upcoming procurements include powerhouse cranes, the substation, and transmission line construction.

s.17

Costs of Full Project Cancellation

- The costs of terminating the Site C project are dependent on a number of factors, including the timing of a cancellation decision, and the extent of site reclamation required by environmental regulators.
- Cancellation costs would include existing expenditures, the contract terminations costs, demobilization, site reclamation and the cost to acquire energy and capacity to replace Site C.
- \$1.75 billion had been spent on Site C as of May 31, 2017. The average monthly expenditure is around \$60M.

CROSS-REFERENCE:

13 - Site C Update (Permitting, Construction, Litigation, Audit)

14 - BC Hydro's Integrated Resource Plan

Contact: Les MacLaren
Cell Phone: 250-889-3479
Date: June 9, 2017

Transition Note: 13A

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MacLaren, Les MEM:EX

From: Main, Grant TRAN:EX
Sent: Saturday, July 29, 2017 8:39 AM
To: Wright, Don J. PREM:EX
Cc: MacLean, Shelley PREM:EX; MacLaren, Les MEM:EX; Nikolejsin, Dave MNGD:EX
Subject: hwy 29
Attachments: [s.13,s.17](#)

Morning Don, meant to get these to you yesterday. Attached are note and map that we provided to the Minister to support her in yesterday's meeting.

Let me know if you have any questions, need anything else, or if it would help if this information is put in a different form.

Thanks

Grant

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Withheld pursuant to/removed as

s.13;s.17

MacLaren, Les MEM:EX

From: McCallion, Amy <Amy.McCallion@bchydro.com>
Sent: Wednesday, August 2, 2017 5:44 PM
To: Susan Yurkovich; Ho, Anne; MacLaren, Les MEM:EX; McNeil, Kevin MEM:EX
Subject: FW: BC HYDRO: Pre-reading materials for tomorrow's Site C Project Board meeting
Attachments: August_3_2017-SiteCMaterials.pdf

Hi Susan and Les,

A PDF of the materials is attached above. Susan, Anne tells me you can only be on the call until 9:30 which is just fine – the meeting is an informational update. Les, I know your schedule is subject to change so no problem if you need to drop off the call too.

Thanks,
Amy

From: McCallion, Amy
Sent: 2017, August 02 5:40 PM
To: Bill Adsit, Director; 'Valerie Lambert'; John Ritchie; 'Janine North'; Susan Yurkovich; Les MEM:EX MacLaren - Ministry of Energy and Mines (Les.MacLaren@gov.bc.ca)
Cc: Peterson, Kenneth; O'Riley, Christopher; Robinson, Kirsten; 'Cecilia Samson (csamson@farris.com)'; Mohamed, Shelina; Clarke, Gareth; Vaide, Frankie; McNeil, Kevin MEM:EX; 'Ho, Anne'; 'James P. Hatton (jhatton@farris.com)'; Jamie Brown, Director; 'Len Boggio s.22'
Subject: BC HYDRO: Pre-reading materials for tomorrow's Site C Project Board meeting

Dear Site C Project Board members,

In advance of the Site C Project Board meeting tomorrow morning from 9 – 10 am PST, materials are available for your pre-review here: https://extranet.bchydro.com/sites/bod/bch/BOD%20Meeting%20Materials/August_3_2017-SiteCMaterials.pdf

Management will be providing informational updates on:

1. s.17
2. Left Bank Excavation
3. BCUC review (including Terms of Reference)

I understand John and Valerie will attend in person and other committee members will be calling in. If you do plan to come in person, please just let me know and I'll ensure we set a place for you at the Board table. All BCH Directors are of course invited to attend.

Thanks,

Amy

Amy McCallion, Corporate Secretary

BC Hydro
333 Dunsmuir St
Vancouver, BC V6B 5R3

Direct 604 623 4234
Cell 604 230 5540
Email amy.mccallion@bchydro.com

bchydro.com

Smart about power in all we do.

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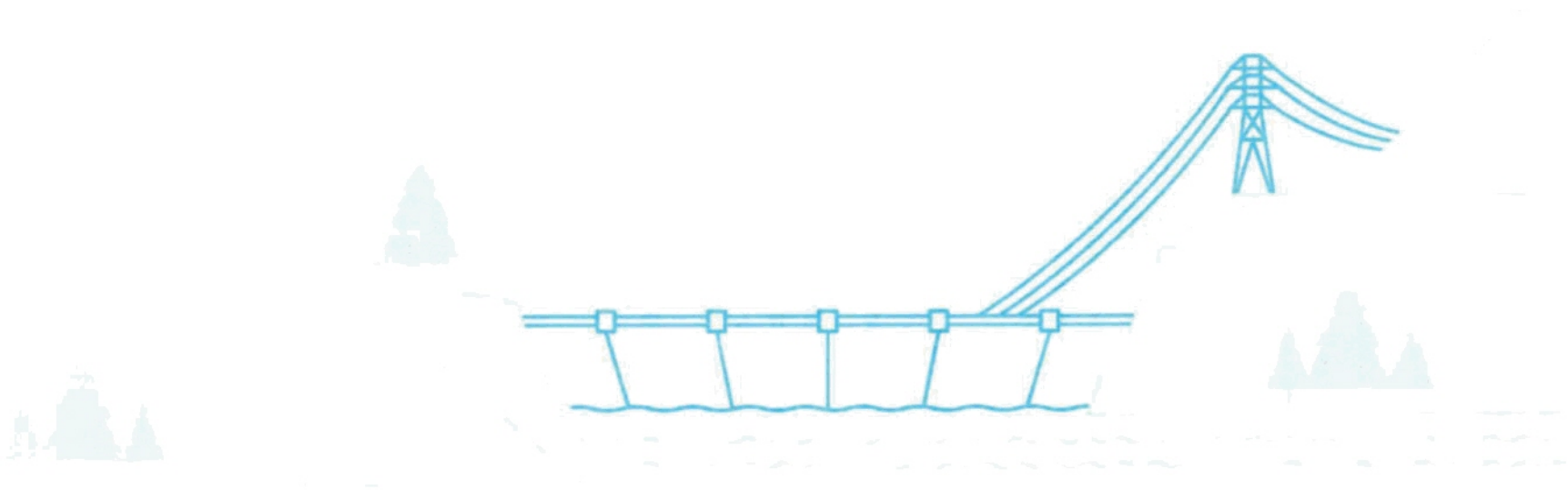
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Site C

Left Bank Excavation

Update



August 3, 2017

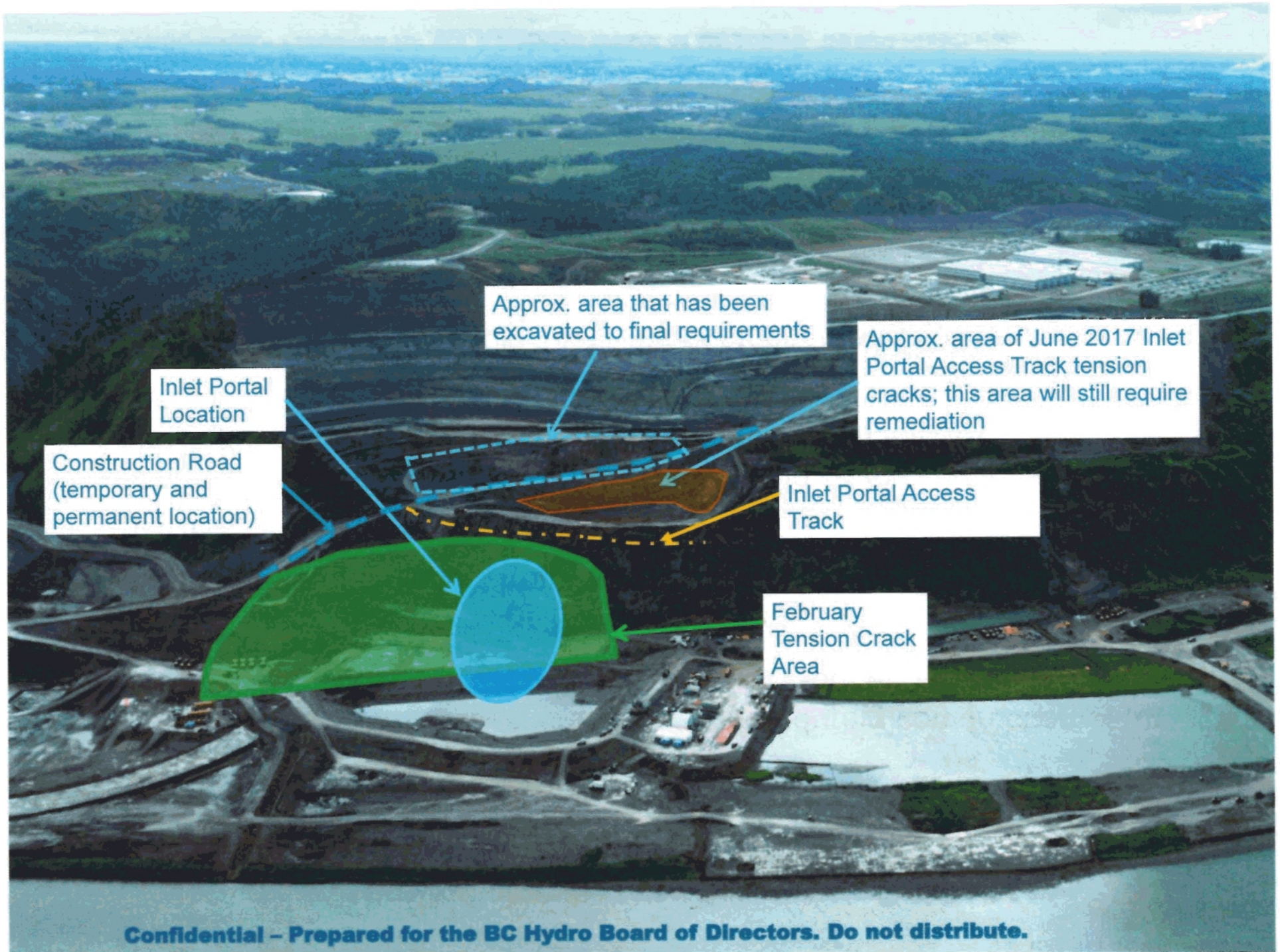
 **BC Hydro**
Power smart

Confidential – Prepared for the BC Hydro Board of Directors. Do not distribute.

Inlet Portal Access Tension Crack - Description

- In late May, a 100m tension crack developed during construction of an access track above the diversion inlet portal required for project excavations.
- It is separate and distinct from the larger February tension crack.

s.17



Inlet Portal Access Tension Crack - Design

- The left bank had been investigated extensively prior to construction. The left bank contains many ancient slides with weak sliding planes which are expected to be removed during excavation of the left bank.
- The unstable area needs to be removed as part of final project excavations and for the construction of a haul road.

s.17

- BC Hydro's engineers - Klohn Crippen Berger/SNC-Lavalin have indicated that the unstable area can be remediated safely.

4

Confidential – Prepared for the BC Hydro Board of Directors. Do not distribute.

Site C – BC Utilities Commission Review

BC Hydro Board

Presented by: BC Hydro Site C Filing Team



August 3, 2017

Confidential – Prepared for the BC Hydro Board of Directors. Do not distribute.

Purpose

- Update the Site C Board on the BC Utilities Commission (BCUC) Review of the Site C Clean Energy Project (Site C)
 - Scope and timing
 - Process and BC Hydro approach

Context

- Site C was exempted from BCUC approval under the Clean Energy Act
- In May 2014, the Federal-Provincial Joint Review Panel issued a comprehensive environmental assessment report which noted Site C as the least-cost project
 - The Joint Review Panel also recommended that the BCUC should undertake a review of need and costing
- Site C was a campaign issue in the 2017 provincial election
- A BCUC review of the Site C Project was included in the 2017 Confidence and Supply Agreement between the Green Party Caucus and the NDP Caucus:
 - *“Immediately refer the Site C dam construction project to the BC Utilities Commission on the question of economic viability and consequences to British Columbians in the context of the current supply and demand conditions prevailing in the BC market.”*
- The July 2017 mandate letter to the Minister of Energy, Mines, and Petroleum Resources included this same direction

Scope and Timing

- Section 5 - Utilities Commission Act - Lieutenant Governor in Council may specify terms of reference that require and empower the BCUC to inquire into a matter and to provide advice
- Review announced August 2, commences August 9
- Scope includes the implications of:
 1. Completing Site C by 2024 as currently planned;
 2. Suspending Site C, while maintaining the option to resume construction until 2024;
 3. Terminating construction of Site C, and remediating the site
- Questions to be addressed:
 - Is Site C on-time and on-budget?
 - What are the costs to ratepayers to suspend Site C?
 - What are costs to ratepayers to terminate Site C?
 - Is there another portfolio of projects / demand-side management that could provide similar benefits to ratepayers at a similar or lower unit energy cost as Site C?

Scope and Timing

- Other parameters
 - BCUC must consult with interested parties on items from prior page
 - BCUC may seek expert advice to carry out their work
 - BCUC must use load forecast from F2017 – F2019 Revenue Requirements Application as starting point, with BC Hydro providing updates on subsequent developments and other factors
 - BCUC must not reconsider decisions made during environmental assessment process, by statutory decision makers, or in the courts. Review will be forward-looking
- Timing – review begins August 9. BCUC to submit findings to the Minister:
 - Preliminary Report – 6 weeks after (September 20)
 - Final Report – further 6 weeks (November 1)
- Government will make final decision on the future of Site C.

Process and BC Hydro Approach

- Process will be determined by BCUC, within parameters of the terms of reference
- BC Hydro approach will be open, transparent and helpful as with all regulatory filings
- We expect to have a maximum of 3 weeks to make our submission – given the short timeline and clear focus of the inquiry, BC Hydro will:
 - Focus on answering questions posed
 - Attempt to provide clear and succinct responses
 - Leverage existing materials / analyses wherever possible
 - Consider filing in batches – a few items may require more than 3 weeks to complete (e.g., analysis of suspension / termination)
- Next expected Board update – August 23

BRITISH COLUMBIA UTILITIES COMMISSION INQUIRY RESPECTING SITE C

Definitions

1 In this order:

"Act" means the *Utilities Commission Act*;

"Site C project" means the authority's project to construct a third dam and hydroelectric generating station, including related transmission facilities, on the Peace River to add 1 100 megawatts of firm capacity and 5 100 gigawatt hours of annual energy to the authority's system.

Referral to commission

2 By this order, the Lieutenant Governor in Council, under section 5 (1) of the Act, requests that the commission advise the Lieutenant Governor in Council respecting the Site C project in accordance with the terms of reference set out in section 3 of this order.

Terms of reference

3 The terms of reference in accordance with which the commission must inquire into the matter referred to it by section 2 are as follows:

(a) the commission must advise on the implications of

(i) completing the Site-C project by 2024, as currently planned,

(ii) suspending the Site C project, while maintaining the option to resume construction until 2024, and

(iii) terminating construction and remediating the site;

(b) more specifically, the commission must provide responses to the following questions:

(i) After the commission has made an assessment of the authority's expenditures on the Site C project to date, is the commission of the view that the authority is, respecting the project, currently on time and within the proposed budget of \$8.335 billion (which excludes the \$440 million project reserve established and held by the province)?

(ii) What are the costs to ratepayers of suspending the Site C project, while maintaining the option to resume construction until 2024, and what are the potential mechanisms to recover those costs?

(iii) What are the costs to ratepayers of terminating the Site C project, and what are the potential mechanisms to recover those costs?

(iv) Given the energy objectives set out in the *Clean Energy Act*, what, if any, other portfolio of commercially feasible generating projects and demand-side management initiatives could provide similar benefits (including firming; shaping; storage; grid reliability; and maintenance or reduction of 2016/17 greenhouse gas emission

levels) to ratepayers at similar or lower unit energy cost as the Site C project?

- (c) in making applicable determinations respecting the matters referred to in paragraphs (a) and (b), the commission must use the forecast of peak capacity demand and energy demand submitted in July 2016 as part of the authority's Revenue Requirements Application, and must require the authority to report on
 - (i) developments since that forecast was prepared that will impact demand in the short, medium and longer terms, and
 - (ii) other factors that could reasonably be expected to influence demand from the expected case toward the high load or the low load case;
- (d) the commission must consult interested parties respecting the matters referred to in paragraphs (a) and (b);
- (e) in carrying out its inquiry, the commission must be guided by the understanding that the inquiry is not a reconsideration of decisions made in the environmental assessment process or by statutory decision makers or the courts;
- (f) the commission may obtain expert advice on any subject related to the inquiry and may exercise any of its powers under the Act in order to carry out the inquiry in accordance with these terms of reference;
- (g) the commission must submit to the minister charged with the administration of the *Hydro and Power Authority Act*
 - (i) a preliminary report outlining progress to date and preliminary findings by September 20, 2017, and
 - (ii) a final report, including the results of the commission's consultations, by November 1, 2017.

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s.19;s.17

MacLaren, Les MEM:EX

From: Nikolejsin, Dave MNGD:EX
Sent: Friday, August 4, 2017 12:53 PM
To: MacLaren, Les MEM:EX
Cc: Wieringa, Paul MEM:EX
Subject: RE: Site C - Main Civil Works

Ok. I see this is privileged.

I will need some written advice on whether/how this info gets to the BCUC as part of their review.

Thanks.

s.17,s.19

MacLaren, Les MEM:EX

From: MacLaren, Les MEM:EX
Sent: Tuesday, August 8, 2017 7:29 AM
To: Nikolejsin, Dave MNGD:EX; Winstanley, Lori PREM:EX; Haslam, David GCPE:EX
Cc: Rowe, Katherine MEM:EX
Subject: FW: Contingency - Site C

Good morning:

s.22

My comments to reporters after the Site C Review was announced were supposed to be on background and not for attribution. However, an AHN reporter did quote me in an article last Thursday
<http://www.alaskahighwaynews.ca/site-c/q-a-energy-and-mines-minister-michelle-mungall-on-site-c-review-1.21568463> .

In 2014 at the time of the investment decision for Site C, the \$8.335 billion budget included a contingency of \$794 million. An additional \$440 million was approved as a project reserve, over and above the contingency, to be held by Treasury Board and accessed only if required. That made the total budget \$8.775 billion. Since that time, project savings, primarily from lower than anticipated interest rates, have been added to contingencies which now totals \$1,194 million. The public number is \$1,045 million and is described on pages 28-29 in Quarterly Report No.7 to the BCUC for the period ending March 31, 2017 <https://www.sitecproject.com/sites/default/files/quarterly-progress-report-no7-f2017-q4-january-march.PDF> . An additional \$150 million in interest savings was added in May.

s.22

Les

-----Original Message-----

From: s.22
Sent: Friday, August 4, 2017 1:55 PM
To: MacLaren, Les MEM:EX
Subject: Contingency - Site C

Hi Les,

You were quoted in the Alaska Highway News of August 2, 2017, indicating that, " There's somewhere around \$800 million of contingency on this project ".

s.12

Many thanks.

MacLaren, Les MEM:EX

From: MacLaren, Les MEM:EX
Sent: Tuesday, August 8, 2017 9:23 AM
To: s.22
Cc: Rowe, Katherine MEM:EX; Haslam, David GCPE:EX
Subject: RE: Contingency - Site C

Hello s.22 . It has been a more than few years.

In 2014, at the time of the investment decision for Site C, the \$8.335 billion budget included a contingency of \$794 million. An additional \$440 million was approved as a project reserve, over and above the contingency, to be held by Treasury Board and accessed only if required. That made the total budget \$8.775 billion. Since that time, project savings, primarily from lower than anticipated interest rates, have been added to contingencies which now totals \$1,045 million. This information is public and described on pages 28-29 in the Site C Quarterly Construction Report No.7 to the BCUC for the period ending March 31, 2017 <https://www.sitecproject.com/sites/default/files/quarterly-progress-report-no7-f2017-q4-january-march.PDF>.

Cheers

Les MacLaren

Assistant Deputy Minister
Electricity and Alternative Energy Division
BC Ministry of Energy, Mines and Petroleum Resources
Office: 250-952-0204

Energizing BC—clean, sustainable and productive

-----Original Message-----

From: s.22
Sent: Friday, August 4, 2017 1:55 PM
To: MacLaren, Les MEM:EX
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s.12

Many thanks.

s.22

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s.21;s.17

Page 40 to/à Page 48

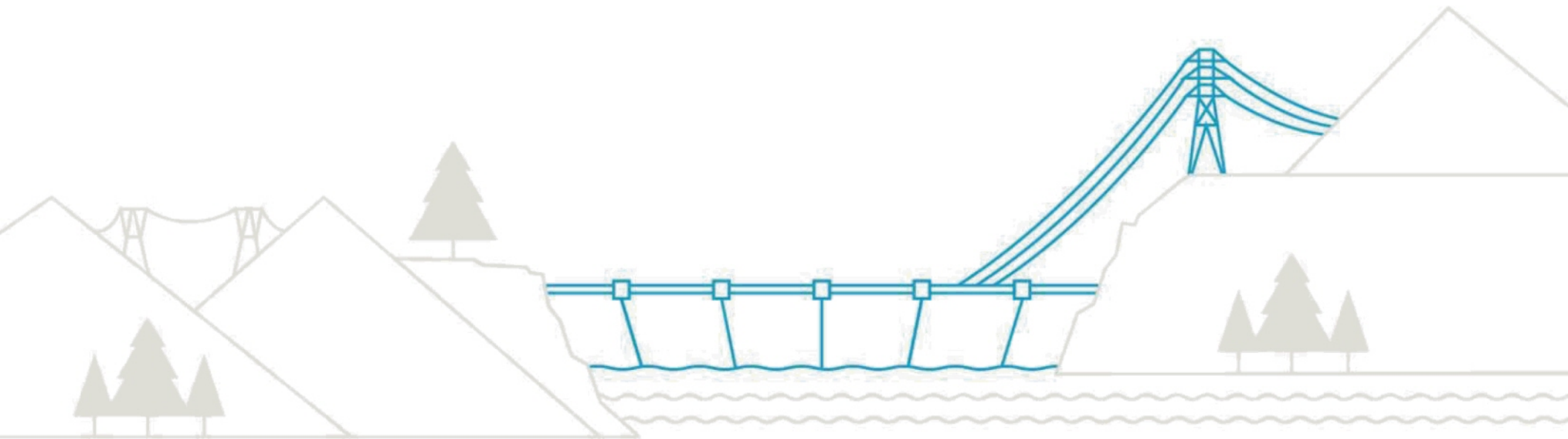
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Site C

Left Bank Excavation

Update

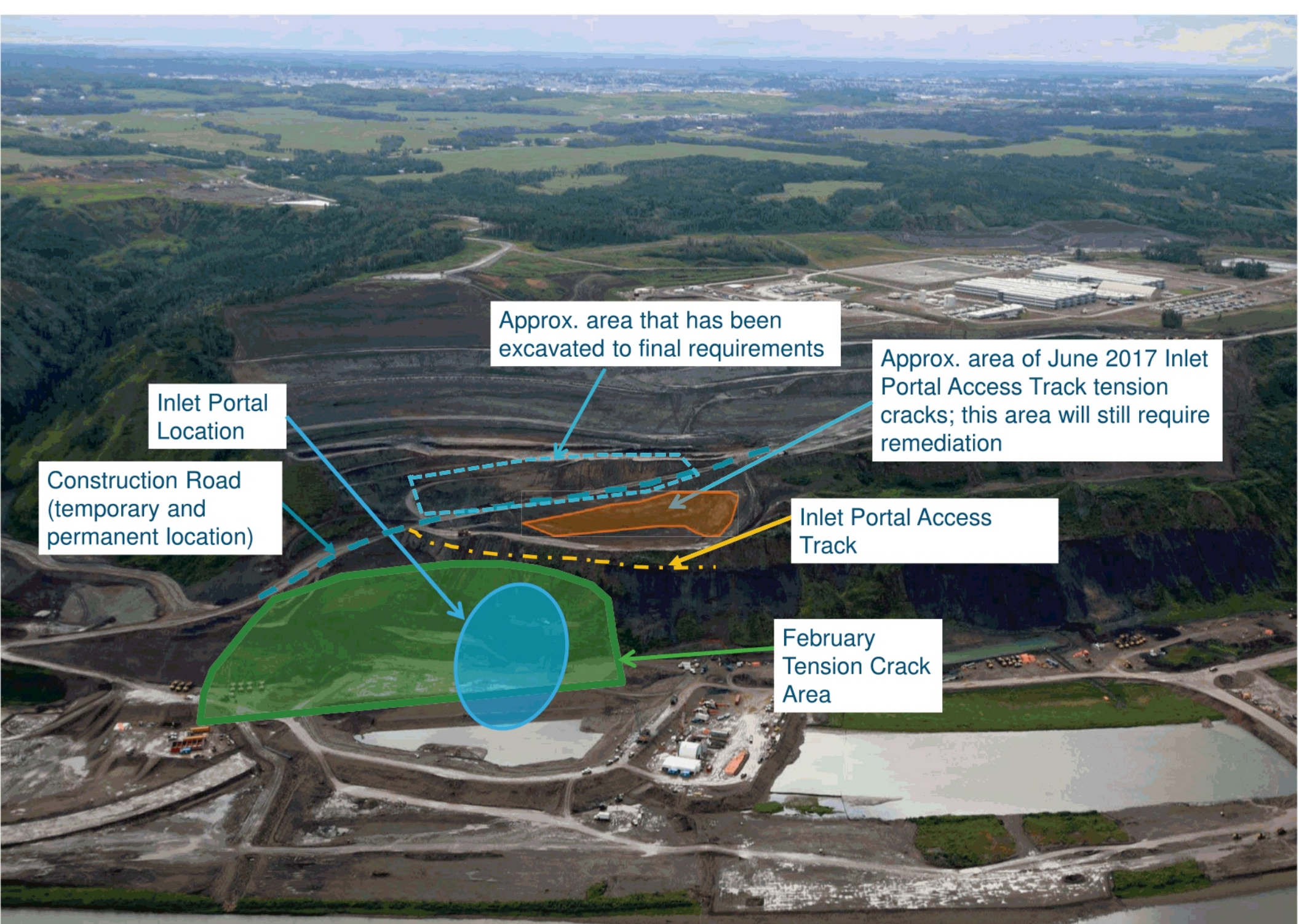


August 3, 2017

Inlet Portal Access Tension Crack - Description

- In late May, a 100m tension crack developed during construction of an access track above the diversion inlet portal required for project excavations.
- It is separate and distinct from the larger February tension crack.

s.17



Inlet Portal Location

Construction Road
(temporary and
permanent location)

Approx. area that has been
excavated to final requirements

Approx. area of June 2017 Inlet
Portal Access Track tension
cracks; this area will still require
remediation

Inlet Portal Access
Track

February
Tension Crack
Area

Inlet Portal Access Tension Crack - Design

- The left bank had been investigated extensively prior to construction. The left bank contains many ancient slides with weak sliding planes which are expected to be removed during excavation of the left bank.
- The unstable area needs to be removed as part of final project excavations and for the construction of a haul road.

s.17

- BC Hydro's engineers - Klohn Crippen Berger/SNC-Lavalin have indicated that the unstable area can be remediated safely.

Site C – BC Utilities Commission Review

BC Hydro Board

Presented by: BC Hydro Site C Filing Team

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- Update the Site C Board on the BC Utilities Commission (BCUC) Review of the Site C Clean Energy Project (Site C)
 - Scope and timing
 - Process and BC Hydro approach

Context

- Site C was exempted from BCUC approval under the Clean Energy Act
- In May 2014, the Federal-Provincial Joint Review Panel issued a comprehensive environmental assessment report which noted Site C as the least-cost project
 - The Joint Review Panel also recommended that the BCUC should undertake a review of need and costing
- Site C was a campaign issue in the 2017 provincial election
- A BCUC review of the Site C Project was included in the 2017 Confidence and Supply Agreement between the Green Party Caucus and the NDP Caucus:
 - *“Immediately refer the Site C dam construction project to the BC Utilities Commission on the question of economic viability and consequences to British Columbians in the context of the current supply and demand conditions prevailing in the BC market.”*
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Referral to commission

2 By this order, the Lieutenant Governor in Council, under section 5 (1) of the Act, requests that the commission advise the Lieutenant Governor in Council respecting the Site C project in accordance with the terms of reference set out in section 3 of this order.

Terms of reference

3 The terms of reference in accordance with which the commission must inquire into the matter referred to it by section 2 are as follows:

- (a) the commission must advise on the implications of
 - (i) completing the Site C project by 2024, as currently planned,
 - (ii) suspending the Site C project, while maintaining the option to resume construction until 2024, and
 - (iii) terminating construction and remediating the site;
- (b) more specifically, the commission must provide responses to the following questions:
 - (i) After the commission has made an assessment of the authority’s expenditures on the Site C project to date, is the commission of the view that the authority is, respecting the project, currently on time and within the proposed budget of \$8.335 billion (which excludes the \$440 million project reserve established and held by the province)?
 - (ii) What are the costs to ratepayers of suspending the Site C project, while maintaining the option to resume construction until 2024, and what are the potential mechanisms to recover those costs?
 - (iii) What are the costs to ratepayers of terminating the Site C project, and what are the potential mechanisms to recover those costs?
 - (iv) Given the energy objectives set out in the *Clean Energy Act*, what, if any, other portfolio of commercially feasible generating projects and demand-side management initiatives could provide similar benefits (including firming; shaping; storage; grid reliability; and maintenance or reduction of 2016/17 greenhouse gas emission

levels) to ratepayers at similar or lower unit energy cost as the Site C project?

- (c) in making applicable determinations respecting the matters referred to in paragraphs (a) and (b), the commission must use the forecast of peak capacity demand and energy demand submitted in July 2016 as part of the authority's Revenue Requirements Application, and must require the authority to report on
 - (i) developments since that forecast was prepared that will impact demand in the short, medium and longer terms, and
 - (ii) other factors that could reasonably be expected to influence demand from the expected case toward the high load or the low load case;
- (d) the commission must consult interested parties respecting the matters referred to in paragraphs (a) and (b);
- (e) in carrying out its inquiry, the commission must be guided by the understanding that the inquiry is not a reconsideration of decisions made in the environmental assessment process or by statutory decision makers or the courts;
- (f) the commission may obtain expert advice on any subject related to the inquiry and may exercise any of its powers under the Act in order to carry out the inquiry in accordance with these terms of reference;
- (g) the commission must submit to the minister charged with the administration of the *Hydro and Power Authority Act*
 - (i) a preliminary report outlining progress to date and preliminary findings by September 20, 2017, and
 - (ii) a final report, including the results of the commission's consultations, by November 1, 2017.

From: [MacLaren, Les MEM:EX](#)
To: [Nikolejsin, Dave MNGD:EX](#)
Cc: [Wieringa, Paul MEM:EX](#); [Rowe, Katherine MEM:EX](#)
Subject: MoTI Materials - Mitigation of Cache Creek/Bear Flat Highway 29 Rerouting Delays
Date: Friday, July 28, 2017 3:32:12 PM
Attachments: [IBN_H29 Bear Flats to Cache Ck Realignment Postpone Tender Options_July 27 2017.docx](#)
[H29 Shoreline Alignment Options.pdf](#)

Hi Dave:

Here is the material Grant was speaking about at our meeting with Don earlier this week.

Description of options on pdf map is a good summary.

Les

From: Richter, Kevin J TRAN:EX
Sent: Friday, July 28, 2017 12:16 PM
To: MacLaren, Les MEM:EX
Cc: Main, Grant TRAN:EX; Leech, Haley TRAN:EX; Lewthwaite, Jennifer TRAN:EX
Subject: Materials, further to our discussion
Afternoon,
Please call me, 250.819.3252, if you wish to discuss.

Page 62 to/à Page 64

Withheld pursuant to/removed as

s.13;s.17

From: [MacLaren, Les MEM:EX](#)
To: [Gonzalez, Selina FIN:EX](#); [Wieringa, Paul MEM:EX](#)
Subject: RE: BC Hydro delay costs
Date: Wednesday, July 26, 2017 12:43:24 PM
Attachments: [13A - Site C Schedule Decisions \(Rowe\) NEW.docx](#)

Hi Selina:

s.13

Les

From: Gonzalez, Selina FIN:EX
Sent: Wednesday, July 26, 2017 12:03 PM
To: Wieringa, Paul MEM:EX; MacLaren, Les MEM:EX
Subject: BC Hydro delay costs
Hi Paul, Les,

s.13

Thanks,

Selina Gonzalez, MA Econ
Treasury Board Analyst
Performance Budgeting Office
Ministry of Finance
P: 250-953-4429
C: 250-580-7438

**MINISTRY OF ENERGY AND MINES
ELECTRICITY AND ALTERNATIVE ENERGY DIVISION
TRANSITION NOTE 2017**

ISSUE: Site C – Schedule Decisions

KEY MESSAGES:

- On May 31, 2017, BC NDP Leader John Horgan wrote to BC Hydro, requesting that the removal of two homes be delayed until the Site C project could be reviewed by the BC Utilities Commission (BCUC). He also asked BC Hydro to refrain from entering into further construction contracts without a “penalty-free clause”.
- Delaying the removal of two homes in the Cache Creek/Bear Flat area pending an independent review of the Site C project would add a year to the project timeline, and around \$630 million (M) to the project’s cost.
- The homes are scheduled to be removed by the end of August 2017, to enable re-alignment of Highway 29 and construction of a new bridge, which will take two years.
- This work must be completed by September 2019, so that the Peace River can be diverted in September 2019 when the river is at low flow, allowing for construction in the main dam area.
- BC Hydro owns the land on which both houses sit, and has offered to relocate them. An agreement has been reached with one of the affected families.
- BC Hydro is proceeding with procurement processes for a number of contracts, including the Highway 29 re-alignment and construction of the new bridge, which is being managed by the Ministry of Transportation and Infrastructure (MoTI).

s.17

- The full cost of cancelling the Site C project is contingent on a number of factors, including the timing of a termination decision. An accurate estimate cannot be provided at this time.
- In addition to the requests made by Mr. Horgan, the West Moberly First Nation and Prophet River First Nation have raised concerns about the

Contact: Les MacLaren
Cell Phone: 250-889-3479
Date: June 9, 2017

Transition Note: 13A

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potential desecration of a First Nations archeological site located in the path of the proposed highway re-alignment. To avoid this, they have requested BC Hydro explore an alternate route.

BACKGROUND:

Project Schedule and Costs

- A key milestone in the Site C construction schedule is the diversion of the Peace River in September 2019, to allow for construction in the main dam area.
- The river must be diverted at low flows, which occur in September each year.
- As flows rise, the upstream and downstream coffer dams will be raised to keep water out of the main dam construction area.
- The coffer dams will raise the level of the river impacting the Cache Creek bridge, which needs to be moved in advance. A corresponding re-alignment of Highway 29 is also required.
- MoTI has provided expert advice confirming that a two year period is required for the highway realignment bridge construction work. To meet the project schedule, this work must commence by August 31, 2017.
- The home of Ken and Arlene Boon is adjacent to an abutment for the new bridge. It must be relocated before August 31 so that bridge and road construction can begin on time.
- BC Hydro already owns the land on which the house sits, and has offered to relocate the home while the Boons move to another structure on their lands, which they could continue to farm (outside the highway right of way) until 2019.
- Delaying relocation pending completion of a BCUC review would mean missing the September 2019 diversion window, adding a year to the project schedule, and an estimated \$630M to the project costs:

| Estimated Costs of One-Year Delay | \$ M |
|---|-------------|
| Direct Costs | |
| Ongoing project costs, incurred during delay period | 95 |
| Site and environmental maintenance for one-year period | 10 |
| Main civil works – overhead, demobilization, mobilization | 120 |
| Turbines and generators - storage | 25 |
| Worker accommodation, fixed costs | 15 |
| Other impacts (e.g. claims, procurement impacts, etc.) | 60 |
| Total estimated direct costs | 325 |
| Inflation (one-year delay on expenditures) | 105 |
| Interest During Construction | 200 |
| Total Estimated Cost of Delay | 630 |

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 Cell Phone: 250-889-3479
 Date: June 9, 2017

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- BC Hydro has reached agreement with ^{s.22} to move their house, which is currently occupied by tenants.

First Nations Considerations

- Following BC Hydro's media briefing on June 7, 2017, Chief Roland Willson of the West Moberly First Nations, and Chief Lynette Tsakoza of the Prophet River First Nations wrote to Premier Clark and CEO McDonald with their concerns about the proposed highway re-alignment.
- The Chiefs noted that a Dunne-za (Beaver People) gravesite is located in the centre of the proposed re-alignment route, and that a sweat lodge and other culturally significant sites exist nearby.
- The Chiefs claim that disturbance of these sites would be a violation of BC's Hydro's environmental assessment approvals, and have submitted formal complaints to the BC Environmental Assessment Office and the Canadian Environmental Assessment Agency.
- To resolve the issue, the West Moberly and Prophet River First Nations have proposed that BC Hydro use an alternate route for the Highway 29 re-alignment. As part of their letter, they suggest this could be done without creating a one-year delay in the project schedule.
- BC Hydro is aware of the First Nations' concerns regarding the gravesite. Under the current scenario, disturbance of the gravesite would be avoided by building the new section of highway over it (vs. digging it up).
- The West Moberly First Nation and Prophet River First Nation are also presently engaged in legal action against the Site C project, and have filed for leave to appeal to the Supreme Court of Canada on previous Federal and Provincial Appeal Courts rulings that denied the First Nations' claims. The Supreme Court is expected to make a decision on whether or not to hear the appeal within the next few months.

Alternate Routes for Highway 29 Re-Alignment

- The proposed site of the new bridge and resulting road re-alignment were chosen following extensive public hearings during Joint Panel Review of the Site C project.
- Over time, alternate routes have been investigated, but were rejected by BC Hydro because they were either technically infeasible ^{s.17,s.22}
- Re-examining the alternate routes would take time, and have the same implications for the project schedule and cost.

Upcoming Contracts

- MoTI plans to issue requests for proposals for road construction to re-align Highway 29 in mid-June, and for construction of the new bridge in early July.

Contact: Les MacLaren
Cell Phone: 250-889-3479
Date: June 9, 2017

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- Procurement for the generating station and spillways is currently underway, with contracts to be awarded in late 2017 or early 2018. Other upcoming procurements include powerhouse cranes, the substation, and transmission line construction.

s.17

Costs of Full Project Cancellation

- The costs of terminating the Site C project are dependent on a number of factors, including the timing of a cancellation decision, and the extent of site reclamation required by environmental regulators.
- Cancellation costs would include existing expenditures, the contract terminations costs, demobilization, site reclamation and the cost to acquire energy and capacity to replace Site C.
- \$1.75 billion had been spent on Site C as of May 31, 2017. The average monthly expenditure is around \$60M.

CROSS-REFERENCE:

13 - Site C Update (Permitting, Construction, Litigation, Audit)

14 - BC Hydro's Integrated Resource Plan