

Devereux, Rick GCPE:EX

From: Mike Fuoco <mfuoco@fmav.ca>
Sent: Tuesday, December 12, 2017 11:56 AM
To: Devereux, Rick GCPE:EX
Cc: Hagglund, Jarrett GCPE:EX; Badger, Joleen GCPE:EX
Subject: Re: Monday Vancouver location

Hi Rick,

I have included a link below to the audio file from yesterdays event at the Legislature. I am guessing that TELUS recorded it as well but wanted to send you this link just in case.

Let me know if you have any difficulties downloading the audio file?

R1776475-1 GCPE MEDIA EVENT @ THE LEG - DECEMBER 11TH
<http://mediaco-archival.s3.amazonaws.com/Audio/R1776475/R1776475-1+GCPE+MEDIA+EVENT+%40+THE+LEG+-+2017-12-11.MP3>

Please note the audio file is only available via the FMAV Archiver online for 30 days. On day 31 the content will be long-term archived, and the link will no longer be accessible. Should you wish to access the audio file after day 31 please contact your FMAV account manager to obtain a copy.

Cheers,

Mike

Mike Fuoco | FMAV

T: (604) 235-6011 | C: (604) 880-8886
mfuoco@fmav.ca | www.f mav.ca

From: Devereux, Rick GCPE:EX <Rick.Devereux@gov.bc.ca>
Sent: December 11, 2017 8:44:41 AM
To: Ryckman, Scott GCPE:EX
Cc: Hagglund, Jarrett GCPE:EX; Mike Fuoco
Subject: Re: Monday Vancouver location

We are following up with them

On Dec 11, 2017, at 8:43 AM, Ryckman, Scott GCPE:EX <Scott.Ryckman@gov.bc.ca<mailto:Scott.Ryckman@gov.bc.ca>> wrote:

I have tried both listed numbers for Marian and Jeff - no answer

What is a better number?

Sent from my BlackBerry 10 smartphone on the TELUS network.

From: Devereux, Rick GCPE:EX
Sent: Monday, December 11, 2017 6:37 AM
To: Ryckman, Scott GCPE:EX; Hagglund, Jarrett GCPE:EX; Mike Fuoco
Subject: Fwd: Monday Vancouver location

Hi Scott

Included in this email are my colleague Jarrett, who will be on site in Vancouver this morning and Mike Fuoco, our lead class bract with FMAV. Below are the two cell numbers of the technicians on site in Vancouver.

Let me know if you want to be on the phone with them during the event or before it.

Thanks
Rick.

Begin forwarded message:

From: Mike Fuoco <mfuoco@fmav.ca<mailto:mfuoco@fmav.ca>>
Date: December 10, 2017 at 10:57:09 PM PST
To: "Hagglund, Jarrett GCPE:EX" <Jarrett.Hagglund@gov.bc.ca<mailto:Jarrett.Hagglund@gov.bc.ca>>
Cc: "Badger, Joleen GCPE:EX" <Joleen.Badger@gov.bc.ca<mailto:Joleen.Badger@gov.bc.ca>>, "Devereux, Rick GCPE:EX" <Rick.Devereux@gov.bc.ca<mailto:Rick.Devereux@gov.bc.ca>>
Subject: Re: Monday Vancouver location

Hi Jarrett,

Sorry to get this so late to you. Your two technicians working tomorrow in Vancouver at the Vancouver Cabinet office are as follows.

Vancouver Crew:
- Marian Greksa – Cell 5.22
- Jeff Thorn – Cell 5.22

Marian and Jeff will be on site loading in around 06:30 am and should be up on the 7th floor and calling you by roughly 07:00 am. Feel free to contact them if you need to reach them for any reason tomorrow morning.

Cheers,

Mike

Mike Fuoco | FMAV

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mfuoco@fmav.ca<mailto:mfuoco@fmav.ca> | www.fmav.ca<http://www.fmav.ca>

From: Mike Fuoco
Sent: December 10, 2017 5:48:44 PM
To: Badger, Joleen GCPE:EX
Cc: Devereux, Rick GCPE:EX; Hagglund, Jarrett GCPE:EX
Subject: Re: Monday Vancouver location

Great thanks for the update on the second part of the event. I assume that during the first part of the announcement between 10:30-11:15 am where there will be a two way dialogue with questions coming from the Vancouver location correct?

Thanks,

Mike

Mike Fuoco | FMAV

T: (604) 235-6011 | C: (604) 880-8886

mfuoco@fmav.ca<<mailto:mfuoco@fmav.ca>> | www.fmav.ca<<http://www.fmav.ca>>

From: Badger, Joleen GCPE:EX <Joleen.Badger@gov.bc.ca<<mailto:Joleen.Badger@gov.bc.ca>>>

Sent: December 10, 2017 5:39:22 PM

To: Mike Fuoco

Cc: Devereux, Rick GCPE:EX; Hagglund, Jarrett GCPE:EX

Subject: Re: Monday Vancouver location

Sorry. Yes that's correct. Main line will be from the library event. The Vancouver office will dial in as a participant, listening only.

The media will be told to dial in separately if they want to ask a question.

There isn't too much in terms of an itinerary

11:30am - Premier's remarks

11:37am approx - Q&A (moderated by Sheena McConnell)

11:55am- Q&A ends, event concludes

Hope that helps.

Thanks,

Joleen

Sent from my iPhone

On Dec 10, 2017, at 3:20 PM, Mike Fuoco <mfuoco@fmav.ca<<mailto:mfuoco@fmav.ca>><<mailto:mfuoco@fmav.ca>>> wrote:

Thanks Joleen, much appreciated. I am not sure if you saw my other email question.

I assume the main speakers feed line to the TELUS conference call bridge will originate from the Library Rotunda location at the Leg, with the Vancouver Cabinet Office location dialing into the TELUS connection to listen in and ask questions when prompted by the operator or the moderator in Victoria. Is that correct?

Should Vancouver be dialing in to the Participant line, or do you want us to be dialing into the main speakers lines as a second connection? What type of dialogue are you expecting from the Vancouver site?

Any chance there's a copy of an itinerary available for this event that you can share?

Thanks,

Mike

Mike Fuoco | FMAV

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mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca> |
www.fmav.ca<http://www.fmav.ca><http://www.fmav.ca>

From: Badger, Joleen GCPE:EX <Joleen.Badger@gov.bc.ca><mailto:Joleen.Badger@gov.bc.ca><mailto:Joleen.Badger@gov.bc.ca>>
Sent: December 10, 2017 3:10:34 PM
To: Mike Fuoco
Cc: Devereux, Rick GCPE:EX; Hagglund, Jarrett GCPE:EX
Subject: Re: Monday Vancouver location

Hi Mike,

Yes, it will be Jarrett at the Vancouver office. That sounds perfect.

Thanks,
Joleen

Sent from my iPhone

On Dec 10, 2017, at 2:39 PM, Mike Fuoco
<mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca>> wrote:

I also wanted to confirm who on your team will be meeting our Vancouver crew on site Monday morning at the Vancouver Cabinet Office?

I believe Rick said Jarrett would be the local Vancouver contact for this event. If so our crew will be on site at the loading dock at 06:30 am, barring any delays they should be up on the 7th floor by roughly 07:00 am. I will instruct them to call Jarrett on his cell when they get to the 7th floor so that he can let them in the office. Let me know if this is correct?

Thanks,

Mike

Mike Fuoco | FMAV

T: (604) 235-6011 | C: (604) 880-8886
mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca> |
www.fmav.ca<http://www.fmav.ca><http://www.fmav.ca><http://www.fmav.ca>

From: Mike Fuoco
Sent: December 10, 2017 2:00:42 PM
To: Badger, Joleen GCPE:EX
Cc: Devereux, Rick GCPE:EX
Subject: Re: Monday Vancouver location

Hi Joleen,

Sorry to bother you on a Sunday. I am putting together the event resumes for both the Vancouver Cabinet office crew, and the Leg crew. I wanted to make sure I have everything correct and confirm the management of the call line for the 2nd part of the

announcement at 11:30 am.

I assume the main speakers feed line to the TELUS conference call bridge will originate from the Library Rotunda location at the Leg, with the Vancouver Cabinet Office location dialing into the TELUS Participant line connection to listen in and ask questions when prompted by the operator or the moderator in Victoria. Is that correct?

Any chance there's a copy of an itinerary available for this event that you can share?

I look forward to hearing from you soon.

Thanks,

Mike

Mike Fuoco | FMAV

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www.fmav.ca<http://www.fmav.ca><http://www.fmav.ca><http://www.fmav.ca>

From: Mike Fuoco
Sent: December 8, 2017 5:15:09 PM
To: Badger, Joleen GCPE:EX
Cc: Devereux, Rick GCPE:EX
Subject: Re: Monday Vancouver location

Thanks Joleen,

I agree, I will mention that to Andy and have him call you upon arrival.

Cheers,

Mike

Mike Fuoco | FMAV
T: (604) 235-6011 | C: (604) 880-8886
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From: Badger, Joleen GCPE:EX
<joleen.badger@gov.bc.ca<mailto:joleen.badger@gov.bc.ca><mailto:joleen.badger@gov.bc.ca><mailto:joleen.badger@gov.bc.ca>>
Sent: Friday, December 8, 2017 4:56 PM
Subject: RE: Monday Vancouver location
To: Mike Fuoco <mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca>>
Cc: Devereux, Rick GCPE:EX
<rick.devereux@gov.bc.ca<mailto:rick.devereux@gov.bc.ca><mailto:rick.devereux@gov.bc.ca><mailto:rick.devereux@gov.bc.ca>>
>

Hi Mike,

Dial in details attached.

A landline is definitely preferred so if you can bring lots of cable in case we need to run it that would be awesome. I can definitely meet Andy when he arrives.

Thanks!
Joleen

From: Mike Fuoco [<mailto:mfuoco@fmav.ca>]
Sent: Friday, December 8, 2017 3:41 PM
To: Badger, Joleen GCPE:EX
Cc: Devereux, Rick GCPE:EX
Subject: Re: Monday Vancouver location

Thanks Joleen, that sounds like it should work. I will let Andy know. Can you show him the location on Monday? We will also have the cellular telephone hub as back up just in case.

I was also wondering if you had a Telus dial in set up for the Library Rotunda event? Can you forward me a copy of Telus call paperwork when you have it available?

I think that's it for the moment.

Cheers,

Mike

Mike Fuoco | FMAV

T: (604) 235-6011 | C: (604) 880-8886

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From: Badger, Joleen GCPE:EX
<Joleen.Badger@gov.bc.ca<<mailto:Joleen.Badger@gov.bc.ca>><<mailto:Joleen.Badger@gov.bc.ca>><<mailto:Joleen.Badger@gov.bc.ca>>>
Sent: Friday, December 8, 2017 3:13:39 PM
To: Mike Fuoco
Cc: Devereux, Rick GCPE:EX
Subject: Re: Monday Vancouver location

Hi Mike.

Are you able to run a longer cable if there's a line that's a little distance from the rotunda? Like in an office down the hall?

Thanks,
Joleen

Sent from my iPhone

On Dec 8, 2017, at 2:42 PM, Mike Fuoco
<mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca%3cm
ailto:mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca>>>> wrote:

Hi Joleen,

I don't know if you or Rick have looked into the phone line situation but I am guessing for the moment its safe to assume that we don't have access to an analogue phone line in or near the library rotunda for the connection to the TELUS conference call line?

Let me know if my assumption is wrong as I would prefer to use a land line over the cellular connection?

Thanks,

Mike

Mike Fuoco | FMAV

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From: Mike Fuoco
Sent: December 8, 2017 2:20:59 PM
To: Badger, Joleen GCPE:EX
Subject: Re: Monday Vancouver location

Thanks Joleen, much appreciated I will pass it on to Andy.

Mke

Mike Fuoco | FMAV

T: (604) 235-6011 | C: (604) 880-8886
mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca> |
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From: Badger, Joleen GCPE:EX

<Joleen.Badger@gov.bc.ca<mailto:Joleen.Badger@gov.bc.ca><mailto:Joleen.Badger@gov.bc.ca><mailto:Joleen.Badger@gov.bc.ca><mailto:Joleen.Badger@gov.bc.ca%3cmailto:Joleen.Badger@gov.bc.ca<mailto:Joleen.Badger@gov.bc.ca><mailto:Joleen.Badger@gov.bc.ca>>>>

Sent: December 8, 2017 2:16:50 PM

To: Mike Fuoco

Subject: Re: Monday Vancouver location

If this is helpful, load in route:

From the east kiosk driveway and up the front elevator to the second floor and through the Speaker's corridor to the Library

Sent from my iPhone

On Dec 8, 2017, at 2:10 PM, Mike Fuoco

<mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca<mailto:mfuoco@fmav.ca%3cm
ailto:mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca>>><mailto:mfuoco@fmav.ca>> wrote:

Hi Joleen,

Yes, we need freight elevator access to the Vancouver office from 0630-0730 for load-in, and 1300-1400 for load-out.

Andy and Michael will be working the Victoria Leg event Monday. They should be onsite around 08:00 am and should be set by 10:30 am as requested by Rick. I am guessing that they will be loading in from the small parking /loading zone area on the east side of the Legislature building off Government Street where they usually enter.

One quick question. What floor is the Library Rotunda on? Is it the third floor?

Thanks,

Mike

Mike Fuoco | FMAV

T: (604) 235-6011 | C: (604) 880-8886

mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca%3e%3cmailto:mfuoco@fmav.ca>> |

www.fmav.ca<http://www.fmav.ca><http://www.fmav.ca><http://www.fmav.ca><http://www.fmav.ca><http://www.fmav.ca><http://www.fmav.ca%3e%3chttp://www.fmav.ca>>

From: Badger, Joleen GCPE:EX

<Joleen.Badger@gov.bc.ca<mailto:Joleen.Badger@gov.bc.ca><mailto:Joleen.Badger@gov.bc.ca><mailto:Joleen.Badger@gov.bc.ca><mailto:Joleen.Badger@gov.bc.ca%3cmailto:Joleen.Badger@gov.bc.ca<mailto:Joleen.Badger@gov.bc.ca><mailto:Joleen.Badger@gov.bc.ca>>><mailto:Joleen.Badger@gov.bc.ca>>

Sent: December 8, 2017 1:38:28 PM

To: Mike Fuoco

Cc: Devereux, Rick GCPE:EX

Subject: Re: Monday Vancouver location

Hi Mike,

Just confirming you need access to the freight elevator at the Vancouver office from 0630-0730 and 1300-1400. Is that correct?

And just a question about Victoria load in. What time will your team be loading in and which entrance will they use? Will it be Andy here for that?

Thanks,
Joleen

Sent from my iPhone

On Dec 8, 2017, at 1:26 PM, Mike Fuoco

<mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca<mailto:mfuoco@fmav.ca%3cm
ailto:mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca>>><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.
ca>> wrote:

Hi Rick,

Thanks for confirming the event location being the Cabinet office, and not the large board room. We will need access to an analog phone line in the room or nearby for the telephone feed line.

Can you let World Trade building management know that we will need access to the freight elevator between 07:30 am - 08:15 am to load in, and again some where between 13:00 to 2:00 pm for load out?

I was also wondering if you had any updates on Sunday at the Legislature? I really need to start getting things firmed up on our end if it's moving forward.

Thanks,

Mike

Mike Fuoco | FMAV

T: (604) 235-6011 | C: (604) 880-8886

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www.fmav.ca<http://www.fmav.ca><http://www.fmav.ca><http://www.fmav.ca><http://www.fmav.ca><http://www.fmav.ca><http:
//www.fmav.ca<http://www.fmav.ca%3e%3chttp://www.fmav.ca%3e%3chttp://www.fmav.ca>>

From: Devereux, Rick GCPE:EX

<rick.devereux@gov.bc.ca<mailto:rick.devereux@gov.bc.ca><mailto:rick.devereux@gov.bc.ca><mailto:rick.devereux@gov.bc.ca<
mailto:rick.devereux@gov.bc.ca%3cmmailto:rick.devereux@gov.bc.ca<mailto:rick.devereux@gov.bc.ca><mailto:rick.devereux@gov.
bc.ca>>><mailto:rick.devereux@gov.bc.ca><mailto:rick.devereux@gov.bc.ca>>

Sent: Friday, December 8, 2017 12:42 PM

Subject: Monday Vancouver location

To: Mike Fuoco

<mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca<mailto:mfuoco@fmav.ca%3cm
ailto:mfuoco@fmav.ca<mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.ca>>><mailto:mfuoco@fmav.ca><mailto:mfuoco@fmav.
ca>>

Cc: Badger, Joleen GCPE:EX

<joleen.badger@gov.bc.ca<mailto:joleen.badger@gov.bc.ca><mailto:joleen.badger@gov.bc.ca><mailto:joleen.badger@gov.bc.ca<
mailto:joleen.badger@gov.bc.ca%3cmmailto:joleen.badger@gov.bc.ca<mailto:joleen.badger@gov.bc.ca><mailto:joleen.badger@gov.
bc.ca>>><mailto:joleen.badger@gov.bc.ca><mailto:joleen.badger@gov.bc.ca>>

Hi Mike,

Further to our conversation this morning, we will not need a television in Vancouver. We have them at the office. Also, the location will be in the cabinet office, not the boardroom - this is where the budget lockup was done.

Thanks
Rick

rick.devereux@gov.bc.ca<<mailto:rick.devereux@gov.bc.ca>><<mailto:rick.devereux@gov.bc.ca>><<mailto:rick.devereux@gov.bc.ca>>
<mailto:rick.devereux@gov.bc.ca><<mailto:rick.devereux@gov.bc.ca><<mailto:rick.devereux@gov.bc.ca>%3c[mailto:rick.devereux@gov.](mailto:rick.devereux@gov.bc.ca)
[bc.ca](mailto:rick.devereux@gov.bc.ca)<<mailto:rick.devereux@gov.bc.ca>><<mailto:rick.devereux@gov.bc.ca>%3e%3c<mailto:rick.devereux@gov.bc.ca><[reux@gov.bc.ca](mailto:rick.deve

<[%3e%3c<mailto:rick.devereux@gov.bc.ca><<mailto:rick.devereux@gov.bc.ca>>](mailto:rick.devereux@gov.bc.ca)
<mailto:rick.devereux@gov.bc.ca>>> | 250-812-1207

Devereux, Rick GCPE:EX

From: Giles, Alison GCPE:EX
Sent: Monday, December 11, 2017 11:44 AM
To: GCPE - All Managers; GCPE All Directors
Cc: Zadavec, Don GCPE:EX; Lloyd, Evan GCPE:EX; Gibbs, Robb GCPE:EX; Grewar, Colin GCPE:EX; Dalal, Suntanu GCPE:EX; Grewar, Colin GCPE:EX; Sovka, David GCPE:EX; Plummer, Glen GCPE:EX
Subject: Site C Decision materials
Attachments: KMs-QA_Site C Decision_Dec11_FINAL.docx; NR_BG_2017PREM0135-002039_Dec 11_FINAL.pdf; Site C Key Messages - Dec 1_FINAL.docx; SiteC-FAQ-Dec 11_FINAL.docx

Hi all,

Please find attached the materials for this morning's Site C announcement.



Alison Giles

Public Affairs Officer, GCPE

Ministry of Energy, Mines and Petroleum Resources

Phone: 250 387-3967 **Mobile:** 250 507-3418 **Email:** alison.giles@gov.bc.ca

Page 012 to/à Page 054

Withheld pursuant to/removed as

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NEWS RELEASE

For Immediate Release
2017PREM0135-002039
Dec. 11, 2017

Office of the Premier

Government will complete Site C construction, will not burden taxpayers or BC Hydro customers with previous government's debt

VICTORIA – The British Columbia government will complete construction of the Site C hydroelectric dam, saying that to do otherwise would put British Columbians on the hook for an immediate and unavoidable \$4-billion bill – with nothing in return – resulting in rate hikes or reduced funds for schools, hospitals and important infrastructure.

“Megaproject mismanagement by the old government has left B.C. in a terrible situation,” said Premier John Horgan in making today’s announcement. “But we cannot punish British Columbians for those mistakes, and we can’t change the past. We can only make the best decision for the future.

“It’s clear that Site C should never have been started. But to cancel it would add billions to the Province’s debt – putting at risk our ability to deliver housing, child care, schools and hospitals for families across B.C. And that’s a price we’re not willing to pay,” said Premier Horgan.

Had government decided to cancel Site C, it would have taken on the project’s \$3.9 billion in debt, made up of \$2.1 billion already spent and another \$1.8 billion in remediation costs. As public debt, it would become the responsibility of BC Hydro customers or taxpayers.

“We will not ask British Columbians to take on \$4 billion in debt with nothing in return for the people of this province and, even worse, with massive cuts to the services they count on.

“The old government recklessly pushed Site C past the point of no return, committing billions of dollars to this project without appropriate planning and oversight. Our job now is to make the best of a bad deal and do everything possible to turn Site C into a positive contributor to our energy future.”

Premier Horgan said that in moving forward with the project, his government will launch a Site C turnaround plan to contain project costs while adding tangible benefits. The plan will include:

- A new Project Assurance Board that will provide enhanced oversight to future contract procurement and management, project deliverables, environmental integrity, and quality assurance – all within the mandate of delivering the project on time and budget. Based on current projections, BC Hydro has revised the budget to \$10.7 billion.
- Establishing new community benefits programs, mandated with making sure that project benefits assist local communities, and increasing the number of apprentices and First Nations workers hired onto the project.
- A new BC Food Security Fund – based on Site C revenues – dedicated to supporting farming and enhancing agricultural innovation and productivity in the province.

In addition to funding for provincewide food security projects and programs, the turnaround plan will:

- Ensure the Peace River Legacy Fund implements solutions to longer-term environmental, social and economic issues.
- Activate the \$20-million agricultural compensation fund to offset lost sales and stimulate long-term productivity enhancements in Peace Valley agriculture.

“We’re taking the steps the previous government showed no interest in: a solid budget, enhanced review and oversight, community benefits, and an eye to the future,” Premier Horgan said.

“We’re putting an end to the years of energy policy that put politics ahead of people – where government forced BC Hydro into costly contracts, hiking rates for homeowners and renters, and delivering dividends to government it simply couldn’t afford.”

Premier Horgan added that his government will also be pursuing an alternative energy strategy to put B.C. more firmly on the path to green, renewable power that helps the province exceed its climate goals.

“I respect and honour the commitment of people who oppose Site C, and share their determination to move B.C. to a clean, renewable energy future and to embrace the principles of reconciliation with Indigenous communities,” said Premier Horgan, who acknowledged that Site C does not have the support of all Treaty 8 First Nations. “We know this decision is not what some First Nations wanted. Their voices were heard and their perspectives were an important part of the deliberations on a very challenging decision.

“As we move forward, I welcome ideas from across our province as we define an energy strategy that protects our environment, delivers on our climate responsibilities, powers future generations, and creates jobs and opportunities for all British Columbians.”

Three backgrounders follow.

Contact:

Jen Holmwood
Deputy Communications Director
Office of the Premier
250 818-4881

Connect with the Province of B.C. at: news.gov.bc.ca/connect

BACKGROUND 1

For Immediate Release
2017PREM0135-002039
Dec. 11, 2017

Office of the Premier

Site C Quick Facts and Mitigation Elements

Quick Facts:

- The Site C project is two years into construction.
- To date, \$2.1 billion has already been spent. It is estimated that another \$1.8 billion would be needed for site remediation (which, even then, would not restore the site to its previous condition).
- The \$4 billion in Site C termination costs is equivalent to \$860 for every British Columbian, or eliminating taxpayer-supported capital projects:
 - 66 secondary schools (\$60 million each); or
 - 11 hospital projects similar to the North Island hospitals (Province's share, \$365 million); or
 - 12 highway projects similar to the Okanagan Valley Corridor Project (Province's share, \$330 million); or
 - three Pattullo Bridges (\$1.3 billion each).
- 99% of Class 1-5 agricultural lands (capable of crop production) in the Peace Agricultural Region will not be affected by Site C. Permanent loss of approximately 3,800 hectares of class 1-5 agricultural lands leaves approximately 2.7 million hectares of Class 1 to 5 lands available for agricultural production in the Peace Agricultural Region.

New Management Direction

- A new Project Assurance Board – made up of BC Hydro, independent experts and government representatives – will provide enhanced oversight to future contract procurement and management, project deliverables, environmental integrity, and quality assurance – all within the mandate of delivering the project on time and budget. Based on current projections, BC Hydro has revised the budget to \$10.7 billion.
- EY Canada has been retained by BC Hydro to provide dedicated budget oversight, timeline evaluation and risk assessment analysis for the duration of the project.

Agriculture

- Activate the \$20 million agricultural compensation fund established to offset lost sales and stimulate agriculture enhancements in the Peace region.
- Government will establish a new dedicated BC Food Security Fund – based on Site C revenues – dedicated to supporting farming and enhancing agricultural innovation and productivity throughout B.C.

Community Benefits

- New Community Benefits Programs will be established with a mandate to ensure that

project benefits flow to local communities, and increase the number of apprentices and First Nations workers hired onto the project.

- The Peace River Legacy Fund will be used to implement solutions to longer-term environmental, social and economic issues.
- Government will explore options for relocating Site C worker accommodations, post completion, to a local skills-training institution.

First Nations

- As a component of the comprehensive review of BC Hydro, the Province and BC Hydro will consider the development of a new procurement stream for smaller-scale renewable electricity projects where Indigenous Nations are proponents or partners to create local employment and commercial opportunities throughout B.C. as well as environmental benefits with the replacement of diesel or fossil fuel-based energy installations. The Ministry of Energy, Mines and Petroleum Resources and the Ministry of Finance will bring these proposals to government by fall 2018.
- BC Hydro and the Ministry of Transportation and Infrastructure will work with Treaty 8 First Nations and others to redesign the Highway 29 realignment at Cache Creek to reduce the effects on potential burial sites and sacred places. BC Hydro will invite proposals from Treaty 8 First Nations for this roadbuilding work.
- The Ministry of Indigenous Relations and Reconciliation and BC Hydro will continue to engage Treaty 8 First Nations to seek additional solutions to mitigate the adverse impacts of Site C, and to advance reconciliation.
- The Province will continue recent direct government engagement with First Nations to seek input into the design of a Peace River Legacy Fund and establish a collective Treaty 8 project advisory committee.
- Work will continue in addressing cultural concerns, enhancing business opportunities, and retaining funding/land transfers and contract opportunities.

Contact:

Suntanu Dalal
Media Relations
Ministry of Energy, Mines and Petroleum
Resources
250 952-0628

Connect with the Province of B.C. at: news.gov.bc.ca/connect

BACKGROUND 2

For Immediate Release
2017PREM0135-002039
Dec. 11, 2017

Office of the Premier

From private power to Site C: Bad decisions that shaped B.C.'s electricity policy

Government's decision to proceed with the completion of Site C was driven, in large part, by a series of bad energy policy decisions made over the past decade and a half that put politics ahead of people. These decisions significantly increased the province's intermittent electricity energy supply and forced upward pressure on electricity rates.

In 2002, the previous government introduced the Energy Plan that mandated that all new power generation opportunities were reserved for private power producers. Through the extensive use of electricity purchase agreements, the board of BC Hydro made long-term commitments to purchase a large supply of new intermittent power, primarily through run-of-river power projects, at prices considerably higher than produced by BC Hydro's heritage hydroelectric assets.

The board of BC Hydro committed to more than 135 contracts with an average term of 28 years. And while power generated by BC Hydro's heritage assets cost \$32 per MWh, power from IPPs cost \$100 per MWh. Today these contracts represent future financial commitments of over \$50 billion.

The Energy Plan also changed the structure of BC Hydro and established a standalone BC Transmission Corporation to allow private power producers to access the transmission system and to sell directly to large consumers.

At the same time that BC Hydro was directed to accommodate this new supply of intermittent power, the previous government also instructed BC Hydro to decommission its Burrard Generating Station in Metro Vancouver to address growing concerns about local air pollution and greenhouse gas emissions.

As BC Hydro lost needed electrical capacity to backstop its new intermittent power supply, it was forced to seek new capacity or "firm" power, the type traditionally provided by hydroelectric facilities like Site C.

In 2010, the old government introduced the Clean Energy Act, which exempted a number of BC Hydro projects and power procurement activities from independent review by the BC Utilities Commission including Site C, the Clean Power Call, the Smart Metering Program and the Northwest Transmission Line.

The former government then compounded the financial problems at BC Hydro by directing the corporation to pay dividends to the province from funds BC Hydro had to borrow. The cost of this debt is a direct cost to BC Hydro ratepayers.

Between 2001 and 2017, the old government directed BC Hydro to increase its liabilities held in

regulatory accounts from \$116 million to \$5.597 billion. These costs will have to be recovered from ratepayers in the future.

As a result of these earlier policy decisions, the old government saddled BC Hydro with a new supply of long-term expensive intermittent power, without the electrical capacity to maintain reliable service to its customers.

Faced with challenges of its own making, the old government decided to push ahead with Site C without allowing review by British Columbia's independent regulator, the BC Utilities Commission.

Contact:

Suntanu Dalal
Media Relations
Ministry of Energy, Mines and Petroleum
Resources
250 952-0628

Connect with the Province of B.C. at: news.gov.bc.ca/connect

BACKGROUND 3

For Immediate Release
2017PREM0135-002039
Dec. 11, 2017

Office of the Premier

Site C termination implications for BC Hydro customers and British Columbia taxpayers

The decision to proceed with construction of Site C was primarily driven by a determination that British Columbians should not have to take on \$4 billion in debt with nothing in return for the people of this province and, even worse, with massive cuts to the services they count on.

Analysis conducted by the Ministry of Finance, Ministry of Energy, Mines and Petroleum Resources, and external experts on the BC Utilities Commission (BCUC), report concluded that completing Site C will be significantly less costly to British Columbians than cancelling the project.

In its report, the BCUC estimated that BC Hydro would need to spend an additional \$1.8 billion for termination and site remediation costs if it were to cancel the project. This is in addition to the \$2.1 billion of sunk construction and planning costs that will have been spent by the end of December 2017.

Faced with an immediate and unavoidable \$4-billion debt, the Province would have to recover these costs from either BC Hydro customers or taxpayers. As a regulated utility, BC Hydro is obligated to file a plan with the independent BCUC, which would ultimately determine the course of action it deemed most appropriate.

The BCUC did not take a position with respect to the options for debt recovery, however, government conducted extensive analysis of the fiscal and rate implications of likely debt recovery options.

If the BCUC determined that BC Hydro could recover the nearly \$4 billion in Site C costs from its customers, the commission would then have to decide what the repayment period should be:

- Under a 10-year recovery period, BC Hydro customers could face a one-time 12.1% rate increase that would last for the next decade. This would be in addition to any other rate increases required to cover BC Hydro's ongoing debt servicing and other operating costs, including recovery of its rate deferral accounts.
- Under a longer recovery period of 70 years, customers would not face short-term rate impacts. Such a move would, however, force future generations to pay for a valueless asset from which they never receive benefits. This course of action would also increase the risk that provincial bond rating agencies would bring into question BC Hydro's financial sustainability, thus increasing the risk that BC Hydro's entire debt load becomes viewed as non-commercial. This would place significant pressure against the Province's AAA credit rating and annual borrowing costs.

If the BCUC decided that BC Hydro should not recover the \$4 billion of Site C debt from its customers, the corporation and the Minister of Finance would face two options that would

significantly affect B.C. taxpayers.

If BC Hydro retained the \$4 billion debt:

- It would first be obligated to write off the Site C costs as unrecoverable, thus causing BC Hydro and the Province to slip into significant deficits. The corporation would then face an even higher risk of no longer being viewed by rating agencies as self-supporting and having its entire debt reclassified as non-commercial.
- Such a move would significantly risk the Province losing its AAA rating with a resultant increase in borrowing costs, thus reducing the annual budget available for key priority spending areas.

If government itself chose to assume the nearly \$4 billion of Site C debt – thus safeguarding BC Hydro:

- It would immediately increase B.C.'s level of taxpayer-supported debt from about \$44.6 billion to \$48.6 billion.
- This increase would also erode the Province's key fiscal sustainability debt-to-revenue ratio by seven to eight percentage points – a measure critically assessed by provincial bond-rating agencies and ultimately determines the Province's borrowing and debt-servicing costs.
- Taking on the Site C debt into government taxpayer-supported debt would likely eliminate planned increases in provincial capital spending over the next two years. For context, \$4 billion in assumed Site C debt could pay for the equivalent of:
 - 66 secondary schools (\$60 million each); or
 - 11 hospital projects similar to the North Island hospitals (Province's share \$365 million); or
 - 12 highway projects similar to the Okanagan Valley Corridor Project (Province's share \$ 330 million); or
 - three Pattullo Bridges (\$1.3 billion each).
- This additional taxpayer-supported debt load would also increase operating costs in the provincial budget by \$120 million to \$150 million annually – putting at risk the services British Columbians count on.

Contact:

Suntanu Dalal
Media Relations
Ministry of Energy, Mines and Petroleum
Resources
250 952-0628

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Page 063 to/à Page 069

Withheld pursuant to/removed as

s.13

Devereux, Rick GCPE:EX

From: Kennedy, Christine PREM:EX
Sent: Monday, December 11, 2017 9:24 AM
To: Devereux, Rick GCPE:EX; Lloyd, Evan GCPE:EX; Hagglund, Jarrett GCPE:EX
Cc: Wright, Don J. PREM:EX; Zadravec, Don GCPE:EX
Subject: RE: Final Power Point Deck
Attachments: Site C Technical Presentation, December 11 2017.pptx; Site C Technical Presentation, December 11 2017.pdf

Here is the presentation with Don's final updates, in PowerPoint and PDF.

Christine

From: Devereux, Rick GCPE:EX
Sent: Monday, December 11, 2017 6:40 AM
To: Lloyd, Evan GCPE:EX; Kennedy, Christine PREM:EX; Hagglund, Jarrett GCPE:EX
Cc: Wright, Don J. PREM:EX; Zadravec, Don GCPE:EX
Subject: Final Power Point Deck

Hi All,

My colleague Jarrett is included in this email and is the lead in the execution of the event in Vancouver. Can he be sent the final power point when it is ready?

Please let me know if we should be contacting someone else about this.

Thanks
Rick

Site C

Technical Briefing

Don Wright
Deputy Minister to the Premier
December 11, 2017



**After review by BCUC, meeting with Treaty 8
First Nations, advice from independent experts
and lengthy deliberation**

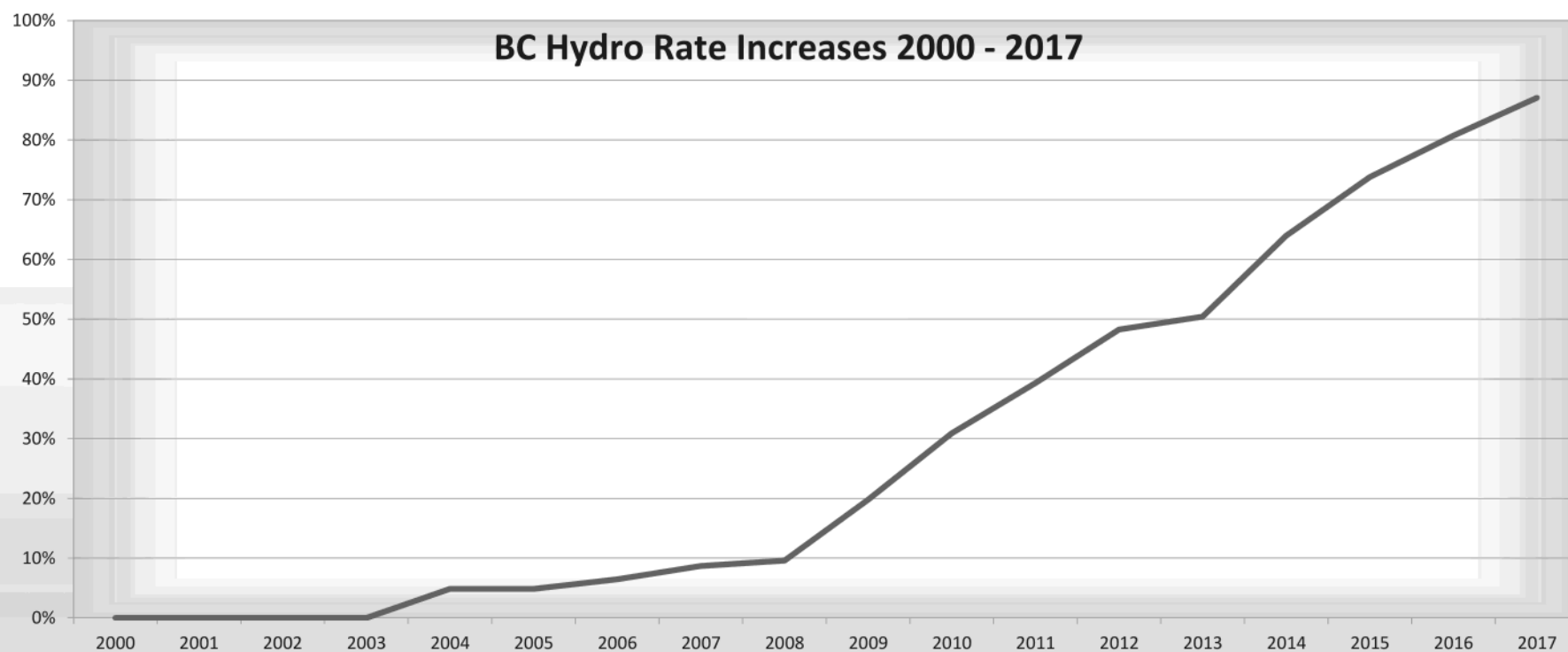
**Cabinet has made the difficult decision to
complete Site C construction**

Outline of Technical Presentation

- I. Historical Context
- II. Government's Decision Criteria
- III. Revised Cost Estimates
- IV. Ratepayer Impacts
- V. Fiscal Impacts/Risks
- VI. Concluding Comments

I. Historical Context

Hydro Rates Have Been Rising Significantly Since 2003

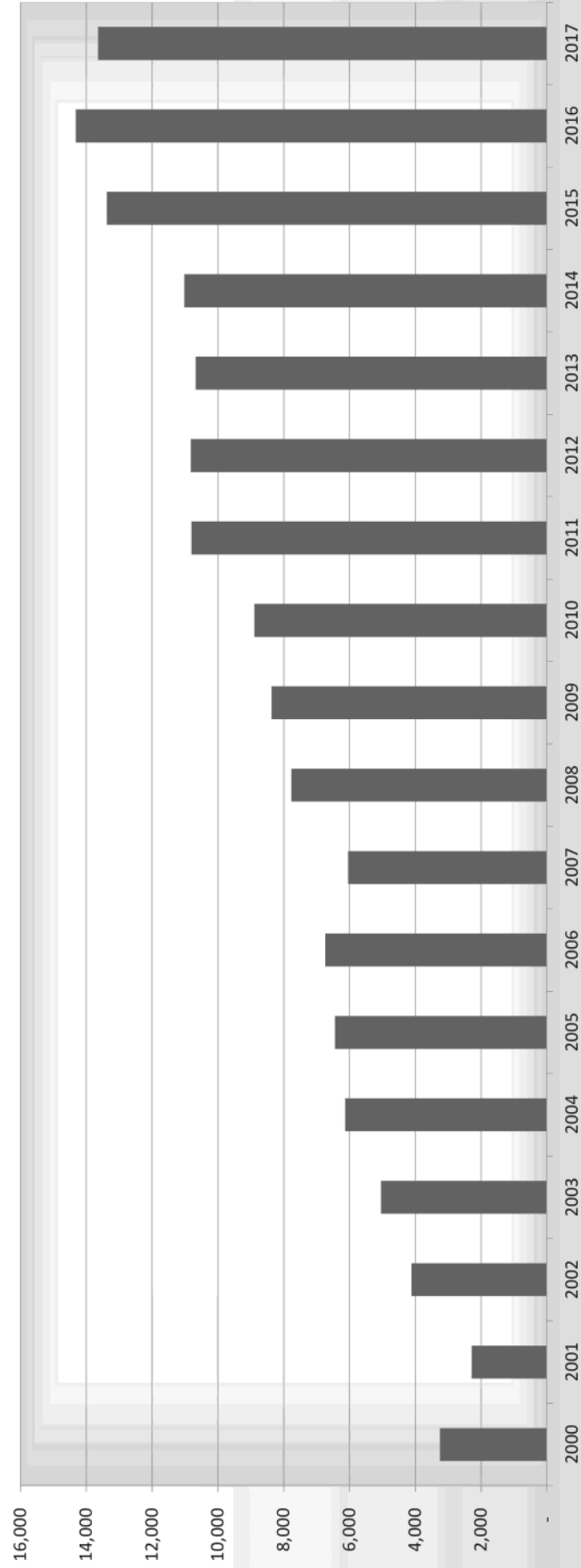


New Power More Expensive Than Heritage Assets

Heritage Assets	Average of IPP	Projected Site C
\$32 / MWh	\$100 / MWh	\$60 / MWh

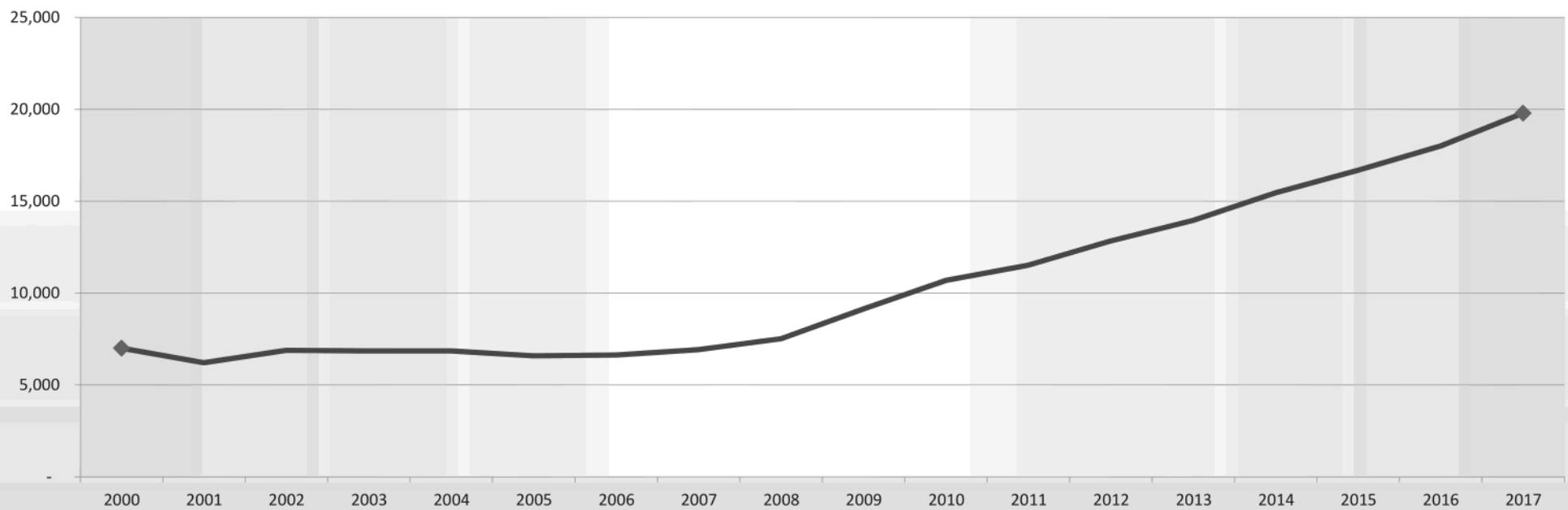
IPP Share of Supply Growing

IPP Historical Generation (GWh)



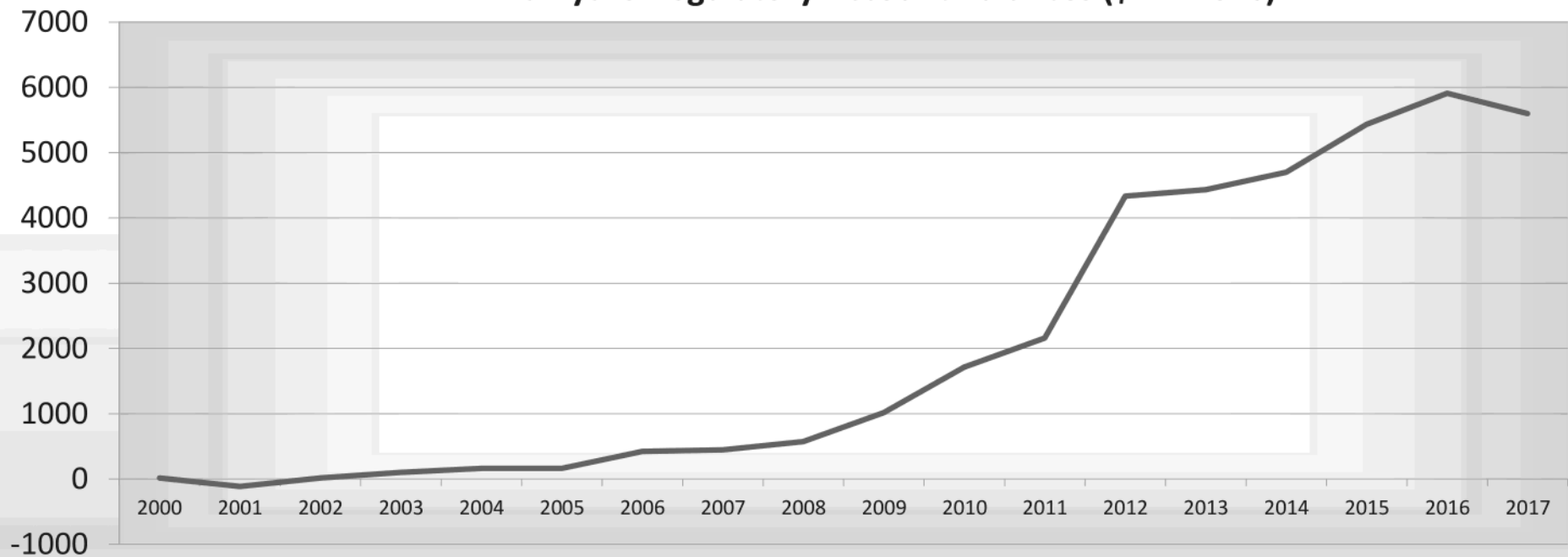
BC Hydro Debt is Growing

BC Hydro Net Long-Term Debt (\$ Millions)

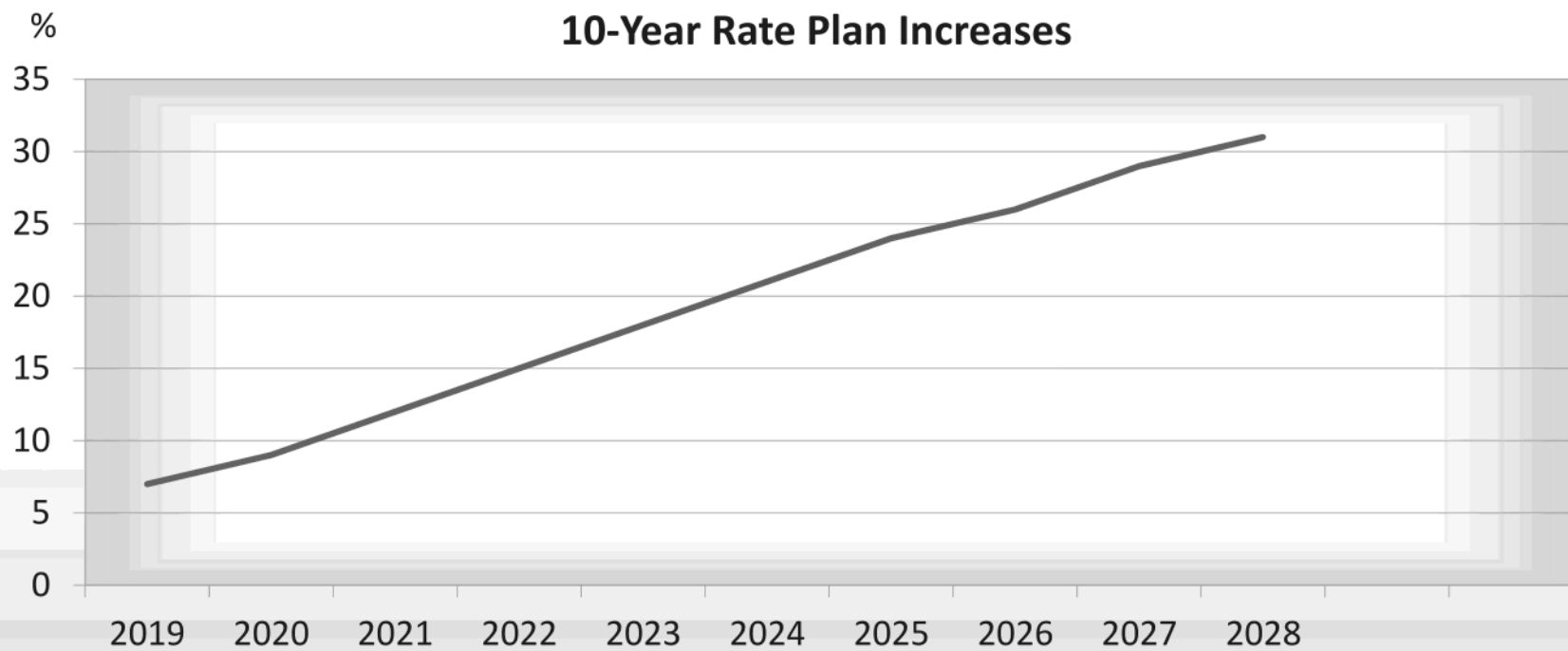


BC Hydro's Regulatory Account Balance Is Growing

BC Hydro Regulatory Account Balances (\$ Millions)

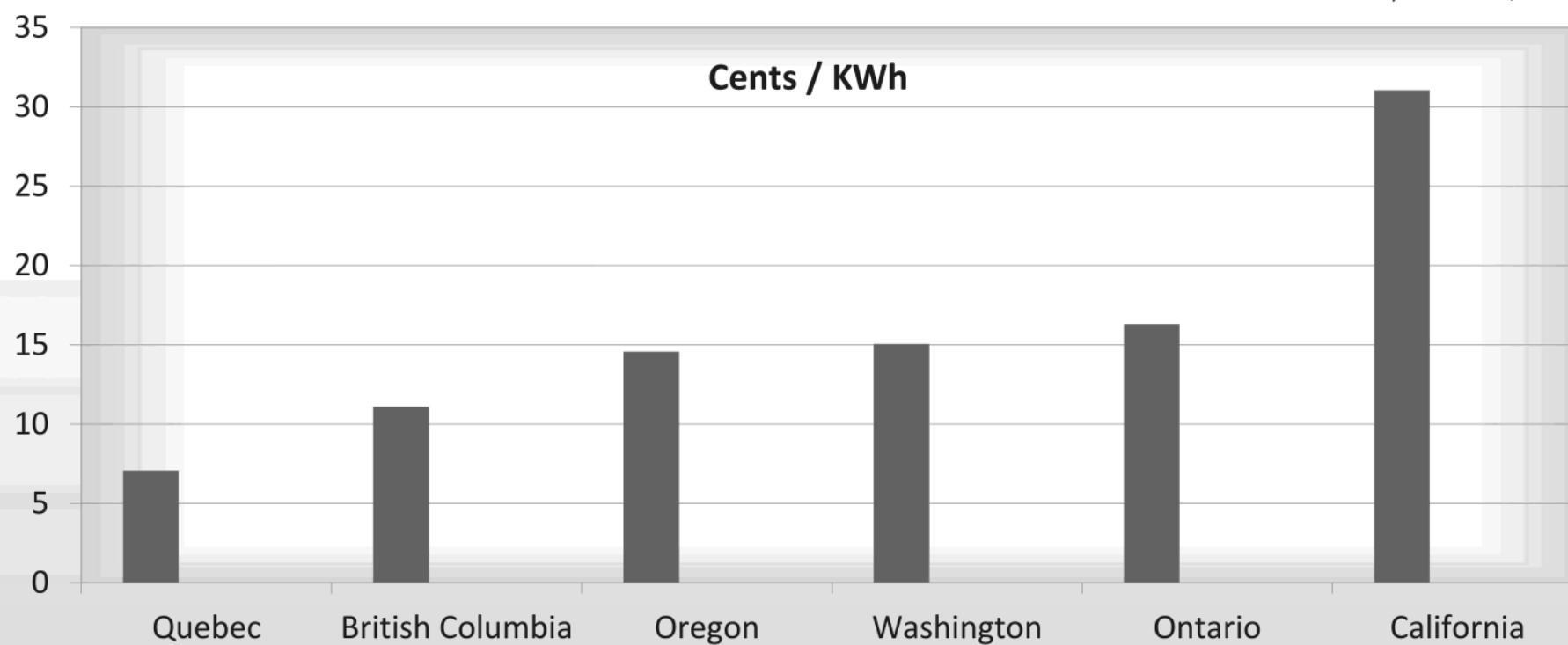


Current 10-Year Rate Plan Schedules Further Increases



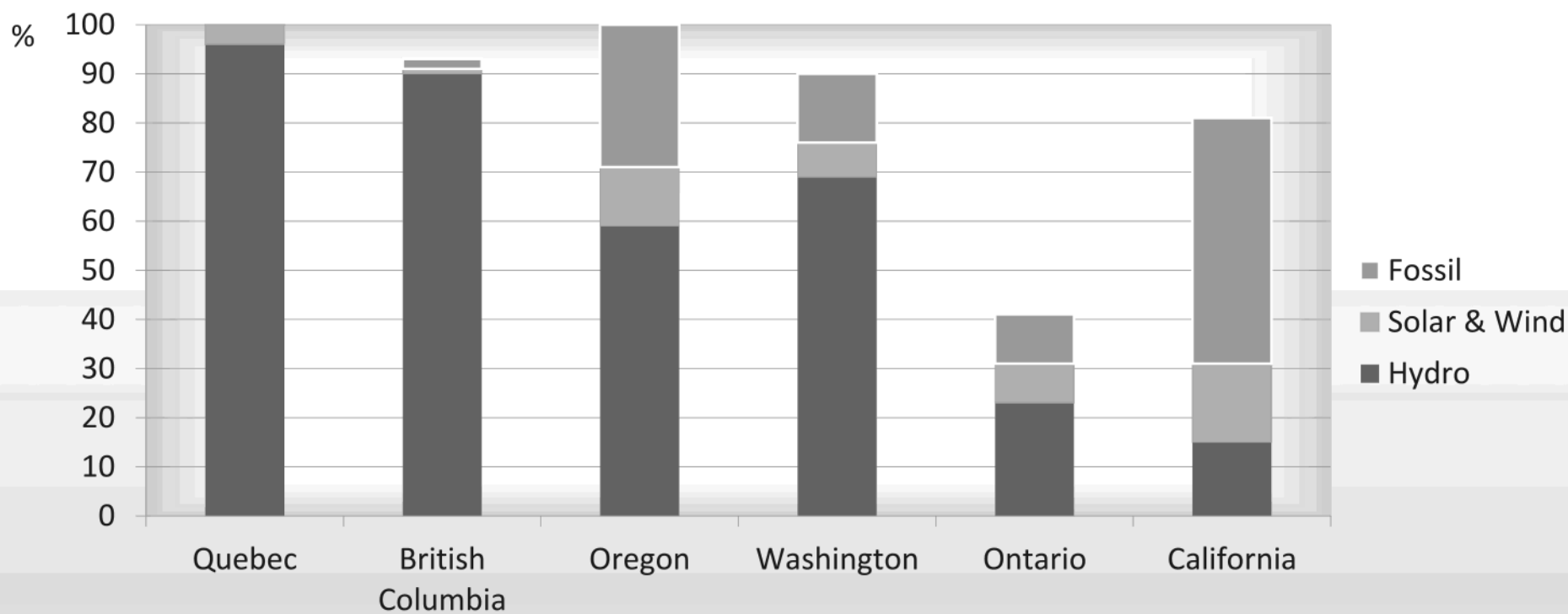
How Our Rates Compare, Residential

Source: Hydro Quebec, NRCAN, US EIA



Sources of Electricity

Source: Hydro Quebec, NRCAN, US EIA
Other sources to 100% includes biomass, nuclear



II. Government's Decision Criteria

Criteria

1. Ratepayer Impact
2. Fiscal Impact / Risks
3. First Nation Impacts
4. GHG Targets
5. Agriculture / Food Security

III. Revised Cost Estimates

Projected Cost to Complete: \$10.7 Billion

- 2014 approval was for \$8.335 billion
 - With an additional \$440 million risk reserve
 - For a total of \$8.775 billion
- Costs to date have exceed budgeted amounts
- One-year delay of river diversion estimated to increase costs by \$610 million
- Future contracts projected to be higher than budgeted amounts
- Current mid-point estimate is now \$9.992 billion
 - \$1.657 billion over 2014 estimate
- Given what has happened to date, risk reserve has been increased

Change in Cost Estimate

\$ millions

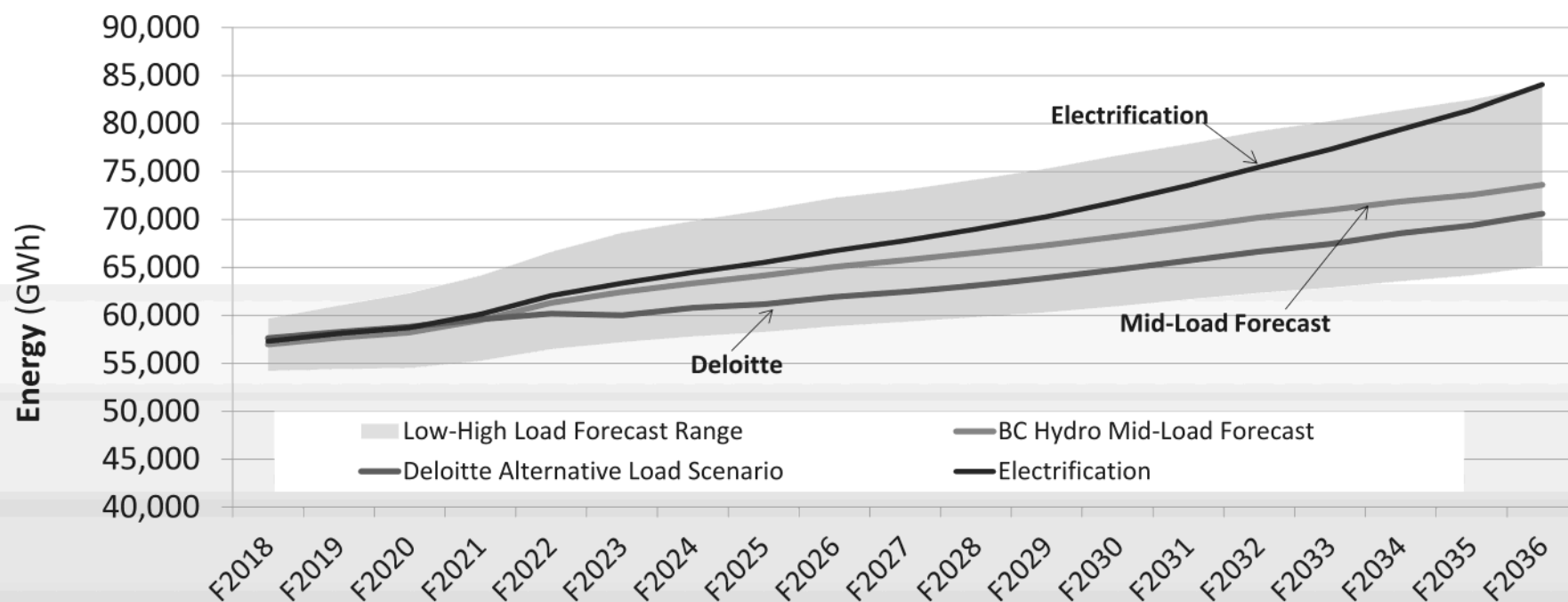
Cost	2014	Current
Direct Costs	4,940	5,839
Indirect and Overhead	1,194	2,010
Contingency	794	858
Interest before completion	1,407	1,285
Total Before Risk Reserve	8,335	9,992
Risk Reserve	440	708
Total	8,775	10,700

Comments on Cost Escalation

- Government will be putting in place enhanced oversight to ensure final costs are at or below \$10.7 billion
- \$10.7 billion is used in making comparisons of the continue versus terminate scenarios

IV. Rate Impacts

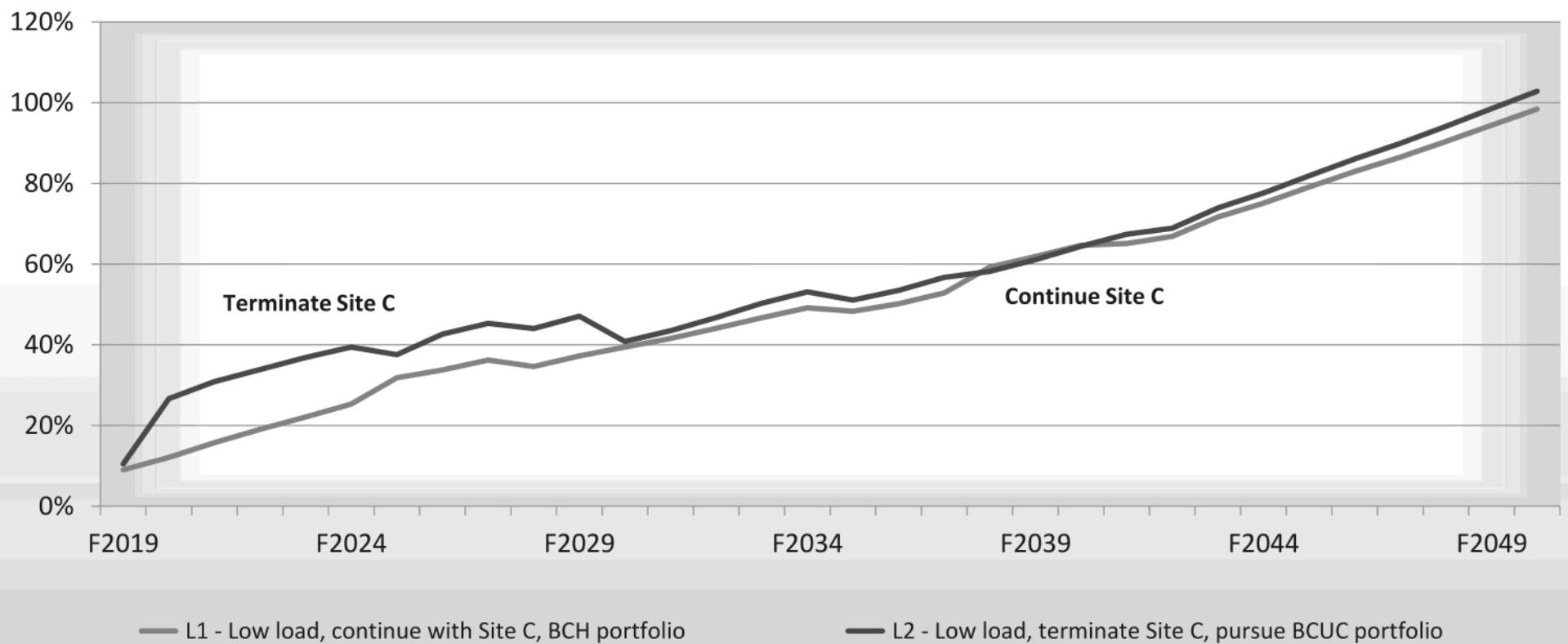
Comparison of Load Forecasts



Rate Impact Analysis Assumptions

- BCUC Low Load Forecast
- BCUC “Alternative Portfolio” assumptions
- \$10.7 B Site C Cost
- 10 year amortization of \$4 billion in termination scenario

Rate Impacts Under a Low Load Forecast



What Is The Impact On Ratepayers?

Complete Site C

- Rate impact 1.1% in 2025, and 1.1% in 2026 under a rate smoothing scenario over 10 years, then decreasing (assuming revised \$10.7B project cost)

Terminate Site C

- Increases rates, starting in 2020 to recover sunk and termination costs
- A 12% rate increase would need to be in place for 10 years

Impact of Terminating Site C on Customers

Results in a rate increase of 12%, effective 2020



Single Family Home, Vancouver Island

- Annual hydro bill \$1,650 **+\$198 / year**



Lumber Mill, BC Interior

- Annual hydro bill \$1.6 million **+\$192,000 / year**



Medium Data Centre

- Annual hydro bill \$1.5 million **+\$180,000 / year**



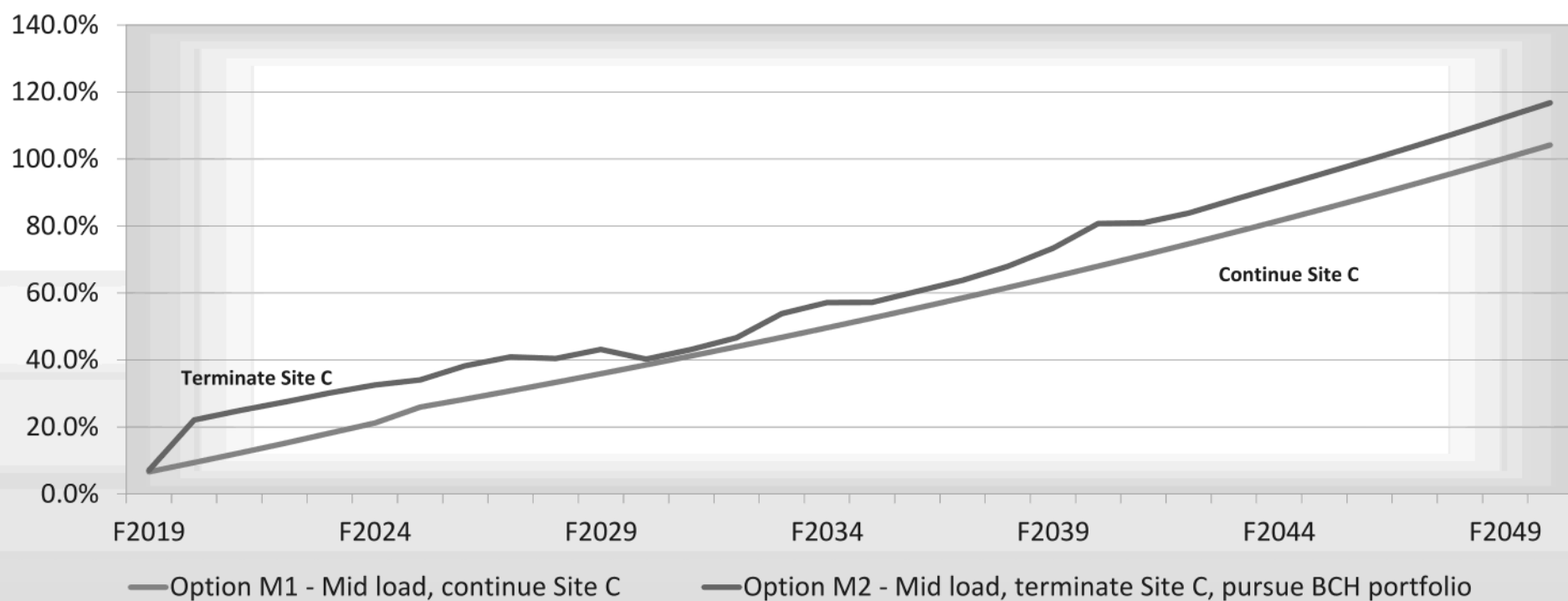
Large Lower Mainland Hospital

- Annual hydro bill \$3.1 million **+\$372,000 / year**

Demand Affects Relative Rate Impact

- If demand exceeds low load forecast, relative advantage of complete scenario increases over terminate scenario

Rate Impacts Under a Mid Load Forecast



V. Fiscal Impacts / Risks

Some Inconvenient Arithmetic

- If government decided to terminate, \$4 billion in debt has to be absorbed by someone
 - Ratepayers
 - BC Hydro
 - Taxpayers
- The previous section looked at the implications if ratepayers absorbed the cost

Could BC Hydro Absorb Termination Costs?

- They could
- But this would
 - Wipe out more than 80% of BC Hydro's equity
 - The \$4 billion loss would still be consolidated on the books of the Government Reporting Entity
 - Involve ongoing debt interest costs of \$120-150 million per year

Biggest Risk Of The Hydro Absorb Scenario

- In a scenario where BC Hydro was to absorb the \$4 billion termination costs:
 - Credit rating agencies could determine that BC Hydro was no longer a commercially viable entity
Resulting in \$20 billion debt being reclassified as taxpayer-supported debt
 - Likely leading to a downgrade of the Province's credit rating
 - Resulting in higher interest costs for the (then) \$65 billion in taxpayer-supported debt

Could the Minister of Finance Absorb Termination Costs?

- Central Government's Consolidated Revenue Fund would take on the \$4 billion of debt and recapitalize BC Hydro
- This would likely preserve BC Hydro's status as a commercial entity
- But...

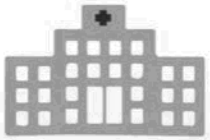
Having the Minister of Finance Absorb Termination Costs Would

- Still entail a \$4 billion loss in Government Reporting Entity
- Still involve \$120-\$150 million / year in interest costs that would have to be serviced
- Could lead to a credit rating downgrade, adding even more debt interest costs to taxpayers
- Crowd out room for new capital project spending
 - Schools, hospitals, housing, bridges, highways, etc.

What is \$4 Billion Equivalent To?



66 secondary schools (\$60 million each); or,



11 hospital projects similar to the North Island Hospitals (Province's share \$365 million); or,



12 highway projects similar to the Okanagan Valley Corridor Project (Province's share \$ 330 million); or,

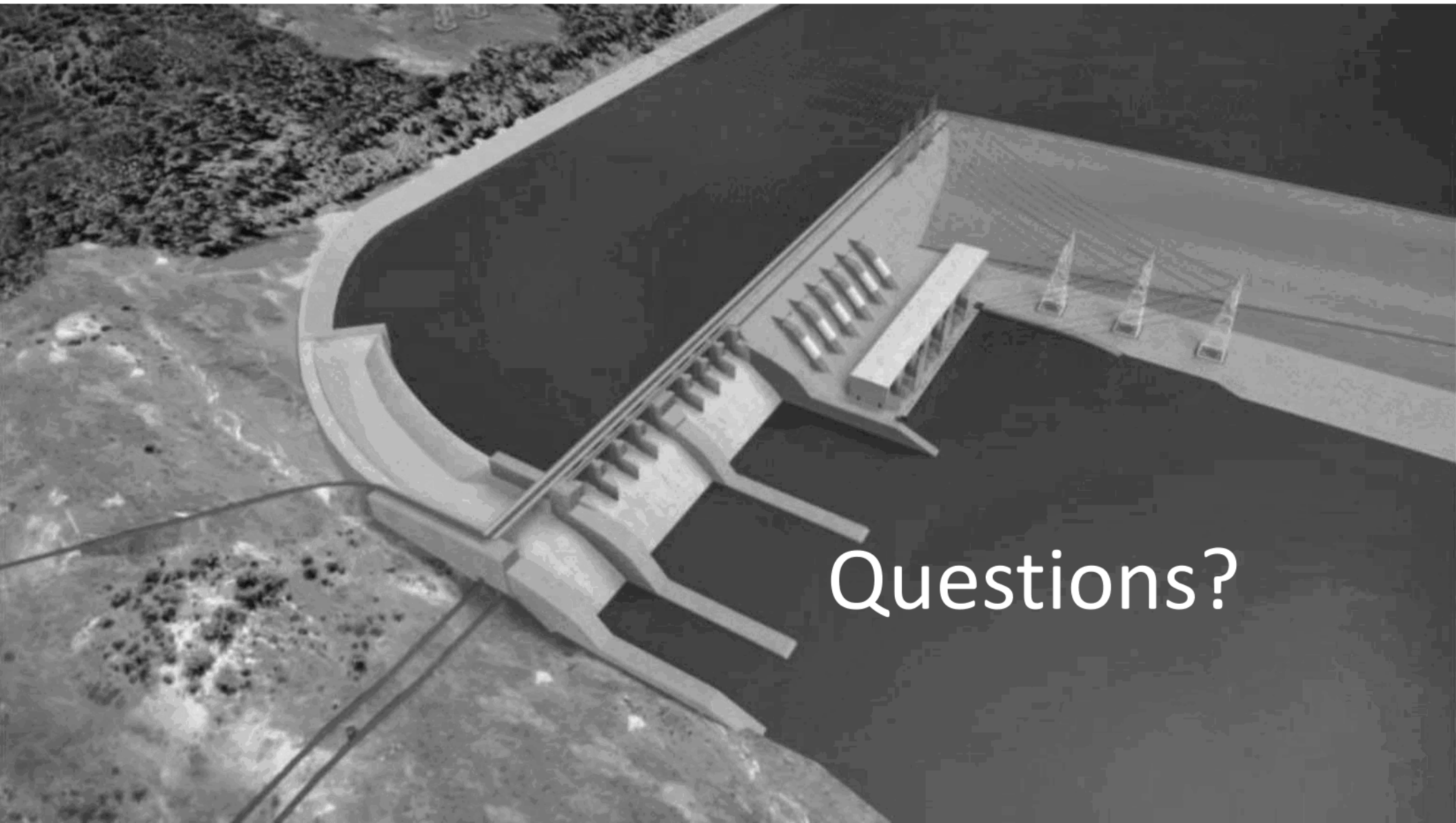


3 Pattullo Bridges (\$1.3 billion each).

VI. Concluding Comments

In Summary

- Very tough decision for Government
- Decision to proceed primarily driven by need to:
 - Minimize impacts on BC Hydro ratepayers
 - Preserve the fiscal room to build schools, hospitals, housing, bridges etc.



Devereux, Rick GCPE:EX

From: Devereux, Rick GCPE:EX
Sent: Sunday, December 10, 2017 2:14 PM
To: Aaron, Sage PREM:EX
Subject: Monday Itinerary
Attachments: EP_Site C Decision Final V1.docx

Hi Sage,

Here's the itinerary for both events. Let me know if you have any questions.

Thanks
Rick

DRAFT
SITE C DECISION ANNOUNCEMENT
Event Proposal/Roll-out Plan
Date TBC

Summary:

Cabinet is anticipated to make a decision regarding Site C in the first few weeks of December. This proposal articulates how the decision will be announced and the timeframes associated with various activities. An overview of key stakeholders to be advised prior to and post announcement is included.

Key Stakeholders contacted pre-announcement

- Government Caucus
- Green Caucus
- Federal Government
- Local Government
- First Nations

Media Technical Briefing

- Media lock up where an overview of the decision and mitigation actions will be provided by:
 - DM to the Premier, Don Wright
 - DM of EMPR, Dave Nikolejsin
 - DM of Finance, Lori Wanamaker (TBC, or someone else from Finance)
- Legislature Press Theatre, Victoria
- 10:30 AM, Monday, December 11
- One phone line connection to a lockup at the Vancouver Caucus Office

Province of BC public announcement

- Press Conference:
 - Premier John Horgan
 - Michelle Mungall, Minister of Energy, Mines and Petroleum Resources
 - George Heyman, Minister of Environment and Climate Change Strategy
- Dial-in capability provided (with Q&A)
- Location: Library Rotunda, Legislative Building
- News Release/Backgrounders distributed province-wide

Post-announcement

- Specific follow-up media responses by Minister Mungall and others TBC

British Columbia Engagement Plan

- Executive staff/and or Ministers with the Ministry of Energy, Mining and Petroleum Resources (EMPR) and the Ministry of Indigenous Relations and Reconciliation (IRR) will be contacting key stakeholders and First Nations.
- Key Business/Industry, Environmental, Finance, and Regional calls TBD (lists below)

Roll-Out:

Time	Activities & Details
9:00 am	Prime Minister of Canada and the Premier of British Columbia phone call TBC.
10:30 am – 11:15 am	Media Technical Briefing (secured) – Legislature Press Theatre
11:30 am – 12:15 pm	SITE C ANNOUNCEMENT: Premier, Ministers Mungall, James, Heyman– Press Conference in Library Rotunda Premier will announce decision followed by Q&A.
12:30 pm – 1:30 pm	Premier/Ministers – targeted media calls
Mid-day	Provincial executives and/or Ministers conduct calls with key stakeholders, including First Nations (and potentially others as identified below).

EVENT PARTICIPANTS:**Media Technical Briefing:**

Deputy Minister to the Premier, Don Wright
 Deputy Minister of Energy, Mines and Petroleum Resources, Dave Nikolejsin
 Deputy Minister of Finance, Lori Wanamaker (TBC or substitute)

Public Announcement:

Premier Horgan
 Minister of Energy, Mines and Petroleum Resources, Michelle Mungall
 Minister of Environment and Climate Change Strategy George Heyman

Media Technical Briefing Itinerary

Event Summary	Technical Briefing on Site C Decision Location: Press Theatre Participants: Led by DM Don Wright, joined by: DM Dave Nikolejsin, DM Lori Wannamaker (or alternate from Finance, tbc)
Time	Event Itinerary
9:00 AM	Call in line and presentation link to Vancouver is tested and established. Any final set up details will be confirmed. On site for set up will be Rick Devereux, cell: 250-812-1207 and Joleen Badger, cell: 604-916-3551
10:00 AM	Media begin to arrive and sign in, Media Contact: Jen Holmwood, cell: 250-818-4881
10:00 AM	Final Pre-brief with Don Wright and the other DM's in Don Wright's Office, led by Don Zadravec, cell: 778-584-1252
10:25 AM	DM's move into position, with Don Wright at podium, flanked by two people at a table on one side of podium: DM of EMPR and DM of FIN Jen Holmwood is at the moderation mic
10:30 AM	EVENT BEGINS – Jen Holmwood goes over a few ground rules and introduces Don Wright, the other DM's and then welcomes Don Wright to go over the presentation
10:32 AM	Don Wright goes through the Presentation
10:50 AM	Presentation Concludes. Don Zadravec opens up the floor to questions, with media assistance from Jen Holmwood.
11:12 AM	Don Zadravec announces that we will be wrapping imminently/last question
11:14 AM	Don Zadravec announces that we need to wrap up and encourages people to head upstairs to the library.
11:15 AM	Event concludes, media heads upstairs to the library.

Media Announcement

Event Summary	Media Announcement on Site C Decision Location: Library Rotunda Participants: Led by Premier John Horgan, joined by: Minister Mungall, Minister Heyman
Time	Event Itinerary
8:00 AM	Tech crew arrives for set up. On site for set up will be Rick Devereux, cell: 250-812-1207 and Joleen Badger, cell: 604-916-3551
10:00 AM	Media CAMERAS begin to arrive. Media Contact: Jen Holmwood, cell:250-818-4881
10:00 AM	Final Pre-brief run through with Premier and Ministers in the West Annex, led by Sage Aaron and others.
10:15 AM	Media event location set up is complete, phone line connection is set up with Q&A, connection to Vancouver is established and tested, everything is ready to go.
10:30 AM	Anyone in the West Annex who wants to see/hear the Tech Briefing questions should establish a connection to do so.
11:15 AM	Post Technical Briefing, one final chance in West Annex to go over any last notes, and cover any questions of interest from the media in the technical briefing with Premier and Ministers.
11:25 AM	Premier and Ministers depart the West Annex for the Library.
11:29 AM	Media in the venue are given a heads up that we are about to begin
11:30 AM	EVENT BEGINS - Premier Horgan and Ministers enter the Library Rotunda and Premier Horgan takes the podium flanked by Ministers Mungall and Heyman.
11:30 AM	Premier makes announcement
11:37 AM	Premier thanks everyone and announces that he and the Ministers will take questions
11:37 AM	Moderated by Sheena, the Premier and Ministers take questions.
12:00 PM Approx.	Sheena calls last question, event ends. Premier and Ministers depart Rotunda and return to West Annex
1:00 PM	Tech Crew departs

Devereux, Rick GCPE:EX

From: Devereux, Rick GCPE:EX
Sent: Friday, December 8, 2017 4:03 PM
To: Hagglund, Jarrett GCPE:EX; Badger, Joleen GCPE:EX
Subject: Monday Itinerary
Attachments: EP_Site C Decision Final V1.docx

Rick Devereux
Director, Event Services | Government Communications and Public Engagement
rick.devereux@gov.bc.ca | 250-812-1207

Dec. 10, 2017

MEDIA ADVISORY – Office of the Premier and Ministry of Energy, Mines and Petroleum Resources – Victoria and Vancouver

VICTORIA – Premier John Horgan will announce the Site C decision in Victoria on Monday.

The Premier’s announcement will be preceeded by a “lock-up” style technical briefing with government staff (not for attribution). In addition, Vancouver-based media will be able to participate in the technical briefing by conference call (also “lock-up” and not for attribution) from the Premier’s Vancouver Office.

Event Date: Monday, Dec. 11, 2017

Victoria Technical Briefing:

Time: 10:30 a.m. (Pacific time)

Location:
Legislative Press Theatre
Parliament Buildings
Victoria

NOTE: Media attending the Victoria briefing are asked to arrive at the legislative buildings by 10:00 a.m. to obtain press credentials through security.

Vancouver Technical Briefing:

Time: 10:30 a.m. (Pacific time)

Location:
Premier’s Vancouver Office
740 – 999 Canada Place
Vancouver

Victoria News Conference:

Time: 11:30 a.m. (Pacific time)

Location:
TBD
Parliament Buildings

Victoria

Media unable to attend the Premier's Victoria news conference will be able to dial-in to listen and ask questions.

Dial-in Information:

Toll free: s.15,s.17

Participant passcode: XXXXXX

Victoria Contact:

Jen Holmwood

Office of the Premier

250 818-4881

Vancouver Contact:

Stephanie Sherlock

Government Communications and Public Engagement

778 584-1254

Devereux, Rick GCPE:EX

From: Haslam, David GCPE:EX
Sent: Friday, December 8, 2017 11:41 AM
To: Zadravec, Don GCPE:EX
Cc: Devereux, Rick GCPE:EX; Sherlock, Stephanie GCPE:EX; Dalal, Suntanu GCPE:EX
Subject: RE: Draft media advisory
Attachments: MA_Site C Decision_Dec07_3pm.docx

Attached is the latest MA. Including Stephanie and my guy Suntanu. Please keep them both in the loop on edits.

From: Zadravec, Don GCPE:EX
Sent: Friday, December 8, 2017 11:34 AM
To: Haslam, David GCPE:EX
Subject: Draft media advisory

Hi David, do you have the latest draft of the media advisory that you can send to Rick and me.

Thanks,
Don Zadravec
Executive Director
Resource Ministries
GCPE
778-584-1252

Dec. 10, 2017

MEDIA ADVISORY – Office of the Premier and Ministry of Energy, Mines and Petroleum Resources – Victoria and Vancouver

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Location:
Legislative Press Theatre
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740 – 999 Canada Place
Vancouver

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Location:
TBD
Parliament Buildings

Victoria

Media unable to attend the Premier's Victoria news conference will be able to dial-in to listen and ask questions.

Dial-in Information:

Toll free: ^{s.15,s.17}

Participant passcode: XXXXXX

Victoria Contact:

Jen Holmwood

Office of the Premier

250 818-4881

Vancouver Contact:

Stephanie Sherlock

Government Communications and Public Engagement

778 584-1254

Devereux, Rick GCPE:EX

From: Hagglund, Jarrett GCPE:EX
Sent: Friday, December 8, 2017 7:49 AM
To: Devereux, Rick GCPE:EX
Subject: Vancouver Monday

Hey Rick

So for the budget lockup it looks like we used speakers that were patched into a telephone line. So not just telecom thing.

Should I set something like this up again do you think.

Sent from my iPhone

Howlett, Tim GCPE:EX

From: Hannah, Matt GCPE:EX
Sent: Monday, December 11, 2017 10:52 AM
To: Aaron, Sage PREM:EX
Cc: Sanford, Donna L GCPE:EX; Howlett, Tim GCPE:EX; Clark, Layne PREM:EX
Subject: Draft lines

Follow Up Flag: Follow up
Flag Status: Flagged

s.13

Matt Hannah
Director of Issues Management
778.584.1249

Howlett, Tim GCPE:EX

From: Clark, Layne PREM:EX
Sent: Monday, December 11, 2017 10:41 AM
To: LP Ministerial Assistants; LP Executive Assistants; LP Premiers Vancouver Office
Cc: Meggs, Geoff PREM:EX; Van Meer-Mass, Kate PREM:EX; McConnell, Sheena PREM:EX; Aaron, Sage PREM:EX; Holmwood, Jen PREM:EX; Nash, Amber PREM:EX; Wong, Tamarra PREM:EX; Privett, Don PREM:EX; Hannah, Matt GCPE:EX; Howlett, Tim GCPE:EX; Matthen, Sheila GCPE:EX; Machell, Aileen GCPE:EX; MacDonald, Alex GCPE:EX; Moran, Roseanne LASS:EX
Subject: Site C material - Embargoed until 11:30AM
Attachments: Site C NR Dec 11.pdf; Backgrounder 1_Site C Mitigation Elements - Dec10V2.pdf; SiteC-FAQ-Dec10V1.pdf; Site C Key Messages - Dec10V2.pdf; Backgrounder 3 Site C Termination Implications for BC Hydro Customers and BC Taxpayers - Dec10V1.pdf; Backgrounder 2 Site C -From Private Power to Site C Dec10-V1.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Red Category

Hello –

Attached:

- News release
- Key messages
- FAQ
- Backgrounders 1 through 3

This is embargoed information until **11:30AM**.

If you have any questions or concerns, do not hesitate to reach out to me.

Thank you,

Layne

From: Howlett, Tim GCPE:EX
Sent: Friday, December 8, 2017 11:06 AM
To: Howlett, Tim GCPE:EX; Sanderson, Melissa EMPR:EX
Subject: Clean Energy Canada "Opinion: With or without Site C, the future is electric"

Opinion: With or without Site C, the future is electric

Dan Woynillowicz & Merran Smith

Published on: December 7, 2017 | Last Updated: December 7, 2017 4:41 PM PST

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Tim Howlett
Issues Manager
Strategic Issues Division, GCPE
250.208.4828

Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Sunday, December 10, 2017 8:05 PM
To: Gibbs, Robb GCPE:EX
Subject: update to FAQ #3

I think you had already edited the top, I wrote a quick "if pressed..."

s.13

Tim Howlett
Issues Manager
Strategic Issues Division, GCPE
250.208.4828

Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Sunday, December 10, 2017 7:55 PM
To: Gibbs, Robb GCPE:EX
Subject: FAQ doc

Would you be able to send me the updated FAQ document?

Tim Howlett
Issues Manager
Strategic Issues Division, GCPE
250.208.4828

Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Saturday, December 9, 2017 1:16 PM
To: Aaron, Sage PREM:EX
Cc: Hannah, Matt GCPE:EX; Zadavec, Don GCPE:EX; Holmwood, Jen PREM:EX
Subject: Re: technical briefing

Sounds good. I had been planning to attend.

Tim Howlett
Issues Management
250.208.4828

On Dec 9, 2017, at 12:24 PM, Aaron, Sage PREM:EX <Sage.Aaron@gov.bc.ca> wrote:

Hi Tim,
We'd like you to be in the technical briefing with the DMs on Monday.
You'll be recording reporters' questions, sending them to the people preparing the premier and catching any we may not have anticipated.
More details to come.

Sage Aaron, Communications Director
Office of the Premier | Government of BC
501 Belleville St, Victoria, BC V8V 2L8 | 778-678-0832

Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Thursday, December 7, 2017 12:51 PM
To: Kristianson, Eric GCPE:EX
Subject: BGs

Hey Eric, Could you flip me a copy of the draft BGs?
I am just working on the simplified QAs and think they might be helpful.

Tim Howlett
Issues Manager
Strategic Issues Division, GCPE
250.208.4828

Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Monday, December 11, 2017 12:47 PM
To: Hannah, Matt GCPE:EX; Aaron, Sage PREM:EX; Holmwood, Jen PREM:EX; McConnell, Sheena PREM:EX; Oreck, Mira PREM:EX
Subject: BC Liberal release

<http://bcliberalcaucus.bc.ca/blog/newsreleases/site-c-project-right-decision-now-providing-clean-power/>

1. **Rich Coleman** Verified account @colemancountry 31s31 seconds ago

.@bcndp spent millions of taxpayer \$\$ figuring out what @BCLiberalCaucus already knew. Right project. Right place. Right time. #SiteC

Howlett, Tim GCPE:EX

From: Sas, Jonathan IRR:EX
Sent: Saturday, December 9, 2017 6:16 PM
To: Howlett, Tim GCPE:EX
Subject: RE: thoughts on additions/edits?
Attachments: SC Notes.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Hey Tim,

See attached.

Give me a call if you need...

Jonathan Sas | Senior Ministerial Assistant | Ministry of Indigenous Relations and Reconciliation | 778 587 4376

From: Howlett, Tim GCPE:EX
Sent: Saturday, December 9, 2017 3:14 PM
To: Sas, Jonathan IRR:EX
Subject: thoughts on additions/edits?

s.13,s.16

Tim Howlett
Issues Manager
Strategic Issues Division, GCPE
250.208.4828

Howlett, Tim GCPE:EX

From: Zadravec, Don GCPE:EX
Sent: Friday, December 8, 2017 12:06 PM
To: Howlett, Tim GCPE:EX
Subject: FW: KMs-QA
Attachments: KMs-QA_Site C Decision_Dec08_1133am.docx

Tim. this is the latest draft

From: Haslam, David GCPE:EX
Sent: Friday, December 8, 2017 12:02 PM
To: Zadravec, Don GCPE:EX
Subject: FW: KMs-QA

Here ya go.

Page 132 to/à Page 175

Withheld pursuant to/removed as

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Howlett, Tim GCPE:EX

From: Dalzell, Danielle GCPE:EX
Sent: Saturday, December 9, 2017 10:46 AM
To: Howlett, Tim GCPE:EX
Subject: 20171208_KM_MLA_SiteC_V3
Attachments: 20171208_KM_MLA_SiteC_V3.docx; 20171208_FAQ_MLA_SiteC_V3.docx

Please have a quick look to check the content. Thank you!

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BACKGROUND

For Immediate Release
Dec. 11, 2017

Site C Quick Facts & Mitigation Elements

Quick Facts:

- The Site C project is already two years into construction.
- To date, \$2.1 billion has already been spent; it's estimated that another \$1.8 billion would be needed for site remediation (which, even then, would not restore the site to its previous condition).
- The \$4 billion in Site C termination costs is equivalent to \$860 for every British Columbian, or eliminating taxpayer-supported capital projects:
 - 66 secondary schools (\$60 million each); or,
 - 11 hospital projects similar to the North Island Hospitals (Province's share \$365 million); or,
 - 12 highway projects similar to the Okanagan Valley Corridor Project (Province's share \$330 million); or,
 - 3 Pattullo Bridges (\$1.3 billion each).
- 99 per cent of Class 1-5 agricultural lands (capable of crop production) in the Peace Agricultural Region will not be affected by Site C. Permanent loss of approximately 3,800 hectares of class 1-5 agricultural lands leaves approximately 2.7 million hectares of Class 1 to 5 lands available for agricultural production in the Peace Agricultural Region.

New Management Direction

- A new Project Assurance Board – made up of BC Hydro, independent experts and government representatives - will provide enhanced oversight to future contract procurement and management, project deliverables, environmental integrity, and quality assurance – all within the mandate of delivering the project on time and budget. Based on current projections, BC Hydro has revised the budget to \$10.7 billion.
- *EY Canada* has been retained by BC Hydro to provide dedicated budget oversight, timeline evaluation and risk assessment analysis for the duration of the project.

Agriculture

- Activate the \$20 million agricultural compensation fund established to offset lost sales and stimulate agriculture enhancements in the Peace region.
- Government will establish a new dedicated BC Food Security Fund – based on Site C revenues – dedicated to supporting farming and enhancing agricultural innovation and productivity across BC.

Community Benefits

- New Community Benefits Programs will be established with a mandate to ensure that project benefits flow to local communities, and increase the number of apprentices and First Nations workers hired onto the project.

- The Peace River Legacy Fund will be used to implement solutions to longer-term environmental, social and economic issues.
- Government will explore options for relocating Site C worker accommodations, post completion, to a local skills-training institution.

First Nations

- As a component of the comprehensive review of BC Hydro, the Province and BC Hydro will consider the development of a new procurement stream for smaller scale renewable electricity projects where Indigenous Nations are proponents or partners to create local employment and commercial opportunities throughout B.C. as well as environmental benefits with the replacement of diesel or fossil fuel-based energy installations. The Ministry of Energy, Mines and Petroleum Resources and the Ministry of Finance will bring these proposals to government by fall 2018.
- BC Hydro and the Ministry of Transportation and Infrastructure will work with Treaty 8 First Nations and others to redesign the Highway 29 realignment at Cache Creek to reduce impact on potential burial sites and sacred places. BC Hydro will invite proposals from Treaty 8 First Nations for this roadbuilding work.
- The Ministry of Indigenous Relations and Reconciliation and BC Hydro will continue to engage Treaty 8 First Nations to seek additional solutions to mitigate the adverse impacts of Site C, and to advance reconciliation.
- The Province will continue recent direct government engagement with First Nations to seek input into the design of a Peace River Legacy Fund and establish a collective Treaty 8 project advisory committee.
- Work will continue in addressing cultural concerns, enhancing business opportunities, and retaining funding/land transfers and contract opportunities.

Contact:

Suntanu Dalal

Media Relations

Ministry of Energy, Mines and Petroleum Resources

250 952-0628

BACKGROUND

For Immediate Release
Dec. 11, 2017

From Private Power to Site C: Bad Decisions that Shaped B.C.'s Electricity Policy

Government's decision to proceed with the completion of Site C was driven, in large part, by a series of bad energy policy decisions made over the past decade and a half that put politics ahead of people. These decisions significantly increased the Province's intermittent electricity energy supply and forced upward pressure on electricity rates.

In 2002, the previous government introduced the Energy Plan that mandated that all new power generation opportunities were reserved for private power producers. Through the extensive use of electricity purchase agreements, the board of BC Hydro made long-term commitments to purchase a large supply of new intermittent power, primarily through run-of-river power projects, at prices considerably higher than produced by BC Hydro's heritage hydroelectric assets.

The board of BC Hydro committed to more than 135 contracts with an average term of 28 years. And while power generated by BC Hydro's heritage assets cost \$32 per MWh, power from IPPs cost \$100 per MWh. Today these contracts represent future financial commitments of over \$50 billion.

The Energy Plan also changed the structure of BC Hydro and established a standalone BC Transmission Corporation to allow private power producers to access the transmission system and to sell directly to large consumers.

At the same time that BC Hydro was directed to accommodate this new supply of intermittent power, the previous government also instructed BC Hydro to decommission its Burrard Generating Station in Metro Vancouver to address growing concerns about local air pollution and greenhouse gas emissions.

As BC Hydro lost needed electrical capacity to backstop its new intermittent power supply, it was forced to seek new capacity or "firm" power, the type traditionally provided by hydroelectric facilities like Site C.

In 2010, the old government introduced the Clean Energy Act, which exempted a number of BC Hydro projects and power procurement activities from independent review by the BC Utilities Commission including Site C, the Clean Power Call, the Smart Metering Program and the Northwest Transmission Line.

The former government then compounded the financial problems at BC Hydro by directing the corporation to pay dividends to the province from funds BC Hydro had to borrow. The cost of this debt is a direct cost to BC Hydro ratepayers.

Between 2001 and 2017, the old government directed BC Hydro to increase its liabilities held in regulatory accounts from \$116 million to \$5.597 billion. These costs will have to be recovered from ratepayers in the future.

As a result of these earlier policy decisions, the old government saddled BC Hydro with a new supply of long-term expensive intermittent power, without the electrical capacity to maintain reliable service to its customers.

Faced with challenges of its own making, the old government decided to push ahead with Site C without allowing review by B.C.'s independent regulator, the BC Utilities Commission.

Contact:
Suntanu Dalal
Media Relations
Ministry of Energy, Mines and Petroleum Resources
250 952-0628

BACKGROUND

For Immediate Release
Dec. 11, 2017

Site C Termination Implications for BC Hydro Customers and BC Taxpayers

The decision to proceed with construction of Site C was primarily driven by a determination that British Columbians should not have to take on \$4 billion in debt with nothing in return for the people of this province and, even worse, with massive cuts to the services they count on.

Analysis conducted by the Ministry of Finance, Ministry of Energy, Mines and Petroleum Resources, and external experts on the BC Utilities Commission (BCUC) report concluded that completing Site C will be significantly less costly to British Columbians than cancelling the project.

In its report, the BCUC estimated that BC Hydro would need to spend an additional \$1.8 billion for termination and site remediation costs if it were to cancel the project. This is in addition to the \$2.1 billion of sunk construction and planning costs that will have been spent by the end of December 2017.

Faced with an immediate and unavoidable \$4 billion debt, the Province would have to recover these costs from either BC Hydro customers or taxpayers. As a regulated utility, BC Hydro is obligated to file a plan with the independent BCUC who would ultimately determine which course of action it deemed most appropriate.

The BCUC did not take a position with respect to the options for debt recovery, however, government conducted extensive analysis of the fiscal and rate implications of likely debt recovery options.

If the BCUC determined that BC Hydro could recover the nearly \$4 billion in Site C costs from its customers, the Commission would then have to decide what the repayment period should be:

- Under a 10-year recovery period, BC Hydro customers could face a one-time 12.1% rate increase that would last for the next decade. This would be in addition to any other rate increases required to cover BC Hydro's ongoing debt servicing and other operating costs, including recovery of its rate deferral accounts.
- Under a longer recovery period of 70 years, customers would not face short-term rate impacts. Such a move would, however, force future generations to pay for a valueless asset from which they never receive benefits. This course of action would also increase the risk that provincial bond rating agencies would bring into question BC Hydro's financial sustainability, thus increasing the risk that BC Hydro's entire debt load becomes viewed as non-commercial. This would place significant pressure against the Province's AAA credit rating and annual borrowing costs.

If the BCUC decided that BC Hydro should not recover the \$4 billion of Site C debt from its customers, the corporation and the Minister of Finance would face two options that would significantly impact BC taxpayers.

If BC Hydro retained the \$4 billion debt:

- It would first be obligated to write off the Site C costs as unrecoverable thus causing BC Hydro and the Province to slip into significant deficits. The corporation would then face an even higher risk of no longer being viewed by rating agencies as self-supporting and having its entire debt reclassified as non-commercial.
- Such a move would significantly risk the Province losing its AAA rating with a resultant increase in borrowing costs, thus reducing the annual budget available for key priority spending areas.

If government itself chose to assume the nearly \$4 billion of Site C debt – thus safeguarding BC Hydro:

- It would immediately increase B.C.'s level of taxpayer-supported debt from about \$44.6 billion to \$48.6 billion.
- This increase would also erode the Province's key fiscal sustainability debt-to-revenue ratio by 7-8 percentage points – a measure critically assessed by provincial bond-rating agencies and ultimately determines the Province's borrowing and debt-servicing costs.
- Taking on the Site C debt into government taxpayer-supported debt would likely eliminate planned increases in provincial capital spending over the next two years. For context, \$4 billion in assumed Site C debt could pay for the equivalent of:
 - 66 secondary schools (\$60 million each); or,
 - 11 hospital projects similar to the North Island Hospitals (Province's share \$365 million); or,
 - 12 highway projects similar to the Okanagan Valley Corridor Project (Province's share \$330 million); or,
 - 3 Pattullo Bridges (\$1.3 billion each).
- This additional taxpayer-supported debt load would also increase operating costs in the provincial budget by \$120 million to \$150 million annually – putting at risk the services British Columbians count on.

Contact:

Suntanu Dalal

Media Relations

Ministry of Energy, Mines and Petroleum Resources 250 952-0628

BACKGROUND

For Immediate Release
Dec. 11, 2017

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Contact:

Suntanu Dalal

Media Relations

Ministry of Energy, Mines and Petroleum Resources 250 952-0628

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NEWS RELEASE

Not Approved
Dec. 11, 2017

Office of the Premier

Government will complete Site C construction, will not burden taxpayers or BC Hydro customers with previous government's debt

VICTORIA – The British Columbia government will complete construction of the Site C hydroelectric dam, saying that to do otherwise would put British Columbians on the hook for an immediate and unavoidable \$4-billion bill – with nothing in return – resulting in rate hikes or reduced funds for schools, hospitals and important infrastructure.

“Megaproject mismanagement by the old government has left B.C. in a terrible situation,” said Premier John Horgan in making today’s announcement. “But we cannot punish British Columbians for those mistakes, and we can’t change the past. We can only make the best decision for the future.

“It’s clear that Site C should never have been started. But to cancel it would add billions to the Province’s debt – putting at risk our ability to deliver housing, child care, schools and hospitals for families across B.C. And that’s a price we’re not willing to pay,” said Premier Horgan.

Had government decided to cancel Site C, it would have taken on the project’s \$3.9 billion in debt, made up of \$2.1 billion already spent and another \$1.8 billion in remediation costs. As public debt, it would become the responsibility of BC Hydro customers or taxpayers.

“We will not ask British Columbians to take on \$4 billion in debt with nothing in return for the people of this province and, even worse, with massive cuts to the services they count on.

“The old government recklessly pushed Site C past the point of no return, committing billions of dollars to this project without appropriate planning and oversight. Our job now is to make the best of a bad deal and do everything possible to turn Site C into a positive contributor to our energy future.”

Premier Horgan said that in moving forward with the project, his government will launch a Site C turnaround plan to contain project costs while adding tangible benefits. The plan will include:

- A new Project Assurance Board that will provide enhanced oversight to future contract procurement and management, project deliverables, environmental integrity, and quality assurance – all within the mandate of delivering the project on time and budget. Based on current projections, BC Hydro has revised the budget to \$10.7 billion.
- Establishing new community benefits programs, mandated with making sure that project benefits assist local communities, and increasing the number of apprentices and First Nations workers hired onto the project.
- A new BC Food Security Fund – based on Site C revenues – dedicated to supporting farming and enhancing agricultural innovation and productivity in the province.

In addition to funding for provincewide food security projects and programs, the turnaround

plan will:

- Ensure the Peace River Legacy Fund implements solutions to longer-term environmental, social and economic issues.
- Activate the \$20-million agricultural compensation fund to offsets lost sales and stimulate long-term productivity enhancements in Peace Valley agriculture.

“We’re taking the steps the previous government showed no interest in: a solid budget, enhanced review and oversight, community benefits, and an eye to the future,” Premier Horgan said.

“We’re putting an end to the years of energy policy that put politics ahead of people – where government forced BC Hydro into costly contracts, hiking rates for homeowners and renters, and delivering dividends to government it simply couldn’t afford.”

Premier Horgan added that his government will also be pursuing an alternative energy strategy to put B.C. more firmly on the path to green, renewable power that helps the province exceed its climate goals.

“I respect and honour the commitment of people who oppose Site C, and share their determination to move B.C. to a clean, renewable energy future and to embrace the principles of reconciliation with Indigenous communities,” said Premier Horgan, who acknowledged that Site C does not have the support of all Treaty 8 First Nations. “We know this decision is not what some First Nations wanted. Their voices were heard and their perspectives were an important part of the deliberations on a very challenging decision.

“As we move forward, I welcome ideas from across our province as we define an energy strategy that protects our environment, delivers on our climate responsibilities, powers future generations, and creates jobs and opportunities for all British Columbians.”

Three backgrounders follow.

Contact:

Jen Holmwood
Deputy Communications Director
Office of the Premier
250 818-4881

Connect with the Province of B.C. at: news.gov.bc.ca/connect

Page 198 to/à Page 201

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NEWS RELEASE

For Immediate Release
[release number]
Dec. 11, 2017

Office of the Premier

Government will complete Site C construction Will not burden taxpayers or Hydro customers with previous government's debt

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Horgan adds his government will also be pursuing an alternative energy strategy to put B.C more firmly on the path to green, renewable power that helps the province exceed its climate goals.

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“As we move forward, I welcome ideas from across our province as we define an energy strategy that protects our environment, delivers on our climate responsibilities, powers future generations, and creates jobs and opportunities for all British Columbians.”

- 30 -

Media contact:

Jen Holmwood
etc

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Monday, December 11, 2017 3:57 PM
To: Howlett, Tim GCPE:EX; Oreck, Mira PREM:EX
Subject: FW: BCBC Statement on Site C

FYI

From: Cheryl Muir [<mailto:cheryl.muir@bccbc.com>]
Sent: Monday, December 11, 2017 3:47 PM
To: Sanderson, Melissa EMPR:EX
Subject: BCBC Statement on Site C

Hello Melissa,
Please be advised the Business Council released the statement below earlier this afternoon.
Thank you,
Cheryl

BCBC Statement on Provincial Government Decision to Complete Site C

Posted Dec 11, 2017

Copyright

Cheryl Maitland Muir
Vice President, Communications
Business Council of British Columbia

Direct: 604-696-6582 | Mobile: 604-812-5965
www.bccbc.com | [@bizcouncilbc](https://twitter.com/bizcouncilbc)



**Business Council of
British Columbia**
Est. 1966

Where Leaders Meet to Unlock BC's Full Potential

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Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Monday, December 11, 2017 2:39 PM
To: Howlett, Tim GCPE:EX; Oreck, Mira PREM:EX; Frampton, Caelie ENV:EX
Subject: Fwd: Statement on Site C - FYI

Sent from my iPhone

Begin forwarded message:

From: Dan Woynillowicz <dan@cleanenergycanada.org>
Date: December 11, 2017 at 1:05:55 PM PST
To: "melissa.sanderson@gov.bc.ca" <melissa.sanderson@gov.bc.ca>
Subject: Statement on Site C - FYI

Hi Melissa,

Here's our [statement](#) on the Site C decision today, just FYI (also pasted below).

Cheers

Dan

--

Dan Woynillowicz
Policy Director
250.888.3404 | @DanWoy | cleanenergycanada.org



Copyright



Howlett, Tim GCPE:EX

From: Hannah, Matt GCPE:EX
Sent: Monday, December 11, 2017 12:31 PM
To: Aaron, Sage PREM:EX; Holmwood, Jen PREM:EX; Howlett, Tim GCPE:EX; McConnell, Sheena PREM:EX; Oreck, Mira PREM:EX
Subject: West Moberly

<https://twitter.com/CPAWSbc/status/940317365664804864>

Matt Hannah
Director of Issues Management
778.584.1249

Howlett, Tim GCPE:EX

From: Hannah, Matt GCPE:EX
Sent: Monday, December 11, 2017 11:50 AM
To: Howlett, Tim GCPE:EX
Subject: FW: Andrew Weaver responds to Government's decision to continue with Site C
Attachments: Andrew Weaver responds to Government's decision to continue with Site C.PDF; ATT00001.htm

From: Aaron, Sage PREM:EX
Sent: Monday, December 11, 2017 11:50 AM
To: Meggs, Geoff PREM:EX; Dewar, Bob PREM:EX; Hannah, Matt GCPE:EX
Subject: Fwd: Andrew Weaver responds to Government's decision to continue with Site C

Sage
778-678-0832
Sent from my mobile device

Begin forwarded message:

From: "Miller, Sarah" <Sarah.Miller@leg.bc.ca>
Date: December 11, 2017 at 11:38:25 AM PST
To: undisclosed-recipients;;
Subject: Andrew Weaver responds to Government's decision to continue with Site C

B.C. GREEN CAUCUS

For immediate release
December 11th, 2017

Andrew Weaver responds to Government's decision to continue with Site C

VICTORIA, B.C. - Today Andrew Weaver responded to the NDP government's decision to proceed with the construction of Site C.

"Our caucus is extremely disheartened by this decision. It is fiscally reckless to continue with Site C and my colleagues and I did everything we could to make this clear to the government.

"This government promised to be better than the B.C. Liberals. On this issue, the NDP government's approach has turned out to be no different whatsoever.

"Since the beginning I have been concerned this would end up being a political decision. Today's announcement reflects a sad reality for B.C., and British Columbians deserve better. They deserve a vision grounded in bold ideas that will enable our province to be a leader in the 21st century economy, not more empty campaign promises and political calculation.

“The government’s argument that cancelling Site C is too risky due to debt is incredibly cynical. This is a question of priorities. They had no problem adding billions onto the public debt to cancel the tolls on the Port Mann and Golden Ears bridges, transferring those costs to people outside of the Lower Mainland to pick up votes in a couple of swing ridings.

“Today, Site C is no longer simply a B.C. Liberal boondoggle - it has now become the B.C. NDP’s project. They are accountable to British Columbians for the impact this project will have on our future.

“We have seen what is happening to ratepayers in Newfoundland because of Muskrat Falls, a similar project, where rates are set to almost double. I am deeply concerned that similar impacts are now in store for B.C. ratepayers.

“The lost economic opportunities from continuing with Site C are profound. Our caucus has met with dozens of local governments, First Nations and B.C. companies with viable alternative energy projects. As countries across the world embrace small scale distributed renewable energy, this decision keeps B.C. locked in the past and risks foregoing enormous opportunities.”

-30-

Media contact

Sarah Miller, Acting Press Secretary
+1 778-650-0597 | sarah.miller@leg.bc.ca

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Monday, December 11, 2017 11:08 AM
To: Howlett, Tim GCPE:EX; Zdravec, Don GCPE:EX; Haslam, David GCPE:EX; Kristianson, Eric GCPE:EX
Subject: Correspondence Response

As you may be aware, we have received thousands of emails about Site C.

Here is the draft correspondence that includes feedback from MMM. Anyone else we need to run this by?

s.13

Page 212

Withheld pursuant to/removed as

s.13

Site C Advisory Panel - Recruitment

Recruitment Script

As part of the Provincial Cabinet's deliberations on Site C, the Premier wants to convene an expert advisory panel to provide their views on the Site C Project and the BC Utilities Commission's Final Report.

We are looking for views from various perspectives – BC Hydro ratepayers, environmental advocates, the power industry, and landowners.

The format will be a panel, with each member provided with 15 minutes to lay out their perspectives, followed by panelists addressing points made by other panelists, and questions from Cabinet members.

The meeting will be in Victoria on [date] from [time]. The government will cover panelists' expenses to travel to Victoria and participate, but will not pay consulting fees.

Cabinet deliberations are confidential, and panelists will be required to sign an undertaking of confidentiality in order to participate. We do not expect you to keep your advice to us confidential, but we do expect you will keep confidential the opinions of others and any questions or deliberations that Cabinet may have.

I hope that you can participate and provide your perspectives to support what is probably the most significant decision that this government will make.

Prospective Panellists (Biographies and contact information attached)

David Austin – power industry
David Craig – ratepayers
Colleen Giroux-Schmidt – power industry, investors
Dr. Mark Jaccard – climate change
Robert McCullough – power industry, landowners
Karen Tam Wu - environmental

1. David Austin – presenting advice through lens of alternative portfolio industry players

David stays current on broader business and market issues and uses this knowledge to shape unique legal solutions that benefit our clients. Examples include:

- Very actively participated in the development of the first securitizations in the London market
- Was the legal advisor to the developer of BC's first private-public partnership
- Provided advice on the development of BC's first independent power project and wind farm
- Was one of the founding directors of what is now the Clean Energy Association of BC and has continuously represented it in regulatory proceedings for 25 years
- Structured the first wholly First Nations-owned run-of-river development in BC
- Provided the legal advice for the first third-party-owned electrical transmission line in BC

David views First Nations as being able to achieve commercial success in the same way as corporations. He has ongoing commercial projects with First Nations and values helping them strike the balance of achieving financial success in the context of their rich traditional histories.

For his work and leadership in the field, David received the Clean Energy Association of BC Lifetime Achievement Award. Additionally, media looks to him as a knowledgeable voice regarding the legal and business issues in the energy field. For over 20 years, he has been a regular contributor to all forms of media, including print, television, radio and Internet. As one prominent member of the media once put it: "David is responsible for the longest running energy tutorial in BC history."

Contact:

Phone: 604.891.7742

2. David Craig – presenting advice through lens of commercial and major industrial rate payers

David is President of Consolidated Management Consultants Ltd. He has over 40 years of experience as an executive, officer, and member of Boards of Directors of public institutions, private companies and non-profit organizations. David is consultant for the Commercial Energy Consumers Association of BC and Policy Chair for the BC Chamber of Commerce. The CEC participated in the Site C Inquiry and submitted data and analysis informed by David Craig's experience.

Contact:
Suite 720 – 1190 Melville Street
Vancouver, B.C., V6E 3W1
Phone: 604-568-4904
Cell: 604-351-2332

3. Collen Giroux-Schmidt – presenting advice through lens of alternative portfolio industry players and investors

Colleen Giroux-Schmidt brings over a decade and a half of experience in BC and Canadian resource development with an extensive knowledge of the renewable energy sector. As Senior Director – Government Relations and Regulatory Affairs for Innergex Renewable Energy Inc., her focus is on working with various stakeholders including all levels of government, First Nations and communities to increase renewable energy opportunities to help the jurisdictions Innergex works in meeting their climate change goals. As the former Chair and a current member of the Board of Directors for Clean Energy BC (CEBC), she helps promote and support the growth of British Columbia's Clean Energy industry. CEBC participated in the BCUC's Site C Inquiry.

Contact:
1185 West Georgia Street, suite 900
Vancouver, BC V6E 4E6
Phone: 604 633-9990
Cell: 604 928-1622

4. Mark Jaccard - presenting advice through lens of environmental/climate advocates

Mark has been a professor since 1986 in the School of Resource and Environmental Management at Vancouver's Simon Fraser University. The only exception is 1992 to 1997, when he took a leave of absence to serve as Chair and CEO of the British Columbia Utilities Commission. His PhD is from the Energy Economics and Policy Institute at the University of Grenoble. He has published over 100 academic papers, most of these related to his principal research focus: the design and application of energy-economy models that assess the effectiveness of sustainable energy and climate policies. For this career research, he was named a Fellow of the Royal Society of Canada in 2009 and British Columbia's Academic of the Year in 2008. He has contributed to several major processes and assessments, including the Intergovernmental Panel on Climate Change (93-96 and 2010-2012), the China Council for International Cooperation on Environment and Development (1995-2001 and 2007-2009), Canada's National Roundtable on the Environment and the Economy (2006-2009), British Columbia's Climate Action Team (2007-2009), and the Global Energy Assessment (2008-2012). In 2006, his book, Sustainable Fossil Fuels, won the Donner Prize for top policy book in Canada. At Simon Fraser University he teaches graduate and undergraduate versions of an interdisciplinary course in energy and materials sustainability, covering basic physics, technologies, economics, policy and human cognition and behavior.

Mark's firm prepared a paper on climate change and power demand that was submitted by the BC Sustainable Energy Association in the BCUC Site C Review.

Contact:

Phone: 1 778 782-4219

5. Robert McCullough – presenting advice through lens of the power industry and local landowners

Robert McCullough has been working in the energy industry for over thirty years. He currently manages an energy research firm, McCullough Research, among numerous other pursuits in the Portland community. McCullough Research gained fame through its role in exposing Enron's role in the California energy crisis. He is currently working for the Peace Valley Landowner Association and the Peace Valley Environment Association.

Contact:

s.22

6. Karen Tam Wu – presenting through lens of environmental/climate advocates

Karen Tam Wu is the acting B.C. director at the Pembina Institute, Canada's leading clean energy think-tank. She is also the director of the institute's Buildings and Urban Solutions Program, and a member of the B.C. Government's Climate Solutions and Clean Growth Advisory Council.

Through cross-sectoral consultation and engagement, Karen leads initiatives to advance clean energy solutions and improve energy efficiency in B.C. and across Canada. Previously, Karen worked with First Nations, communities, government, and industry on important conservation initiatives in B.C. A registered professional forester, Karen worked with forest companies worldwide for over a decade developing and implementing sustainable forest management systems.

Contact:

Phone: 604-874-8558 x228

Cell ^{s.22}

Howlett, Tim GCPE:EX

From: Haslam, David GCPE:EX
Sent: Thursday, November 30, 2017 3:49 PM
To: Howlett, Tim GCPE:EX; Sanderson, Melissa EMPR:EX; McNish, James EMPR:EX
Subject: RE: Presenter bios
Attachments: Site C Advisory Panel - Recruitment 17-11-17.docx

From: Howlett, Tim GCPE:EX
Sent: Thursday, November 30, 2017 3:40 PM
To: Haslam, David GCPE:EX; Sanderson, Melissa EMPR:EX; McNish, James EMPR:EX
Subject: Presenter bios

Would one of you have a copy of the bios for the presenters to Cabinet?

Sorry David – I know you sent it to me recently but I can't find it now

Tim Howlett
Issues Manager
Strategic Issues Division, GCPE
250.208.4828

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Tuesday, November 28, 2017 1:48 PM
To: Nikolejsin, Dave MNGD:EX; MacLaren, Les EMPR:EX; Haslam, David GCPE:EX; Howlett, Tim GCPE:EX
Subject: FW: BC Expert Reports Outline Why Site C Must Proceed
Attachments: Marvin Shaffer - Commentary on the BCUC Final Report on Site C.pdf; Jim Quail - Commentary on the BCUC Final Report on Site C.pdf; AHC Site C BCUC Response.pdf

From: Julianne Losito [<mailto:jlosito@bcbuildingtrades.org>]
Sent: Tuesday, November 28, 2017 1:47 PM
To: Sanderson, Melissa EMPR:EX
Subject: BC Expert Reports Outline Why Site C Must Proceed

Good afternoon Melissa,

As cabinet debates the future of the Site C project, we would like to share with your Minister some important information for their consideration.

The Allied Hydro Council has partnered with leading Hydro experts in BC to review the project and provide several very strong arguments on why the project must proceed.

Marvin Shaffer is a leading economist and adjunct professor in the Public Policy Program at Simon Fraser University. He has held senior positions with the Government of British Columbia including head of the Crown Corporations Secretariat and Chief Executive Officer of the British Columbia Transportation Financing Authority.

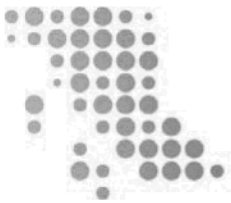
Jim Quail is a veteran energy lawyer and expert. Lorne Sivertson served as the CEO of the Columbia Power Corporation.

Their reports (attached) make a very compelling argument for proceeding with the Site C project.

We are available to answer any questions your minister may have as they continue their deliberations.

Thank you,

Julianne Losito for CHRIS FELLER, PRESIDENT
Allied Hydro Council of BC
#207-88 Tenth Street, New Westminster, BC V3M 6H8
Chris@opcmia919.org
MoveUP



bcuc
British Columbia
Utilities Commission

David Morton
Chair and CEO

David.Morton@bcuc.com
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Suite 410, 900 Howe Street
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P: 604.660.4700
TF: 1.800.663.1385
F: 604.660.1102

November 23, 2017

Sent via email

Dave Nikolejsin
Deputy Minister
Ministry of Energy, Mines and Petroleum Resources
PO Box 9319, Stn Prov Govt
Victoria, BC V8W 9N3
EMPR.Minister@gov.bc.ca

Lori Wanamaker
Deputy Minister
Ministry of Finance
PO Box 9417, Stn Prov Govt
Victoria, BC V8W 9V1
FIN.Minister@gov.bc.ca

**Re: British Columbia Hydro and Power Authority - British Columbia Utilities Commission Inquiry
Respecting Site C – Project No. 1598922**

Dear Dave Nikolejsin and Lori Wanamaker:

The Deputy Ministers' letter of November 15, 2017 poses a series of questions to the Commission regarding its Final Report on the Site C Inquiry, which was initiated by the Lieutenant Governor by Order in Council 244. The Commission thanks the Deputy Ministers for their inquiry and sets out its response below, trusting that any additional clarity or amplification of the messages in the Final Report will assist the government in its decision regarding Site C.

Sincerely,

David Morton
Chair and Chief Executive Officer

DM/kbb
Enclosure

Introduction

The Inquiry initiated by Order in Council (OIC) 244 requested that the Commission evaluate the cost to BC Hydro ratepayers of continuing, suspending or terminating construction of the Site C dam. In its Final Report, the Commission drew two overall conclusions:

- The cost to ratepayers of suspending construction would be significantly higher than either continuing or terminating the project, to the tune of \$3.6 billion.¹ In addition, there are significant risks that it would not be possible to restart the project due to permitting and other issues.
- The cost to ratepayers of continuing or terminating construction is similar,² given the assumptions that the Commission finds to be most reasonable. Both alternatives also have risks which may cause one or the other to be more costly to ratepayers either in the short-term or over a longer period.

Many of the questions posed in the Deputy Ministers' letter, in one way or another, relate to the estimates underlying these conclusions. We believe it will be helpful to provide some background and context before addressing the specific questions.

In reaching its conclusions, the Commission was required to estimate the costs of each of the three options, and in the case of termination, the cost of the alternative energy that might be required. It is important to recognize that each estimate comes with a degree of uncertainty. For example, when considering the cost of terminating the Site C project, the Commission found, based on information from BC Hydro and Deloitte, that costs could range from \$750 million to \$2.3 billion.³ In order to make a comparison between the options, the Commission chose a reasonable "point estimate" of \$1.8 billion based on BC Hydro's P90 estimate.⁴ But it would be quite possible, based on the information available to conclude that the cost of termination could be up to a billion dollars less, or half a billion dollars more. Nonetheless, in spite of this uncertainty, it was quite reasonable for the Commission to conclude that the option of suspending the project, estimated to be \$3.6 billion more than either continuing or terminating construction, would be significantly more expensive for ratepayers.

By comparison, the estimated costs to ratepayers of continuing or terminating construction, at \$2.852 billion and \$3.147 billion respectively,⁵ were so close that it would be unreasonable for the Commission to draw a meaningful distinction between them. Given the range of estimates to terminate the project (\$750 million to \$2.3 billion) an even larger difference between the estimated costs to continue or to terminate would have resulted in the Commission drawing the same conclusion they were similar.

To further illustrate how using point estimates for input assumptions masks the potential variability of assumptions, consider the original Site C completion costs. The original estimate of \$8.35 billion was based on a

¹ BCUC Site C Inquiry Respecting Site C Executive Summary (Executive Summary), p. 3.

² BCUC Site C Inquiry Respecting Site C Final Report (Final Report), p. 187.

³ Final Report p. 128.

⁴ This is BC Hydro's P90 estimate, which should only have a 10% chance of being exceeded.

⁵ Final Report, Errata, p. 10 of 11.

Class 3 estimate, which means that the expected accuracy range is from 20% under the budgeted amount to 30% over the budgeted amount – in this case a variance of \$4.2 billion.⁶

Similarly, some of the costs associated with the Illustrative Alternative Portfolio are highly uncertain. Costs of acquiring wind generation equipment post 2025 for example, are estimates of future costs and, as such, may not share the accuracy level of a Class 3 estimate.

Accordingly, in order to rely on a numeric analysis of the costs of various options, the differences in results should be greater than the amount of uncertainty in the input assumptions. In the Inquiry, BC Hydro calculated the incremental cost to ratepayers of terminating the Site C project – including the cost of an alternative portfolio – compared to the cost of completing, to be in the range of \$6.2 billion to \$11.1 billion. If this amount could be substantiated, it would provide a compelling case to continue. However, based on the evidence available to the Inquiry we were unable to verify these amounts.⁷

That said, the estimates provided in the Final Report are based on many assumptions the Commission was required to make based on the information available to it during the Inquiry. To assist the government in its decision-making, the Commission included in the Final Report some sensitivity analyses to show how the cost estimates would change if different assumptions were applied. An example of this is the forecast for energy demand.

The Commission has found that the forecast of energy demand is most likely to be at BC Hydro's "low load" or lower, based on available information, government policies in place and other factors. Should the government undertake future policy changes resulting in an increase in demand as high as BC Hydro's high load forecast, the cost of Site C would be more attractive by \$796 million.⁸ Likewise, the Commission estimates that Site C will cost \$10 billion to complete. Should the government estimate that the project will end up costing \$12 billion, the present value of the overall cost to ratepayers of Site C would be higher by \$646 million.

In the two examples just described, the difference in the estimates caused by changing the assumptions is less than \$1 billion. While this is a significant sum, recall that the estimate of termination costs could vary by that same figure.

The Commission concluded based on its findings, that the cost to ratepayers of continuing or terminating the Site C project is similar. The Commission concedes that the Government might take a different view on one or more of these assumptions, and the sensitivity analysis already provided in the Final Report should allow it to adequately evaluate the consequential effect of a change on the estimated cost to ratepayers. However, the Commission cautions that it would require a very significant difference between the estimates to conclude reliably that one would be more expensive than the other.

In addition to the evaluation of ratepayer costs, the OIC requested that the Commission advise on the broader implications of the three options under consideration. The Final Report stated:

⁶ American Association of Cost Engineers, Cost Estimate Classification System – As Applied in Engineering, Procurement and Construction for the Process Industries.

⁷ Exhibit F1-1, pp. 66–67 and 96–97.

⁸ Executive Summary, p. 17.

We have not been asked to make recommendations or to identify which option has the highest cost to ratepayers or more significant implications than others. Nevertheless, we have provided our view that not only is the suspension scenario the greatest cost to ratepayers of the three scenarios, it also has other negative implications.

We take no position on which of the termination or completion scenarios has the greatest cost to ratepayers. The Illustrative Alternative Portfolio we have analyzed, in the low-load forecast case, has a similar cost to ratepayers as Site C. If Site C finishes further over budget, it will tend to be more costly than the Illustrative Alternative Portfolio is for ratepayers. If a higher load forecast materializes, the cost to ratepayers for Site C will be less than the Illustrative Alternative Portfolio.

We have provided a discussion of the risk implications of each alternative in order to assist in the evaluation.⁹

We trust that the information in the Final Report, including the discussion of risk, and the results of the province-wide Community Input Sessions and First Nations Input Sessions, will provide useful guidance to the government beyond the question of cost.

⁹ Final Report, p. 187.

Question 1: Inclusion of Site C sunk/termination costs

The Deputy Ministers ask:

Did the Commission include sunk costs (the estimated \$2.1 billion that has been spent to date on the project) and termination costs (the \$1.8 billion determined by the Commission) in comparing the costs to ratepayers of completing Site C against the costs of pursuing an alternative portfolio of generation resources?

Response

The Commission did not include sunk costs in the analysis of ratepayer impact for either Site C or the Illustrative Alternate Portfolio of generation resources. The costs assumed in this analysis were, in both cases, only costs incurred from January 2018 onward. These costs include the termination costs of Site C which are included in the ratepayer impact of the Illustrative Alternative Portfolio.

The Final Report states:

In order to evaluate the cost to ratepayers of the termination case, and compare that rate impact to the cost of completing Site C, we compare the cost to ratepayers of the energy for the alternative portfolio to the cost of completing Site C from January 1, 2018. The sunk costs of \$2.1 billion, which include the Site C regulatory account balance of approximately \$0.5 billion, must be recovered in both scenarios. Accordingly, we do not consider the rate impact of the sunk costs in the termination scenario.¹⁰

The ratepayer impact analysis identifies the present value (PV) of the costs to ratepayers of Site C compared to an Illustrative Alternative Portfolio. The costs are modelled as a cost of service that is recovered in a revenue requirement for the utility. The amounts are calculated annually for seventy years and are discounted (in a net present value [NPV] Analysis) to F2018 dollars. Thus we characterize the cost to ratepayers as the NPV of the seventy-year rate impact.

It is important to note that this does not necessarily reflect the same bill impact as would be faced by an individual ratepayer. That analysis would require further input assumptions, including the number of ratepayers that the revenue requirement is being collected from each year.

¹⁰ Final Report, p. 163.

This treatment is illustrated in the tables on page 167 of the Site C Final Report:

Table 1: Site C Final Report, Tables 39 and 40¹¹

Output: Low LF - Alternative Portfolio		
A	Site C Termination Cost (F\$18)	\$ 1,395 million
B	Alternative Portfolio Cost (F\$18)	\$ 2,539 million
C	Surplus Energy Sale (F\$18)	\$ (788) million
D	Total Rate Impact (A+B+C)	\$ 3,147 million

Output: Low LF - Site C		
A	Sunk Costs (F\$18)	\$ 2,100 million
B	Site C Cost to Complete (F\$18)	\$ 4,391 million
C	Flexibility Credit (F\$18)	\$ (66) million
D	Surplus Energy Sales (F\$18)	\$ (1,473) million
E	Total Rate Impact (B+C+D)	\$ 2,852 million

In the table above, the \$1.395 billion for “Site C Termination Costs” represents the PV of the \$1.8 billion of Site C termination costs amortized over 30 years.

Table 2: Rate Impact (\$ million) of Site C compared to the Illustrative Alternative Portfolio

	Site C	Illustrative Alternative Portfolio
<u>As provided in the Final Report Errata</u>		
• Ratepayer impact	\$2, 852 million	\$3, 147 million ¹²

If sunk costs are included, the ratepayer impact of both the continue and terminate options would be affected. If the same amortization period was chosen the effect would be the same for each alternative. We discuss the issue of amortization period for both sunk and termination costs further in our response to question 3.

The Deputy Ministers also ask:

We were not able to determine whether the sensitivity analysis included on Page 17 of the report's executive summary includes sunk costs and termination costs consistently. If it does not,

¹¹ Final Report, p. 167, as updated by A-25 errata.

¹² In a letter dated November 16, 2017, BC Hydro identified an additional errata related to application of inflation factors and discount rates which would reduce the PV cost of the Illustrative Alternative Portfolio by \$60 million. The Final Report was not adjusted for this subsequent errata on the grounds of materiality.

could the Commission advise on how including these sunk and termination costs might change the cost to ratepayers and the unit energy cost (UEC) in both scenarios?

Response

The calculation of the Unit Energy Cost differs from the calculation of cost to ratepayers. The Panel found that there is no generally accepted definition of “unit energy cost.” In the Inquiry, BC Hydro stated that “Unit Energy Cost simply expresses the cost for a resource by its levelized annual cost per unit of energy produced.”¹³

The term “levelized cost of energy” or “levelized cost of electricity” (both often referred to as LCOE), are in general use in the industry to compare the costs of energy projects. For example, the US Energy Information Administration (EIA) describes LCOE as follows:

Levelized cost of electricity (LCOE) is often cited as a convenient summary measure of the overall competitiveness of different generating technologies. It represents the per-kilowatt hour cost (in discounted real dollars) of building and operating a generating plant over an assumed financial life and duty cycle. Key inputs to calculating LCOE include capital costs, fuel costs, fixed and variable operations and maintenance (O&M) costs, financing costs, and an assumed utilization rate for each plant type. ...¹⁴

In the Preliminary Report, the Panel defined “unit energy cost” as: **“Unit Energy Cost** simply expresses the cost for a resource by its levelized annual cost per unit of energy produced.”¹⁵

There were no submissions received on this issue, and in the Final Report the Panel stated:

The Panel therefore confirms the unit energy cost definition proposed in the Preliminary Report, that the Unit Energy Cost simply expresses the cost for a resource by its levelized annual cost per unit of energy produced. ...

Given the definition of UEC, the Panel finds it inappropriate that the unit energy cost be adjusted for sunk costs [i.e. that the sunk costs be added to Site C cost to complete or to the Alternative Portfolio costs, as they are sunk so only future costs matter] **and termination costs** [i.e. that the termination costs be added to the Alternative Portfolio cost] **and will not consider these costs in the unit energy cost analysis.**¹⁶

If sunk and termination costs are included in the UEC analysis:

- The Site C UEC, would increase.
- The UEC of the Illustrative Alternative Portfolio would increase

The quantum of the increases depends upon the assumptions made concerning recovery periods. The following tables provide a sensitivity analysis. Please also refer to our response to question 4 for a more complete discussion about recovery of sunk and termination costs.

¹³ F1-1 Submission, p. 61.

¹⁴ EIA Levelized Cost and Levelized Avoided Cost of New Generation Resources in the Annual Energy Outlook 2017, p. 1, https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf

¹⁵ Final Report, p. 154.

¹⁶ The wording in the Final Report has been corrected above to clarify that Site C sunk costs are excluded from the unit energy cost comparison.

Table 3: Unit Energy Cost Sensitivity Analysis – Sunk and Termination Costs

Site C			Illustrative Alternative Portfolio ¹⁷			
Sunk costs ¹⁸ added?	Amortization period (years)	Unit Energy Cost (F18\$/MWh)	Sunk costs added?	Termination costs ¹⁹ added?	Amortization period (years)	Unit Energy Cost (F18\$/MWh)
No	n/a	\$44	No	No	n/a	\$31
Yes	70	\$57	Yes	No	70	\$48
	70	\$57			50	\$49
	70	\$57			30	\$50
	70	\$57			20	\$52
No	n/a	\$44	No	Yes	70	\$45
		\$44			50	\$46
		\$44			30	\$48
		\$44			20	\$49
Yes	70	\$57	Yes	Yes	70	\$63
	70	\$57			50	\$64
	70	\$57			30	\$67
	70	\$57			20	\$70

Table 4: Total Rate Impact Sensitivity Analysis – Sunk Costs

Site C			Illustrative Alternative Portfolio ²⁰		
Sunk costs ²¹ added?	Amortization period (years)	Total Rate Impact (F18\$million)	Sunk costs added? ²²	Amortization period for sunk and termination costs (years)	Total Rate Impact (F18\$million)
No	n/a	\$2,852	No	30	\$3,147
Yes	70	\$4,086	Yes	70	\$4,399
	70	\$4,086		50	\$4,530
	70	\$4,086		30	\$4,775
	70	\$4,086		20	\$4,969

¹⁷ All scenarios are for the low load forecast, Panel market price assumption, BC Hydro financing, Medium Wind and Geothermal costs.

¹⁸ Sunk costs of \$2,100 million (F2018\$)

¹⁹ Termination costs of \$1,800 million (F2018\$).

²⁰ All scenarios are for the Low load forecast, Panel market price assumption, BC Hydro financing, Medium Wind and Geothermal costs.

²¹ Sunk costs of \$2,100 million (F2018\$)

²² Note that termination costs were included in the Total Rate Impact for the Alternative portfolio.

Question 2: Financing costs

The Deputy Ministers ask:

In the event that government elects to terminate the Site C project, has the Commission assumed that BC Hydro would develop and finance the projects included in the alternative portfolio (wind, geothermal) rather than independent power producers (IPPs)?

Response

The Commission did not assume that BC Hydro would develop and finance the projects included in the alternative portfolio. Specifically, the Final Report states that “[t]he Panel makes no determination on whether BC Hydro or IPPs should undertake the investments included in the Illustrative Alternative Portfolio.”²³

The Deputy Ministers also ask:

We observe that the Commission has in some cases used BC Hydro’s lower cost of capital financing to calculate the cost of the alternative portfolio presented in the report, affecting the valuation of those projects. Could the Commission offer its view of the impact that a higher cost of capital would have on ratepayers if the alternative portfolio were developed by independent power producers rather than directly by BC Hydro?

Response

The Final Report, to assist users in performing sensitivity analysis on the financing cost assumptions, described how users can perform an analysis of the effect of using IPP financing assumptions:

The updated spreadsheet now allows for the application of different financing costs for wind and geothermal projects. If financing costs are assumed to be the same as BC Hydro’s financing cost for Site C (100% debt financing at a cost of 3.43%), the user should select ‘BCH rate’ in the drop-down menu of the ‘Financing Option’ variable of the ‘Input and Output’ tab. If these projects are assumed to be undertaken by IPPs and financed at the IPP financing rate assumed by BC Hydro at 6.4%, the user should select ‘IPP rate’ instead. If a different rate than 6.4% is assumed, the user can change the value of ‘IPP Financing Rate in %’ directly.²⁴

The Commission notes that selecting the IPP rate in the model results in a financing rate assumption of 6.4% in real terms, whereas BC Hydro’s IPP financing rate assumption is 6.4% in nominal terms. In order to model the effect of use of BC Hydro’s IPP financing rate, the rate in the model should therefore be set to 8.5 percent.

The table below provides the results of the Illustrative Alternative Portfolio model if changes are made to the Commission financing cost assumptions. Please note that the sensitivity analysis below only reflects the increase in financing costs of IPP financed projects, and does not reflect the corresponding decrease in ratepayer risk:

²³ Final Report, pp. 159–160.

²⁴ Final Report, Appendix C, p. 2.

Table 5: Sensitivity analysis regarding wind/geothermal financing cost assumption²⁵

Load forecast scenario	Illustrative Alternative Portfolio PV Cost		
	Commission Assumptions ²⁶ (BC Hydro financing rate of 3.43%)	Alternative financing cost assumption (BC Hydro IPP financing rate of 8.5%)	Increase/(Decrease) in Alternative Portfolio PV cost
• High load forecast	\$5,121 million	\$5,831 million	\$710 million
• Med load forecast	\$4,618 million	\$5,130 million	\$512 million
• Low load forecast	\$3,147 million	\$3,359 million	\$212 million

The Deputy Ministers ask:

[By procuring new supply from competitive processes] BC Hydro avoids assuming such debt on its balance sheet and only recognizes the incremental costs of new energy purchases which would include the private sector's annual debt servicing costs and equity return within approved purchase contracts.

It would be helpful to understand how the Commission assesses the impact on ratepayers of the additional debt associated with the assumptions underlying the alternative portfolio. We would particularly appreciate better understanding the Commission's approach to using BC Hydro's cost of capital for IPP projects and the approach used for the cost of capital faced by an IPP (i.e. what IPPs actually pay) and the resultant rate impacts. For example, on page 159-160, the Commission appears to conclude that IPP financing is the relevant assumption for the alternative portfolio ...

Response

On page 160 of the Final Report, the Commission stated that “the same financing cost should be assumed for Site C and the Illustrative Alternative Portfolio.” The Commission consistently used the BC Hydro financing rate in its comparison between Site C and the Illustrative Alternative Portfolio, for the reasons set out in the Final Report, which are repeated below for convenience. The Final Report goes on to provide an analysis of the effect of using the IPP financing rate for the alternative portfolio, as provided above.

The Commission concluded that an analysis comparing Site C to an alternative portfolio should be agnostic as to the ownership structure used. The rationale for this approach is discussed in the Final Report:

The question posed in the OIC- whether there is an alternative portfolio that will deliver the benefits of Site C at an equivalent or lesser cost – will yield a different response depending on what assumptions are made regarding whether the alternative portfolio is developed by BC Hydro or by an IPP. ...

²⁵ Results in this table are based on the revised Illustrative Alternative Portfolio spreadsheet published on Nov. 16 with the A-26 errata.

²⁶ Final Report, p. 70, footnote 600.

By contracting for the supply of energy from an IPP, as opposed to developing an energy source directly, BC Hydro will transfer development, construction and operating risk to the IPP. In the Panel's view, the analysis should reflect this transfer of risk. CEABC suggests that the effect of this transfer of risk should be reflected in the discount rate that is applied to each project. BC Hydro submits that it isn't practical to conduct such an analysis on a project to project basis. ...

The Panel makes no determination on whether BC Hydro or IPPs should undertake the investments included in the Illustrative Alternative Portfolio. This Inquiry is not the place to address the question of BC Hydro versus IPP ownership and determine the optimal price/risk allocation in energy purchase agreements between BC Hydro and IPPs. Indeed, this review is agnostic with respect to ownership structure and instead focuses on the inherent cost and performance attributes of the generating assets, and how those assets will meet needs and address risk within the broader generation portfolio.

In order to ensure that the outcome of this review is not biased for or against a particular ownership structure, the Panel therefore determines that an "apples to apples" comparison requires that the same financing costs be assumed for both Site C and the Illustrative Alternative Portfolio. However, to address the concerns raised by BC Hydro, the Panel provides additional scenarios with different financing assumptions. For these scenarios, BC Hydro financing will only be applied to DSM initiatives, and IPP financing costs for all other generation sources. ...²⁷

With regards to the reference to "additional debt" associated with the alternative portfolio, the Commission notes that BC Hydro will be financing the Site C project with debt. Therefore, given the similar cost of Site C and the alternative portfolio, the Commission sees no "additional debt" in the event that BC Hydro were to build alternative generating projects instead of Site C.

²⁷ Final Report, pp. 159, 160.

Question 3: Demand-side management

The Deputy Ministers ask:

Government will need to consider the total cost of potential demand side management initiatives (rather than just the utility's costs) as it considers the alternatives. Could the Commission advise how the inquiry Terms of Reference led to assessing demand-side measures based on the Utility Resource Cost standard, when Total Resource Cost has been the standard for prior Commission proceedings?

Response

The Report stated:

With regard to what DSM cost should be included in the Alternative Portfolio, the Panel finds that the cost should be the utility cost as section 3(b)(iv) of the OIC [questions] refers to the cost to ratepayers.²⁸

The terms of reference for the Inquiry requested that the Commission evaluate the costs to ratepayers of continuing, suspending or terminating construction of Site C. The Commission interpreted the phrase “costs to ratepayers” as referring to costs that would recovered through BC Hydro’s revenue requirement. The Report also stated: “When calculating cost to ratepayers, we calculate the NPV of the incremental revenue requirement of the item in question.”²⁹

The Commission did not include costs that would be incurred by other parties, such as the government or individuals; neither did the Commission consider broader societal costs or benefits in the financial analysis. Therefore, when considering the costs to ratepayers of the DSM programs, the Commission included only the costs incurred by BC Hydro.

The Deputy Ministers ask:

It is our understanding that in previous proceedings the Commission has concluded that the Total Resource Cost (TRC) test is the appropriate way to evaluate demand side management (DSM) in comparison to other resources. In this inquiry, the Commission's model uses the Utility Resource Cost (URC) standard. We believe that using the URC model may underestimate the actual cost of DSM to ratepayers. It would be helpful for us to understand the Commission's rationale in choosing a test methodology that differs from past practice. Could the Commission confirm that the TRC test remains the appropriate metric, and if so, what impact would this have on the analysis.

Response

The total resource cost test remains an appropriate metric for analyzing whether or not to proceed with DSM programs. As we noted in the final report: “Regarding the use of the utility cost compared to the total resource

²⁸ Final Report, p. 38.

²⁹ Final Report, p. 164.

cost, the Panel agrees that BC Hydro should not be undertaking DSM programs that do not pass the total resource cost test.”³⁰

We also noted that the level of DSM investment included in the Illustrative Alternative Portfolio, a level originally recommended by BC Hydro in the 2013 IRP,³¹ could reasonably be considered to pass this test: “However, the illustrative DSM portfolio only includes the first (lowest cost) block of BC Hydro’s estimated incremental DSM opportunities. The Panel considers that the Illustrative Alternative Portfolio assumption that the programs in this first block all pass the total resource cost test is reasonable.”³²

The Commission did not use a utility resource cost standard in determining the appropriate level of DSM investment to include in the Illustrative Alternative Portfolio. Therefore, the Commission sees no impact to the analysis.

Once the level of DSM investment in the Illustrative Alternative Portfolio was determined, the Commission then addressed the question of its costs to ratepayers, as set out in the terms of reference. As explained in the answer to the question above, the Commission included only the costs that would be incurred by BC Hydro, and thus passed on to ratepayers. The rationale for this approach is addressed in the Final Report:

With regard to what DSM cost should be included in the Alternative Portfolio, the Panel finds that the cost should be the utility cost as section 3 (b)(iv) of the OIC refers to the cost to ratepayers, as opposed to the BC cost or the societal cost.

For example, the industrial load curtailment DSM program has a utility cost of \$75/kW-year, while BC estimates that the total resource cost (i.e. the cost to the customer of curtailing) is \$60/kW-year. The Panel considers it would not be consistent with the treatment of Site C to include in the Alternative Portfolio the cost to the industrial customer of curtailing supply (total resource cost), instead of the cost to the utility of obtaining the curtailment (utility cost).³³

The Deputy Ministers also ask:

The report identifies an aggressive DSM program, coupled with load curtailments as a way to achieve the alternative portfolio scenario. We would appreciate further information from the Commission on how such load curtailments would practically be achieved in the natural resource sector without impairing operations, jobs and economic growth for sectors already facing trade sanctions and pressures

Response

The Commission would not characterize the DSM plan included in the Illustrative Alternative Portfolio as aggressive. The level of DSM included in the Illustrative Alternative Portfolio is, in fact, the level recommended by BC Hydro in its 2013 Integrated Resource Plan, and was the least aggressive apart from one of the five levels of DSM spending that BC Hydro modelled at that time.³⁴

³⁰ Final Report, appendix A, p. 38.

³¹ Final Report, Appendix A, p. 34.

³² Final Report, appendix A, p. 38.

³³ Final Report, Appendix A, pp. 38, 39.

³⁴ Final Report, Appendix A, p. 34.

The Commission believes that load curtailment can be a mechanism to retain and attract additional industrial load, and so enhance, rather than impair, operations, jobs and economic growth. The Final Report identifies a desire by industry for higher levels of industrial curtailment opportunities than included in the Illustrative Alternative Portfolio. Specifically, the Association of Major Power Customers (AMPC) has argued for BC Hydro to offer higher levels of load curtailment as being in the interests of its members:

Curtailable loads have already demonstrated that they can feasibly, cost-effectively and dependably provide system capacity for the necessary duration of peak load events. AMPC's October 11 submission details the specifics of AMPC's position. Once long term curtailable tariffs are established; scalable capacity resources can be delivered in appropriate quantities and at very short notice compared to generation sources. From BC Hydro's forecasts of capacity and energy need, the immediate implementation of curtailable contracts and/or tariffs could provide the necessary time to take a more detailed look at how future energy needs are most reliably and affordably provided. This time is particularly valuable during a period of significant technological development in energy storage, to reduce the risk of adopting a potentially short-lived technology path. Moreover, this provides a non-rate mechanism to retain existing, and attract additional, industrial load.

...the Commission should, as part of any alternative energy portfolio evaluated, consider the full use of industrial load curtailment to generate needed system capacity, because load curtailment is a well-developed, well-studied program that can be implemented economically and quickly, without the need to speculate on the its potential availability in the future.³⁵

³⁵ Final Report, Appendix A, pp. 72, 74, 75. Emphasis added.

Question 4: Amortization of sunk/termination costs

The Deputy Ministers ask:

If the Site C project were terminated, the \$4 billion sunk and remediation costs would need to be recovered, and the amortization period of that recovery would affect BC Hydro rates. Could the Commission please clarify whether it assumed that that these costs would be recovered over 10, 30 or 70 years?

Response

The Commission made no assumptions on the recovery of sunk and termination costs. The Final Report states:

Regarding the potential mechanisms to recover termination costs, the options available are either from BC Hydro ratepayers, the shareholder or some combination of the two. If these costs are to be recovered from ratepayers a further issue is over what period they should be recovered.

Generally speaking, a regulated utility is entitled to recover from its ratepayers, all prudently incurred expenditures. Therefore, the issue would be whether the costs to terminate the project were prudently incurred and this can only be determined after the expenditures have been made.

In regard to the recovery period, this requires further analysis. Considerations include intergenerational equity – too long a period risks forcing customers who may not benefit from the expenditure to pay for it. If the payback period is too short, there is a risk of rate shock. This Panel takes no position at this time what the recovery period should be and notes that it would be subject to Commission approval.

The same principles apply to the recovery of the sunk costs. There are some that suggest that if the project is terminated, this could be an indicator that the decision to go ahead with the project was not prudent. Others argue that since the project was not approved by the Commission, the costs were, by definition, not prudently incurred.

The Panel takes no position on the recoverability from ratepayers for sunk and termination costs. Further, we take no position on the recovery period for sunk and termination costs. However, for the analysis of ratepayer impacts of the termination scenario, we have assumed that termination costs will be recovered from ratepayers over a 10, 30 and 70 year recovery period.

Although we do not consider the rate impact of sunk costs when comparing the continue and termination scenario, the costs must be recovered. In the case of Site C being completed these costs would be included in the project costs, and barring any disallowance, would be recovered from ratepayers over the 70-year amortization period proposed. In a terminate scenario, again assuming the costs are to be recovered from ratepayers, to determine the cost impact to ratepayers requires assumptions regarding the amortization period.

The Deputy Ministers also ask:

Fair and appropriate rate-setting principles for rate-regulated utilities typically aim to avoid causing future generations to pay for investments from which they will derive no benefit. From the Commission's perspective, can recovery of the sunk and remediation costs of Site C over longer periods of 30 to 70 years remain consistent with these inter-generational principles?

Response

The Commission reiterates that we take no position on the recovery period for sunk and termination costs. The recovery period would be the subject of Commission review if, and when these costs are incurred.

When considering the recoverability of any costs, there are a number of regulatory principles considered, including:

- Price signals that encourage efficient use and discourage inefficient use (economic efficiency);
- Fair apportionment of costs among customers (fairness);
- Avoid undue discrimination (fairness);
- Customer understanding and acceptance, practical and cost effective to implement (practicality);
- Freedom of controversies as to proper interpretation (practicality);
- Recovery of the revenue requirement (stability);
- Revenue stability (stability); and
- Rate stability (stability).³⁶

The above considerations would apply to the recovery period of both termination costs and sunk costs.

We generally agree with the Deputy Ministers' statement "Fair and appropriate rate-setting principles for rate-regulated utilities typically aim to avoid causing future generations to pay for investments from which they will derive no benefit." Intergenerational equity is an important consideration when considering the deferral of cost recovery. However, in the termination case, both the sunk and termination costs relate to a stranded asset, and it is important to note that no-one benefits from a stranded asset. Therefore there is no more – or less – justification that any particular generation should be more liable than another for the costs related to that stranded asset.

The Deputy Ministers also ask:

Recently it has been stated that recovering the project's sunk and remediation costs over a 10-year period would lead to a 10 per cent hike in BC Hydro rates. Is this assertion consistent with the Commission's thinking?

Response

The table below shows the initial effect on the revenue requirement of amortization of Site C sunk costs, followed by the combined effect when estimated termination costs have been incurred. BC Hydro's F2018 revenue requirement request of \$4,626 million has been used to estimate the year one rate impact effect of the

³⁶ Bonbright principles, BC Hydro 2015 Rate Design Application, Decision dated January 20, 2017, pp. 11, 12

alternative amortization options.³⁷ BC Hydro real rate increases subsequent to F2018 will result in a lower percentage impact than that indicated on the table below.

Table 6: Rate impact of alternative amortization period for Site C sunk and termination costs

Amortization Period (years)	Year one costs recovered	Revenue requirement impact
Site C sunk costs only (\$2.1 billion)		
10	302	6.5%
30	152	3.3%
50	122	2.6%
70	109	2.4%
Total Site C sunk costs and termination costs (\$3.9 billion)		
10	560	12.1%
30	282	6.1%
50	226	4.9%
70	203	4.4%

The Panel therefore confirms that the use of a 10-year amortization period for Site C sunk and termination costs have a potential rate impact of 10 percent. However, the actual rate impact of Site C termination will reflect the amortization period selected, which will in turn be driven by intergeneration equity and rate shock concerns, and the degree to which sunk or termination costs prove to have been prudently incurred. The Panel notes that the year one revenue requirement impact of Site C (before export revenues) is estimated at \$499 million (F2025).³⁸

The scenarios for the total rate impact of the Illustrative Alternative Portfolio as presented in the Final Report³⁹ include termination costs of \$1,800 million. The analysis in the tables above suggests a situation whereby the sunk and termination costs of Site C would be recovered separately from the costs of the Illustrative Alternative Portfolio. To avoid double counting, it is therefore appropriate to present accompanying analysis that demonstrates the impact of removing termination costs from the total rate impact of the Alternative Portfolio. Table XX below indicates that the illustrative Portfolio would be less costly in all load forecast scenarios with termination costs excluded from the rate impact.

³⁷ BC Hydro F2017-F2019 Revenue Requirement Application, Exhibit B-1-1, p. 1-38

³⁸ BC Hydro Site C cost calculator (Submission F1-4, BC Hydro, IR 2, Attachment 3), as adjusted to show total Site C costs (including sunk costs) as \$10 billion.

³⁹ Final Report Executive Summary Errata, Corrected Table 43, p.10

Table 7: Total Rate Impact – Termination Costs Excluded from Alternative Portfolio

	Site C– Total Rate Impact (F18\$millions)	Illustrative Alternative Portfolio – Total Rate Impact		Difference between Site C and Alternative Portfolio – Termination costs excluded (F18\$millions)
		Termination costs included (F18\$millions)	Termination costs excluded (F18\$millions)	
Low Load Forecast	2,852	3,147	1,752	(\$1,100)
Medium Load Forecast	3,901	4,618	3,222	(\$679)
High Load Forecast	4,325	5,121	3,726	(\$599)

In addition, the Appendix to the Deputy Ministers’ letter asks:

It would be helpful if the Commission could clarify how the choices of cost amortization and recovery periods in the Termination scenario fit within appropriate utility rate-setting principles that recognize and avoid unnecessarily transferring current utility costs to future user generations when there are clearly no longer directly-related assets or benefits being provided. Such decisions lead rate-regulated accounting practice and use of regulatory accounts, which are areas of particular interest by the provincial Auditor General as well as credit rating agencies.

Response

The issue of the appropriate period to recover Site C sunk and remediation costs is addressed in the Site C Final Report:

In regard to the recovery period, this requires further analysis. Considerations include intergenerational equity – too long a period risks forcing customers who may not benefit from the expenditure to pay for it. If the payback period is too short, there is a risk of rate shock. This Panel takes no position at this time what the recovery period should be and notes that it would be subject to Commission approval. ...

Further, we take no position on the recovery period for sunk and termination costs. However, for the analysis of ratepayer impacts of the termination scenario, we have assumed that termination costs will be recovered from ratepayers over a 10, 30 and 70 year recovery period.

Although we do not consider the rate impact of sunk costs when comparing the continue and termination scenario, the costs must be recovered. In the case of Site C being completed these costs would be included in the project costs, and barring any disallowance, would be recovered from ratepayers over the 70-year amortization period proposed. In a terminate scenario, again assuming the costs are to be recovered from ratepayers, to determine the cost impact to ratepayers requires assumptions regarding the amortization period.⁴⁰

As noted above, the Commission considers numerous factors in determining the appropriate amortization period to use to recover Site C sunk costs and termination costs.

⁴⁰ Final Report, pp. 163–164.

Question 5: Load forecast

The Deputy Ministers ask:

We are unaware of prior instances when anything other than BC Hydro's mid-load forecast has been used for planning purposes. For that reason, we would like to clarify:

Did the Commission assume lower demand for electricity (reflected in the low-load forecast used in the report) because it is forecasting a period of lower economic growth for the province in which major power consumers such as mining, forestry, technology and commercial sectors are in decline?

Response

The Commission did not assume a lower demand for electricity “because it is forecasting a period of lower economic growth for the province.” Further, the Report does not state, nor does it suggest, that “major power consumers such as mining, forestry, technology and commercial sectors” are in or are going into “decline”. On the contrary, the Report specifically acknowledges that there have been some positive developments in the non-LNG large industrial load, but goes on to conclude that these positive developments are not sufficient to offset the negative developments in the potential BC LNG sector.

The Commission’s consideration of the load forecast was based on a holistic assessment of the factors that drive demand for electricity. In our answer to the Deputy Ministers’ question below regarding the rationale for the Commission’s position, we present a description of the seven factors we considered. These include three factors that are directly related to economic growth: recent developments in the industrial sectors, GDP and other forecast drivers, and flattening electricity demand.

The Deputy Ministers also ask:

Does the Commission include in its load forecast the potential increased electrical power demand of meeting the province's stated objectives to reduce greenhouse gas emissions through greater electrification of our economy?

Response

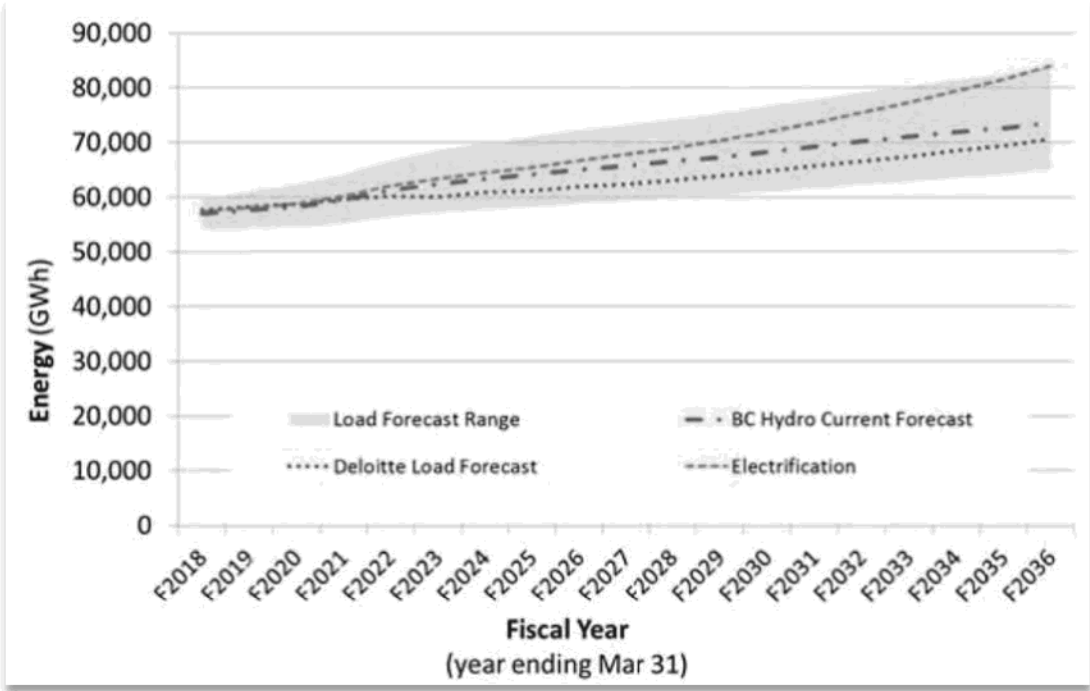
The Commission does not have a load forecast. The terms of reference required us to use BC Hydro’s load forecast from the 2016 Revenue Requirements Application, which has a mid-level projection within a high and a low band. We were also required to seek BC Hydro’s view on factors which might influence expected demand toward the high or low cases.

The Commission did consider electrification in the Final Report both from the perspective of impacts on the load forecast over the 20-year period and disrupting trends over time. These are considered below.

In its submissions, BC Hydro highlights the emerging potential for load growth from initiatives targeting greenhouse gas emission reductions through electrification of fossil-fuel powered end uses. BC Hydro states “electrification of energy loads currently served by fossil fuels such as space and water heating, vehicles and industrial equipment could reasonably cause demand for electricity to exceed BC Hydro’s mid forecast in the Current Load Forecast.”

However, BC Hydro does not account for electrification initiatives directed at reducing greenhouse gas emissions in its Current Load Forecast because the timing and magnitude of the potential increase is uncertain at this early stage. BC Hydro presents the potential for electrification to have an upward impact on the load forecast in the figure below.

Figure 1: BC Hydro’s Load Forecast Range, Impact of Electrification, and Deloitte’s “Alternative” Load Scenario



Although available information indicates that the effects of electrification on BC Hydro’s load forecast could potentially be significant, the timing and extent of those increases remain highly uncertain. Given the uncertainty, the Site C Inquiry Panel agreed with BC Hydro that additional load requirements from potential electrification initiatives should not be included in the load forecast for the purpose of resource planning.

The extent and timing of electrification initiatives will be a matter of government policy. In the absence of such policy, it is not appropriate to include any potential additional load requirements from electrification initiatives in the load forecast for resource planning. Should the government set further policy with respect to electrification, BC Hydro would need to prepare an updated load forecast reflecting the impact of such policies.

Although not taken into account in the load forecast, electrification is still an issue for consideration. In its report, the Panel noted that if electrification does materialize in the future, it is possible that some of the higher electricity demand could be offset with aggressive conservation measures, including DSM programs that achieve load reductions similar in magnitude to those experienced in New England.⁴¹

⁴¹ Page 75 of the Final Report includes the following submission by CanWEA: “These [downside risks] are very real risks that are being realized in many other North American electricity markets. In New England, where I am from, the most recent long-term electricity demand forecast by the Independent System Operator is for a .6% compound annual decline in energy

The Panel also acknowledged numerous submissions identifying disruptive factors that could potentially decrease demand, including the potential impact of expanded distributed generation. However, because these downward impacts on load are uncertain, the Panel did not identify any specific trends that would suggest an adjustment to the Current Load Forecast is required.

The Deputy Ministers further ask:

We have noted that the Commission has concluded that BC Hydro's low load forecast was most appropriate for an assessment of the need for the capacity of Site C. It would be helpful for us to further understand the rationale, and whether the assessment includes the load requirements needed to meet the Province's Clean Energy Act energy objectives of:

- *Reducing greenhouse gas emissions by 2050 by 80% less than 2007 levels;*
- *Encouraging the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia; and,*
- *Encouraging communities to reduce greenhouse gas emissions and use energy efficiently.*

Response

To recap the Final Report, the Commission concluded:

Overall, the Panel finds BC Hydro's mid load forecast to be excessively optimistic and considers it more appropriate to use the low load forecast in making our applicable determinations as required by the OIC. In addition, the Panel is of the view that there are risks that could result in demand being less than the low case.⁴²

In making findings on BC Hydro's load forecast, the Commission considered the following factors:

1. Recent developments in the industrial sectors
2. Accuracy of Historical Load forecasts
3. GDP and other forecast drivers
4. Price Elasticity assumptions
5. Future Rate increases
6. Potential disrupting trends
7. Flattening electricity demand

Each of the seven items considered by the Commission in arriving at its determination on BC Hydro's load forecast are addressed in detail in the Final Report and are summarized below.

consumption over the next ten years, with no meaningful increase in peak load. New York ISO is also forecasting a decline in energy consumption (-.2% per year)."

⁴² Final Report, p. 77.

Recent developments in the industrial sectors

The Panel reviewed recent developments in the industrial sector and concluded:

The Panel finds the developments since the Current Load Forecast was prepared, as reported by BC Hydro, can reasonably be expected to reduce demand from the expected case or mid forecast.

The Panel acknowledges there have been some positive developments in the non-LNG large industrial load that BC Hydro suggests provide a net increase in demand since the Current Load Forecast was prepared (an anticipated positive total variance is approximately 750 GWh/100 MW in the short and medium term and 965 GWh/114 MW over the long-term). However, given the risk and volatility of the industrial load and its susceptibility to cyclical ups and downs, and the risks to the large industrial load set out by AMPC, the Panel is unable to draw any conclusions that these recent developments will result in a permanently positive impact on industrial demand. In any event, in the Panel's view these positive developments in the non-LNG sector are not enough to offset negative developments for a potential BC LNG sector.

The Panel finds that developments since the Current Load Forecast was prepared have significantly reduced the probability that the majority of BC Hydro's forecast LNG load will materialize. Regarding the potential LNG industrial load, BC Hydro itself states there are questions as to whether BC has missed the window of opportunity for LNG. While BC Hydro points to certain third-party market views that still show some support for the opportunity to develop LNG in BC, the Panel notes the significant uncertainty expressed in most market views, the recent cancellation and postponement of several large potential BC LNG projects, and the higher costs of potential BC LNG projects compared to existing and potential projects in other jurisdictions. The Panel also agrees with several parties who express concern with the fact that BC Hydro had not made a probabilistic assessment of the likelihood of the LNG load materializing. The Panel agrees with Finn that the three projects cited by BC Hydro face uphill battles, especially given the current poor market conditions.⁴³

Accuracy of historical load forecasts

After reviewing the accuracy of BC Hydro's historical load forecasts, the Panel stated:

As noted in its Preliminary Report, **the Panel finds that the historical instances of over-forecasts are greater than under-forecasts, especially in the industrial load, and that the accuracy of BC Hydro's historical industrial forecasts looking out three and six years has been considerably below industry benchmarks.**

The Panel acknowledges BC Hydro's argument that the drivers of historical industrial forecast variances are not relevant to the expected accuracy of the Current Load Forecast, especially considering the impacts of large discrete customer load attrition between 2006 and 2010 and the steps BC Hydro describes it has taken to ensure its existing industrial forecasts are reasonable. However, as pointed out by CEC, some of these declines in industrial load could or should have been anticipated and may represent a bias towards over-forecasting. Accordingly, while the Panel does not place significant weight on the historical inaccuracies in the load

⁴³ Final Report, p. 78.

forecast, it does approach the Current Load Forecast with some skepticism, especially as it relates to the industrial load forecast.⁴⁴

GDP and other forecast drivers

After reviewing BC Hydro's GDP growth assumptions, the Panel stated:

...The Conference Board of Canada forecast projects the real GDP will grow by 2.6 percent on average between 2016 and 2020 and then drop to an average of 2.3 percent between 2021 and 2025. In contrast, BC Hydro's projection results in an average growth rate of 3.5 percent over the same five years. BC Hydro's forecast results in the BC economy being six percent larger than the CBoC's forecast by 2025. The Panel considers BC Hydro's average growth rate of 3.5 percent to be excessive.

...

The Panel remains concerned that BC Hydro's GDP and disposable income forecast drivers are higher than other comparable third party estimates, such as the CBoC. Based on the evidence presented in this Inquiry, the Panel can make no definitive finding on the appropriate GDP or disposable income driver to apply. However, considering the historical over-estimates in the load forecast as noted above, the Panel approaches BC Hydro's estimates with skepticism given that these key drivers are both considerably higher than other third party estimates and use of the lower estimates would result in a lower load forecast. **Accordingly, the Panel finds BC Hydro's mid load forecast is higher than if it used the CBoC estimates and adjusting for this could reasonably be expected to influence demand towards the low load case.**⁴⁵

Price elasticity assumptions

With regard to price elasticity, the Panel made the following findings:

The Panel finds the -0.05 long-run price elasticity used by BC Hydro for all rate classes to be too low in magnitude to reflect the degree of change in demand for a given change in price. Accordingly, the Panel finds BC Hydro's mid load forecast is higher than would otherwise be the case if it used lower price elasticity factors, and that adjusting for this would reduce demand towards BC Hydro's low load forecast case.

The Panel finds that BC Hydro should be using a long-run price elasticity given the long 70 year time horizon of Site C. The Panel also finds that the international literature shows that long-run elasticities are higher than short-run elasticity. It is not clear to the Panel that BC Hydro's empirical studies have appropriately estimated long-run price elasticities since the residential inclining block rate and the transmission stepped rates have not been in place over a long time horizon.

...

The Panel finds the residential long-run price elasticity is likely to be more than -0.05. BC Hydro's empirical evidence shows a range from 0 to -0.13; however, the zero in the low-end of the range with no price response indicates the study results may not be reliable. The Panel

⁴⁴ Final Report, P. 78.

⁴⁵ Final Report, pp. 78–79.

notes the study by Paul, Myers and Palmer shows the low-end of the range to be at -0.14 for residential long-run elasticity.

BC Hydro's empirical evidence shows that the price elasticity for commercial and industrial general service customers is close to zero so BC Hydro adopted -0.05. **The Panel finds that BC Hydro's empirical evidence for the price elasticity of commercial customers is unreliable in determining the long-run price elasticity.** The Panel notes the international literature shows varied results for commercial customers. Paul, Myers, and Palmer had a long-run elasticity average of -0.29 with a range of -0.02 to -0.70. Bernstein and Griffin had a single estimate of -0.97 which suggests the elasticity could be higher than -0.05.⁴⁶

In addition, the Panel noted BC Hydro's consultant GDS's recommendation that BC Hydro's price elasticity coefficients used to estimate "rate impacts," which were developed in 2007, need to be updated.

Future rate increases

BC Hydro assumed no real rate increases beyond the end of the 10 Year Rates Plan (F2024).⁴⁷ The Commission concluded with regard to this assumption:

The Panel finds BC Hydro's demand forecast is sensitive to rate changes even using BC Hydro's low price elasticity factors. Accordingly, any real increase in rates beyond the rates reflected in the 2013 10 Year Rates Plan and any subsequent real rate increase could reasonably be expected to influence demand towards the low load case.

The Panel finds there will be considerable upward pressure on rates for the remainder of the 2013 10 Year Rates Plan and beyond fiscal 2024. The Panel finds the risk associated with this upward pressure on rates is especially concerning given the submissions related to potential "demand destruction" that could result from the impact of real rate increases on already vulnerable industrial customers and the likelihood that even nominal rate increases will increase energy poverty among BC's low income households.⁴⁸

Potential disrupting trends

The Panel raised as a concern that, given the long life of the Site C asset, BC Hydro has only identified a potential upside risk to the load forecast from electrification, and had not identified any potential downside risk. The Panel concluded:

Given the uncertainty, the Panel finds additional load requirements from potential electrification initiatives should not be included in BC Hydro's load forecast for the purpose of resource planning. Although available information indicates that the effects of electrification on BC Hydro's load forecast could potentially be significant, the timing and extent of those increases remain highly uncertain.

BC Hydro has not included in its Current Load Forecast additional load requirements from electrification initiatives to reduce greenhouse gas emissions. The Panel agrees with BC Hydro and Hendriks *et al.* that the timing and magnitude of the increase is uncertain at this time. However, electrification is still an issue for consideration. The Panel notes that if electrification

⁴⁶ Final Report, pp. 79–80.

⁴⁷ Final Report, p. 65.

⁴⁸ Final Report, p. 80.

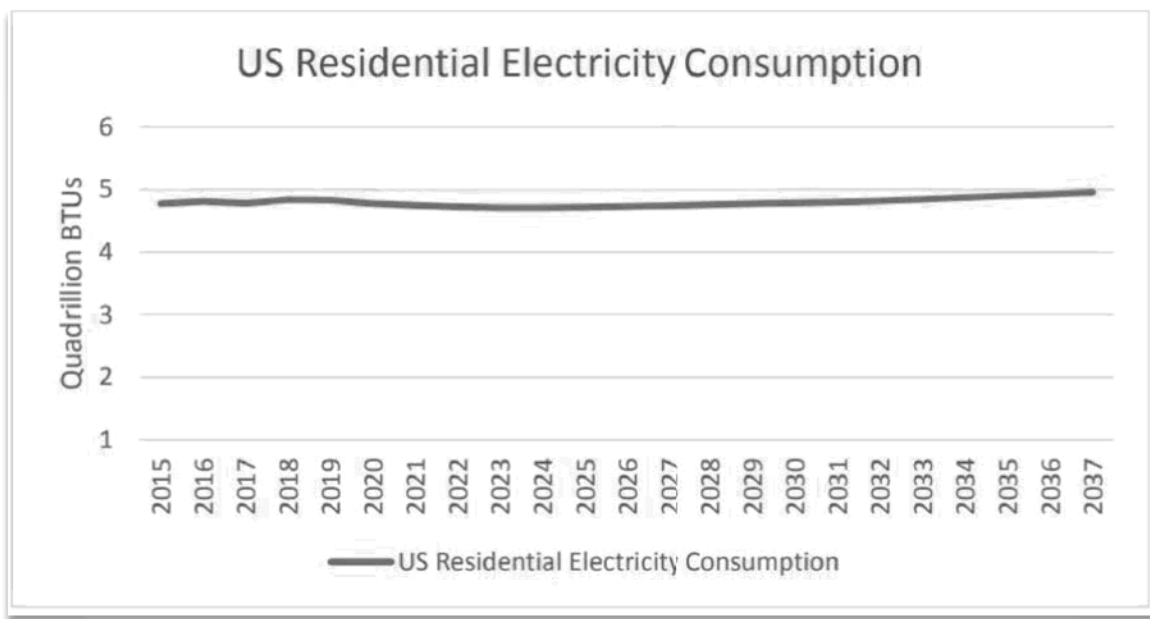
does materialize in the future, it is possible that some of the higher electricity demand could be offset with aggressive conservation measures, including DSM programs that achieve load reductions similar in magnitude to those experienced in the New England states.

The Panel acknowledges the numerous submissions identifying disruptive factors that could potentially decrease demand, including the potential impact of expanded distributed generation. However, because these downward impacts on load are uncertain, the Panel did not identify any specific trends that would suggest an adjustment to the Current Load Forecast is required.⁴⁹

Flattening electricity demand

CEC, Surplus Energy Match and CanWEA all provide evidence that total demand is not growing in most jurisdictions in North America – in most cases it is flat or declining. In British Columbia the declining use per customer over the last 10 years has largely offset the effects of population growth.⁵⁰

Figure 2: US Residential Electricity Consumption



The Deputy Ministers ask:

It has been government's assumption that electrification with low carbon electricity would be a key initiative to achieve greenhouse gas reductions. The provincial government is working with the Government of Canada on electricity system infrastructure investments to reduce and avoid greenhouse gas emissions, and has enabled BC Hydro to pursue electrification initiatives under the Greenhouse Gas Reduction (Clean Energy) Regulation under the Clean Energy Act. It would be helpful for our ministries to understand if the Commission has a different outlook, and if the

⁴⁹ Final Report, pp. 81–82.

⁵⁰ Final Report, p. 82.

Commission could further describe the impact on its analysis of electrification initiatives to meet greenhouse gas reduction objectives.

Response

The Commission's outlook on electrification and its effects on the load forecast are provided in the Final Report. We refer the Deputy Ministers to our previous answer for a summary of the material.

The Deputy Ministers also ask:

We understand that BC Hydro has provided the Commission with a description of its view of what BC's economic environment would look like under a low load outlook scenario. It would [be] helpful if the Commission could further describe its interpretation of the low load outlook. We observe that the Commission's view is that the outlook could be even lower than that presented in BC Hydro's low-load scenario, and we are interested in understanding how that outlook is based on realistic economic sustainability around which the alternative portfolio would be premised.

Response

The Commission's consideration of the load forecast was based on a holistic assessment of the factors that drive demand for electricity. In our answer to the question above regarding the rationale for the Commission's position, we have included a description of the seven factors we considered. These include three factors that are directly related to economic growth: recent developments in the industrial sectors, GDP and other forecast drivers, and flattening electricity demand.

Additional question: Dispatchability

The Deputy Ministers ask:

It would also be useful to know if the Commission examined the value of "dispatchable" resources versus intermittent resources, particularly as applied to the goal of moving industrial energy requirements now and in future to low carbon electricity.

Response

The Commission examined the value of "dispatchable" versus intermittent resources in its selection of generation options in the Illustrative Alternative Portfolio, and concluded that "increasingly viable alternative energy sources such as wind, geothermal and industrial curtailment could provide similar benefits to ratepayers as the Site C project with an equal or lower Unit Energy Cost."⁵¹

Appendix A of the Final Report contains the Commission's analysis of each generation option in the Illustrative Alternative Portfolio, and the degree to which they provide "dispatchable" energy. With regards to wind energy, for example, the largest single contributor to the Illustrative Alternative Portfolio, the Commission stated:

BC Hydro states that Site C (capacity 1,145 MW) can integrate 900 MW of wind. However, the Panel notes that BC Hydro's existing modest level of wind penetration (780 MW) and high levels of hydro generation providing reserves (GM Shrum, Mica and Revelstoke with a combined capacity around 8,000 MW) means that BC Hydro would not be expected to need Site C to integrate these additional wind farms.⁵²

In comparison, the Illustrative Alternative Portfolio includes 444 MW of wind generation in the low load forecast and 729 MW in the high load forecast.⁵³

⁵¹ Executive Summary, p. 3.

⁵² Final Report, Appendix A, p. 32.

⁵³ Final Report, Errata, p. 6.

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Thursday, November 23, 2017 2:07 PM
To: Nikolejsin, Dave MNGD:EX; Howlett, Tim GCPE:EX; MacLaren, Les EMPR:EX
Cc: Lloyd, Evan GCPE:EX; Zadavec, Don GCPE:EX; Haslam, David GCPE:EX; Kristianson, Eric GCPE:EX; Gibbs, Robb GCPE:EX; Kennedy, Christine PREM:EX
Subject: FW: BCUC Site C Inquiry - Additional Questions
Attachments: 11-23-2017_MEM MoF Site C_Addition Questions.pdf

Hi all,

The attached response to the clarification request from the DM's just came in to our Minister inbox from the BCUC.

Thanks,

Melissa

From: Minister, EMPR EMPR:EX
Sent: Thursday, November 23, 2017 2:04 PM
To: Sanderson, Melissa EMPR:EX
Subject: FW: BCUC Site C Inquiry - Additional Questions

From: Commission Secretary BCUC:EX
Sent: Thursday, November 23, 2017 1:42 PM
To: Minister, EMPR EMPR:EX; Minister, FIN FIN:EX
Subject: BCUC Site C Inquiry - Additional Questions

Dear Dave Nikolejsin and Lori Wanamaker:

Please see attached correspondence with respect to the above-noted matter.

Original will not follow. A hard copy of the attached is available upon request.
Please call the BCUC Regulatory Services at 604-660-4700 to request a copy.

Regards,

Katie Berezan
Administrative Assistant, Regulatory Services

British Columbia Utilities Commission
P: 604.660.4700 **BC Toll Free:** 1.800.663.1385 **F:** 604.660.1102
bcuc.com

The information being sent is intended only for the person or organization to which it is addressed. If you receive this e-mail in error, please delete the material and contact the sender.

INFORMATION BULLETIN

Ministry of Energy, Mines and Petroleum
Resources

[release number]
Nov. 23, 2017

Experts invited to present to Cabinet on Site C

VICTORIA – As part of the Provincial Cabinet’s deliberations on Site C, Don Wright, Deputy Minister to the Premier, has invited an expert advisory panel to provide their views on the Site C Project and the BC Utilities Commission’s Final Report.

Expert views are sought from various perspectives – BC Hydro ratepayers, environmental advocates, the power industry, and landowners – and will be provided by the following invited panellists:

David Austin, Clean Energy Association of BC
David Craig, Consolidated Management Consultants
Colleen Giroux-Schmidt, Innergex Renewable Energy
Dr. Mark Jaccard, School of Resource and Environmental Management, Simon Fraser University
Robert McCullough, McCullough Research
Karen Tam Wu, Pembina Institute

The meeting with cabinet will be in Victoria on Nov. 30, and while cabinet deliberations are confidential, panellists are not expected to keep their advice to Cabinet confidential.

Along with the information and perspectives presented by the invited panellists, the government is reviewing advice from the BCUC and other environmental and First Nations considerations, and will make a final decision on the future of Site C by the end of the year.

Contact:
Suntanu Dalal
Ministry of Energy, Mines and Petroleum Resources
250 952-0628

Howlett, Tim GCPE:EX

From: Haslam, David GCPE:EX
Sent: Thursday, November 23, 2017 10:17 AM
To: Zadravec, Don GCPE:EX; Lloyd, Evan GCPE:EX
Cc: Sanderson, Melissa EMPR:EX; Howlett, Tim GCPE:EX; Beaupre, Darren GCPE:EX
Subject: RE: IB_Experts Present to Cabinet_23 Nov 2017_V1
Attachments: IB_Experts Present to Cabinet_23 Nov 2017_V1 edits DZ EL.DOCX

Clean version attached. Including Melissa and Tim so aware you will share with Sage. Darren – please tee up with the editors noting edits may follow. Recommend 1115 am so we hit the noon cycle.

From: Zadravec, Don GCPE:EX
Sent: Thursday, November 23, 2017 10:10 AM
To: Haslam, David GCPE:EX; Lloyd, Evan GCPE:EX
Subject: RE: IB_Experts Present to Cabinet_23 Nov 2017_V1

Edits from Evan and me.

Can you send us a revised ASAP as we would like to issue in the next hour or so.

Thanks,

From: Haslam, David GCPE:EX
Sent: Thursday, November 23, 2017 9:56 AM
To: Lloyd, Evan GCPE:EX; Zadravec, Don GCPE:EX
Subject: IB_Experts Present to Cabinet_23 Nov 2017_V1

Draft IB on panel attached for your review.

Howlett, Tim GCPE:EX

From: Hannah, Matt GCPE:EX
Sent: Wednesday, November 22, 2017 12:21 PM
To: Howlett, Tim GCPE:EX
Subject: Fwd: Site C Presser - Nov. 22, 2017 - Audio

Matt Hannah
778.584.1249

Begin forwarded message:

From: "GCPE Video Request GCPE:EX" <videorequest@gov.bc.ca>
Date: November 22, 2017 at 12:20:42 PM PST
To: "Aaron, Sage PREM:EX" <Sage.Aaron@gov.bc.ca>, "Tounsi, Marielle GCPE:EX" <Marielle.Tounsi@gov.bc.ca>, "Sherlock, Stephanie GCPE:EX" <Stephanie.Sherlock@gov.bc.ca>, "Holmwood, Jen PREM:EX" <Jen.Holmwood@gov.bc.ca>, "McConnell, Sheena PREM:EX" <Sheena.McConnell@gov.bc.ca>, "Hannah, Matt GCPE:EX" <Matt.Hannah@gov.bc.ca>, "Haslam, David GCPE:EX" <David.Haslam@gov.bc.ca>
Subject: Site C Presser - Nov. 22, 2017 - Audio

Hi all,

Here is a link to the audio from the presser:
<https://spaces.hightail.com/receive/o33mQNO1qu>

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Wednesday, November 22, 2017 11:54 AM
To: Aaron, Sage PREM:EX; Howlett, Tim GCPE:EX; Holmwood, Jen PREM:EX
Subject: McCullough and Steves Press Conference (Site C Dam)

I watched the twitter feeds, and below is what was said. Not much new. They are still asking questions, but wanted to get this to you. If anything else seems pertinent I will send it along.

Let me know if you have any questions.

Press Conference Notes:

Harold Steves:

- Opposes the dam and will spend some time talking about finances
- Was on the Metro Van Ag Advisory in 2006 and told them BC farmers cannot feed our population – only 1.1% of province can grow veggies and that is in the Peace and Fraser Valleys
- Asks NDP if we will repeat what happened in 1978 when the IWA pushed for clearcutting and a large number of voters formed the Green Party.
- Speaks about City of Richmond using Geothermal and creating own power and jobs. And in setting up district energy system put solar panels on peoples roof.
- Can produce power for a million people with alternatives and grow veggies for a million people instead of Site C
- Can produce power cheaper then hydro and solar will produce 10 times as many jobs

Robert McCullough

- Has a report with new information
- Never seen a utility lose so many points in regulatory review
- Graph shows increase in cost - should assume cost overruns and schedule delay will continue
- Compares it to abstract cost of transit systems and says two of the types BC needs could be built with the money on Site C
- BCH has consistently overstated demand – with changes in LEDs and other tech there is zero demand for growth for energy despite growth in population. Cites Seattle.
- Falling wind and solar prices means that the cheaper it gets the more people will take advantage of it.
- Site C provides hardly any storage – we have real storage in the Mica Dam with no treaty problems.
- The Mica is on the Columbia and the CRE is up for renewal in 2024. We could have that power back and the storage back.
- Site C is 33,000 jobs over many years, renewables are 80,000.
- Rate impacts will be high
- Negative impact on ratings agencies and credit – credit rating will go down if we build dam.

Questions:

Was Columbia River Entitlement part of Alternatives Portfolio- NO few understand it even experts. Should have been but was not.

Would we have to add more turbines? No – water is released from Mica and goes through dam to dam until hits the Grand Coulee dam. We will collect KWh from each dam along way.

Global: What is new in this press conference? We have the BCUC report from Nov 1, load forecast has been attributed to recession (not true). We hearing we cannot rely upon the Columbia system because of one dam problem and that is

not true. Also MMM has been incorrect about how we amortize the cancellation, and credit rating (probably from estimates). EV cars will charge at night and we don't need the capacity for that – no serious demand from cars it is a myth. Renewables are cheap and can be instantly deployed – we can just order turbines and put them anywhere. Steeves: Richmond will lead the way to district energy and will pay it off in 17 years with cheaper rates than Hydro.

Q : Why are the parking lots empty at Site C? 2500 jobs for Site C is bewildering. So may be seasonal – you can build a nuclear plant with less than 2500 workers so why would Site C need so many?

Q: With a highrise building, is solar enough? We are gearing all highrise buildings to geothermal.

Believes cost of alternatives is cheaper than BCUC stated – the tech they stated is already obsolete and used current not future prices.

Bottom line question – cost of dam has already gone up, its far cheaper to not build the dam, nobody in North America is doing what we are doing with building a dam, quotes Premier of Quebec “Era of big dams is over.”

Steeves welcomes people to come see what they are doing in Richmond – dams are antiques.

Howlett, Tim GCPE:EX

From: Hannah, Matt GCPE:EX
Sent: Monday, November 20, 2017 2:39 PM
To: Howlett, Tim GCPE:EX
Subject: Fwd: Weaver on Site C

Matt Hannah
778.584.1249

Begin forwarded message:

From: "Tounsi, Marielle GCPE:EX" <Marielle.Tounsi@gov.bc.ca>
Date: November 20, 2017 at 1:52:00 PM PST
To: "Haslam, David GCPE:EX" <David.Haslam@gov.bc.ca>, "McNish, James EMPR:EX" <James.McNish@gov.bc.ca>, "Sherlock, Stephanie GCPE:EX" <Stephanie.Sherlock@gov.bc.ca>, "Andrews, Scott GCPE:EX" <Scott.Andrews@gov.bc.ca>, "Hannah, Matt GCPE:EX" <Matt.Hannah@gov.bc.ca>, "Holmwood, Jen PREM:EX" <Jen.Holmwood@gov.bc.ca>
Subject: Weaver on Site C

***Scrum notes not verbatim

The context is that I have seen a lot of people like Mo Sahota writing op eds and I am troubled by this. We will continue to try to inspire gov to make the right decision.

The rational reason why I think they may approve Site C is because of advanced messaging we are seeing coming out.

I think ultimately BC NDP are afraid of being continued to be framed as anti jobs.

We saw that time after time BC NDP have allowed themselves to be framed by liberal messaging. Evidence is there for them to make decision and they are delaying and I am worried it will be delayed until Friday before Xmas. They don't need more info to make the decision.

Marielle Tounsi
Media Relations
Government Communications and Public Engagement
778-584-1255
Marielle.Tounsi@gov.bc.ca

Howlett, Tim GCPE:EX

From: Haslam, David GCPE:EX
Sent: Monday, November 20, 2017 12:55 PM
To: Lloyd, Evan GCPE:EX; Gibbs, Robb GCPE:EX; Zdravec, Don GCPE:EX; Kristianson, Eric GCPE:EX
Cc: Sanderson, Melissa EMPR:EX; McNish, James EMPR:EX; Howlett, Tim GCPE:EX
Subject: RE: Site C meeting: News release - FOR IMMEDIATE RELEASE - First Nations Warn Ministers of Billion Dollar Lawsuit, Call for Meeting with Premier on Site C

Recommended KM's below. MMM is aware and briefed:

s.13

From: Haslam, David GCPE:EX
Sent: Monday, November 20, 2017 11:42 AM
To: Lloyd, Evan GCPE:EX; Gibbs, Robb GCPE:EX; Zdravec, Don GCPE:EX; Kristianson, Eric GCPE:EX
Cc: Sanderson, Melissa EMPR:EX; McNish, James EMPR:EX; Howlett, Tim GCPE:EX
Subject: FW: Site C meeting: News release - FOR IMMEDIATE RELEASE - First Nations Warn Ministers of Billion Dollar Lawsuit, Call for Meeting with Premier on Site C

Below circulating on social media. Working on recommended response with MIRR GCPE.

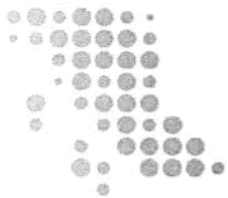
See below for the full text of the public statement by the West Moberly and Prophet River First Nations regarding their meeting with Ministers Mungall and Fraser last week on the Site C Project.

FOR IMMEDIATE RELEASE - First Nations Warn Ministers of Billion Dollar Lawsuit, Call for Meeting with Premier on Site C
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Page 256

Withheld pursuant to/removed as

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bcuc

British Columbia
Utilities Commission

Patrick Wruck
Commission Secretary

Commission.Secretary@bcuc.com
bcuc.com

Suite 410, 900 Howe Street
Vancouver, BC Canada V6Z 2N3
P: 604.660.4700
TF: 1.800.663.1385
F: 604.660.1102

November 16, 2017

BCUC INQUIRY RESPECTING SITE C

A-26

Sent via eFile

The Honourable Michelle Mungall, M.L.A.
Minister of Energy, Mines and Petroleum Resources
Parliament Buildings
PO Box 9060 Stn Gov't
Victoria, BC V8W 9E2
EMPR.Minister@gov.bc.ca

**Re: British Columbia Hydro and Power Authority – British Columbia Utilities Commission Inquiry
Respecting Site C – Project No. 1598922 – Final Report**

Dear Minister:

Further to our letter yesterday attaching the errata to the Site C Inquiry Final Report, please be advised we have also corrected the Commission's Illustrative Alternative Portfolio spreadsheet as described in more detail within the errata.

Please see the complete errata attached to this letter, which will now be inserted into the Commission's Final Report and associated Executive Summary.

Please contact our office if you have any questions.

Sincerely,

Patrick Wruck
Commission Secretary

for

Report errata

1.1 Math Error regarding Mid C price forecasts used in the Site C Calculator

Issue

The Mid C price forecasts used in the Site C unit energy cost UEC Calculator are in real terms and should have been inflated to nominal terms.

Commission comments

The Panel confirms that the graph upon which the Mid C price forecasts were derived are in real F\$2018 and therefore should be inflated to nominal. In the alternative portfolio spreadsheets, these same price forecasts were inflated to nominal.

By correcting the Mid C price forecasts to nominal in the Site C UEC calculator, we find that the rate impact (NPV) from Site C under the **low load case** is \$336 million lower, at \$2,852 million instead of \$3,188. Under the **mid load case**, the rate impact from Site C is \$68 million, at \$3,901 million instead of \$3,969 million. There is no impact on the high load case as there is no surplus energy in that scenario.

1.2 Formulas issues regarding the Commission Illustrative Alternative Portfolio

Issues

1. In the “Energy & capacity gap” sheet, the text box pointing to cell R42 says “Assumes ramp up at 800 GWh/yr” but the ramp up did not occur in the cells to the right of R42. This should be corrected to include the 800 GWh/yr ramp up for the years F2037 to F2041.
2. In the “Low LF – portfolio” sheet, the cells titled “(capacity) gap to fill” beginning at Y28 and ending at CB28 contain equal values of 1145 MW but the corresponding values in row 33 of the “Energy & capacity gap” sheet are 985 MW (*i.e.*, Site C gross capacity less 14% planning reserve). This should be corrected so that the values in both sheets are the same and the correct value is 985 MW.
3. Pursuant to the change made according to #2 above, a further change is required to cells AJ31 to CB31 of the “Low LF – portfolio” sheet, all of which have the hard number of -629.96 MW rather the cell difference formula which appears in the adjacent AI31 cell and would yield a result of -470 MW.
4. Pursuant to the changes according to #1 to 3, there is no need for capacity from industrial curtailment in F2039 and F2040 and the in-service date for the first wind project (PC 18) can be delayed by one year from F2039 to F2040.

Commission comments

The Panel confirms that the issues outlined above need to be corrected. By correcting them, we find that the rate impact (NPV) from the Illustrative Alternative Portfolio under the **low load case** is \$87 million lower, at \$3,147 million instead of \$3,234. There is no impact on the mid and high load cases as the issues affected only the low load case.

The tables and figure in the Executive Summary would read correctly as follows:

Corrected Table on p. 7 of the Executive Summary:

Scenario	Rate Impact (\$ million)			Unit Energy Cost (\$/MWh)	
	A. Illustrative Alternative Portfolio	B. Site C	Difference (A - B)	Illustrative Alternative Portfolio	Site C
Commission Assumptions	\$3,147	\$2,852	\$295	\$31	\$44

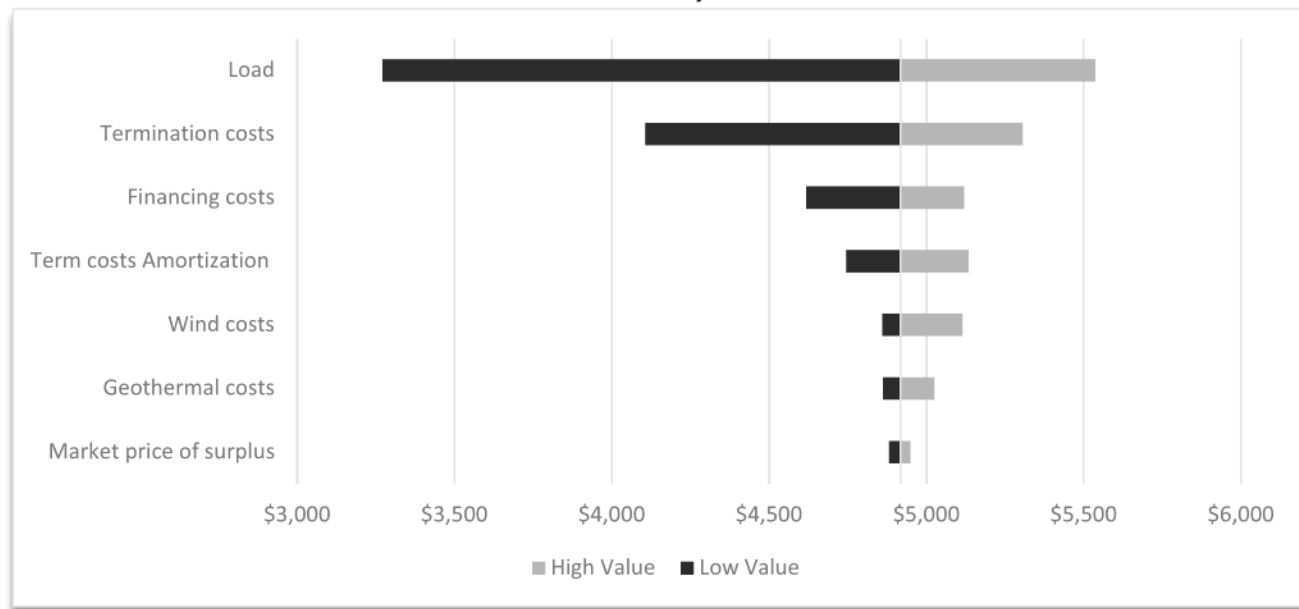
Finding: The Panel confirms there is no change to its finding that “[a]s can be seen in the table below, the cost to ratepayers of Site C and the Illustrative Alternative Portfolio are virtually equivalent, within the uncertainty inherent in the assumptions.”

Corrected Table on p. 15 of the Executive Summary:

Summary Results of the Illustrative Alternative Portfolio (2018\$)

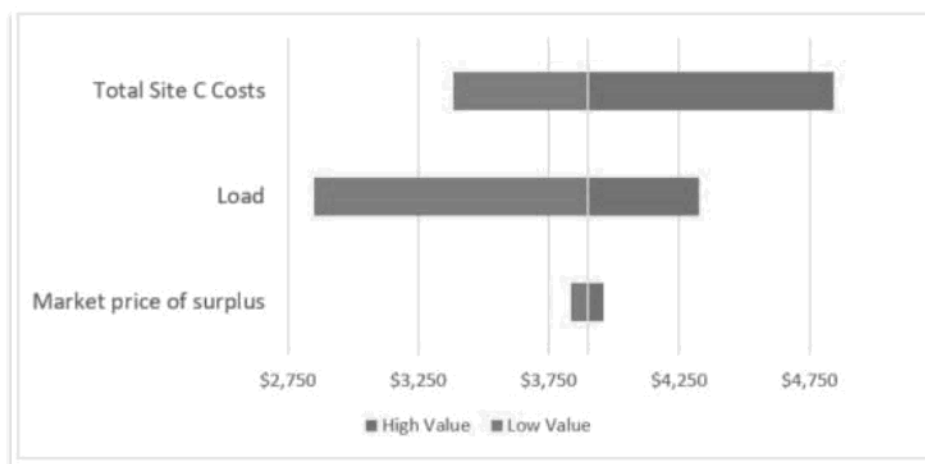
	High Load Forecast	Medium Load Forecast	Low Load Forecast
Revised Alternative Portfolio composition	<ul style="list-style-type: none"> • 441 MW of wind projects starting in F2025, 288MW in F2026 • DSM initiatives (energy efficiency, optional time of use (TOU) rate, capacity focused DSM, industrial curtailment) • 81 MW of geothermal projects starting in F2025 	<ul style="list-style-type: none"> • 438 MW of wind projects starting between F2029 and F2031 • DSM initiatives (energy efficiency, optional TOU rate, capacity focused DSM, industrial curtailment) • 81 MW of geothermal projects starting in F2025 	<ul style="list-style-type: none"> • 444 MW of wind projects starting between F2040 and F2041 • DSM initiatives (energy efficiency, optional TOU rate, capacity focused DSM)
Rate Impact of portfolio	\$ 5,121 million	\$ 4,618 million	\$ 3,147 million

Corrected Illustrative Alternative Portfolio Rate Impact Sensitivity Analysis on p. 15 of the Executive Summary



Finding: The Panel confirms that the paragraph starting with “The graph shows” in the middle of page 16 should read: “The graph shows the cost to ratepayers of the Base Case described below, and variations around the base case. The Base Case is in the centre of the graph and is \$4.918 billion. Then, each variable is changed to a low or high value and the cost to ratepayers of that single change (while holding the other inputs constant) is shown. For example, if the Load forecast is changed to Low instead of Medium, the cost to ratepayers would be reduced by ~~\$1.558~~\$1.647 billion from \$4.918 billion to ~~\$3.36~~\$3.271 billion, while all the other inputs remained as defined in the Base Case.”

Corrected Site C Rate Impact Sensitivity Analysis on p. 16 of the Executive Summary



Finding: The Panel confirms there is no change to its finding that “For Site C, as seen in the graph above, the base case is completion costs of \$10 billion, BC Hydro’s mid load forecast and the Panel’s Mid C forecast assumptions. The inputs and assumptions that have the greatest impact on rates are the Site C total costs and the load forecast. The market price of surplus energy has much less impact on the costs to ratepayers.”

Corrected Sensitivity Analysis on page 17 of the Executive Summary

Scenarios	Rate Impact (\$'m)			Unit energy cost (\$/MWh)	
	A. Revised Illustrative Alternative Portfolio	B. Site C	Difference (A - B)	Revised Illustrative Alternative Portfolio	Site C
Commission Assumptions	\$3,147	\$2,852	\$295	\$31	\$44
Scenarios					
Medium load forecast	\$4,618	\$3,901	\$717	\$34	\$44
Medium load forecast + \$12 billion Site C cost	\$4,618	\$4,842	(\$224)	\$34	\$54
Low load forecast, \$12 billion Site C cost	\$3,147	\$3,793	(\$646)	\$31	\$54
Low load forecast + higher wind-geothermal financing	\$3,271	\$2,852	\$419	\$32	\$44
High load forecast	\$5,121	\$4,325	\$796	\$31	\$44
High load forecast, \$12 billion Site C cost	\$5,121	\$5,266	(\$145)	\$31	\$54

Findings: The Panel confirms there is no change to the paragraph introducing the sensitivity analysis: “The sensitivity analysis illustrates the effect of changing one input assumption at a time. To see the effect of changing more than one variable at a time, we provide a few sample scenario results below.”

The Panel also confirms there is no change to the paragraph immediately below the sensitivity analysis: “The Illustrative Alternative Portfolio indicates that it is possible to design an alternative portfolio of commercially feasible generating projects and demand-side management initiatives that could provide similar benefits to ratepayers as Site C.”

1.3 “Copy & Paste Error” in Table 43 (\$4.9 billion, -\$293 million)

Issue

In Table 43 in the Final Report, in the scenario “Medium load forecast + \$12 billion Site C cost”, Site C NPV should read \$4,911 million and the difference (-\$293 million).

Table 43: Summary of Sample Scenarios

Scenarios	Rate Impact (\$'m)			Unit energy cost (\$/MWh)	
	A. Revised Illustrative Alternative Portfolio	B. Site C	Difference (A - B)	Revised Illustrative Alternative Portfolio	Site C
Commission Assumptions	\$3,234	\$3,188	\$46	\$32	\$44
Scenarios					
Medium load forecast	\$4,618	\$3,969	\$649	\$34	\$44
Medium load forecast + \$12 billion Site C cost	\$4,618	\$4,129 \$4,911	\$489 (\$293)	\$34	\$54
Low load forecast, \$12 billion Site C cost	\$3,234	\$4,129	(\$895)	\$32	\$54
Low load forecast + higher wind-geothermal financing	\$3,360	\$3,188	\$172	\$33	\$44
High load forecast	\$5,121	\$4,325	\$796	\$31	\$44
High load forecast, \$12 billion Site C cost	\$5,121	\$5,266	(\$145)	\$31	\$54

Commission comments

The Panel confirms there was a copy and paste error in Table 43. The numbers should have been \$4,911 and (-\$293), therefore adding an additional scenario where the Alternative Portfolio is less expensive than Site C.

Finding: The Panel notes that these numbers are now outdated due to the need to correct the Mid C price forecast and the issues pertaining to the low load case in the Commission Illustrative Alternative Portfolio. The Panel also notes that the correction to Mid C price forecasts results in changes to a number of scenarios.

1.4 Other Corrected Tables and Figures in the Final Report

The following tables and figure in the Final Report would read correctly as follows:

Corrected table for Illustrative Alternative Portfolio Results (p. 165)

Summary Results of the Revised Illustrative Alternative Portfolios (2018\$)			
	High Load Forecast	Medium Load Forecast	Low Load Forecast
Revised Alternative Portfolio composition	<ul style="list-style-type: none"> 441 MW of wind projects starting in F2025, 288MW in F2026 DSM initiatives (energy efficiency, optional time of use (TOU) rate, capacity focused DSM, industrial curtailment) 81 MW of geothermal projects starting in F2025¹ 	<ul style="list-style-type: none"> 438 MW of wind projects starting between F2029 and F2031 DSM initiatives (energy efficiency, optional TOU rate, capacity focused DSM, industrial curtailment) 81 MW of geothermal projects starting in F2025² 	<ul style="list-style-type: none"> 444 MW of wind projects starting between F2039 F2040 and F2041 DSM initiatives (energy efficiency, optional TOU rate, capacity focused DSM, industrial curtailment)³
Rate Impact of portfolio⁴	\$ 5,121 million ⁵	\$ 4,618 million ⁶	\$ 3,234 <u>3,147</u> million ⁷

Corrected Table 39: Cost to ratepayers and UEC of Site C (p. 167)

Output: Low LF - Alternative Portfolio		
A	Site C Termination Cost (F\$18)	\$ 1,395 million
B	Alternative Portfolio Cost (F\$18)	\$ 2,539 million
C	Surplus Energy Sale (F\$18)	\$ (788) million
D	Total Rate Impact (A+B+C)	\$ <u>3,147</u> million
E	Alt. Portfolio Volume (F18)	82,784
F	UEC (F\$18) (B/E)	\$ 30.67 per MWh

¹ Appendix H_C – Commission Illustrative Alternative Portfolio, Tab ‘High LF – portfolio’, with costs in Tab ‘High LF - portfolio costs’.

² Ibid, Tab ‘Med LF – portfolio’, with costs in Tab ‘Med LF - portfolio costs’.

³ Ibid, Tab ‘Low LF – portfolio’, with costs in Tab ‘Low LF - portfolio costs’.

⁴ Discount rate of 4% real, 6% nominal; export revenues valued at Panel’s Mid C Forecast (at plant gate location), Site C \$1.8 billion termination costs amortized over 30 years and assuming all resources are financed at BC Hydro’s financing rate.

⁵ Appendix H_C – Commission Illustrative Alternative Portfolio, Tab ‘Input and Output’, Cell O26.

⁶ Ibid, Tab ‘Input and Output’, Cell O17.

⁷ Ibid., Tab ‘Input and Output’, Cell O8.

Corrected Table 40: Cost to ratepayers and UEC of Site C (p. 167)

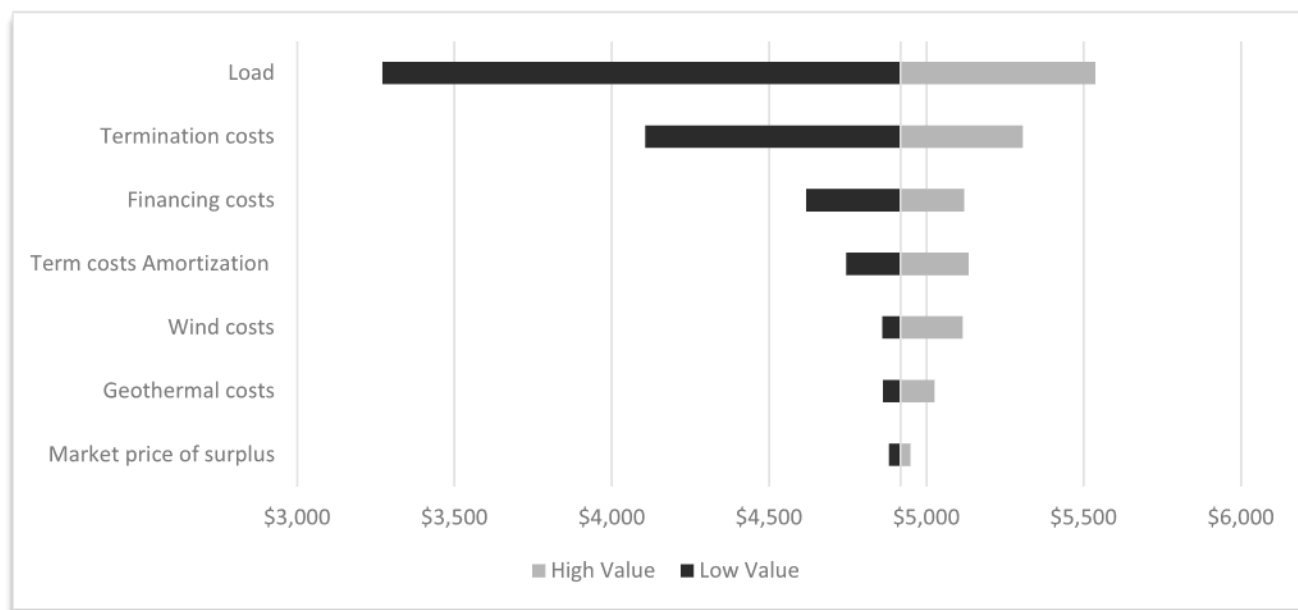
Output: Low LF - Site C		
A	Sunk Costs (F\$18)	\$ 2,100 million
B	Site C Cost to Complete (F\$18)	\$ 4,391 million
C	Flexibility Credit (F\$18)	\$ (66) million
D	Surplus Energy Sales (F\$18)	\$ (1,473) million
E	Total Rate Impact (B+C+D)	\$ 2,852 million
F	Volume (F18)	98,993
G	UEC (F\$18) (B/F)	\$ 44.35 per MWh

Finding: The Panel confirms that the paragraph below Table 40 should read: “The comparison in the tables above show that the cost to ratepayers Illustrative Alternative Portfolio has a lower UEC than Site C (~~\$31.64~~\$30.67/MWh compared to \$44.35/MWh) but a cost to ratepayers slightly higher (~~\$3.234~~\$3.147 billion compared to ~~\$3.188~~ \$2.852 billion for Site C).”

Corrected Table 41: Sensitivity Analysis of Illustrative Alternative Portfolio (p. 168)**Illustrative Alternative Portfolio Base Case Rate Impact: \$4,918 million**

Input Variable	Low Value	Difference from Base Case	High Value	Difference from Base Case	Low Value	Base Case	High Value
Load	3,271	\$ (1,647)	5,537	619	Low LF	Med LF	High LF
Termination costs	4,106	\$ (812)	5,306	388	\$750 M	\$1,800 M	\$2,300 M
Financing costs	4,618	\$ (300)	5,120	202	BCH Financing for wind-geo, 3.4%	IPP Financing for wind-geo, 6.4%	IPP Financing for wind-geo, 8.4%
Termination costs amortization	4,745	\$ (173)	5,134	216	70 years	30 year	10 years
Wind costs	4,860	\$ (58)	5,115	197	Base case less 5.9% (CanWEA/CEAB C F104-3)	A-22 Assumption No. 13	Base case plus 20%
Geothermal costs	4,862	\$ (56)	5,025	107	CanGEA (F66-4)	NREL flash	NREL binary
Market price of surplus	4,881	\$ (37)	4,949	31	BC Hydro RRA	Panel Mid C	Panel Mid C ABBLow

Finding: The Panel confirms that the paragraph below Table 41 should read: “For example, if the Load is changed to Low instead of Medium, the cost to ratepayers would be reduced by ~~\$1.558~~\$1.647 billion from \$4.918 billion to ~~\$3.360~~\$3.271 billion, while all the other inputs remained as defined in the Base Case. This estimate of ~~\$3.360~~\$3.271 billion is higher than the Illustrative Alternative Portfolio result of ~~\$3.234~~\$3.147 billion as the base case in the table above uses IPP financing costs rather than BC Hydro financing costs. However, this analysis serves to illustrate how sensitive the PV cost to ratepayers analysis is to changes in key input assumptions.”

Corrected Figure 28: Illustrative Alternative Portfolio Cost to ratepayers Sensitivity (p. 169)

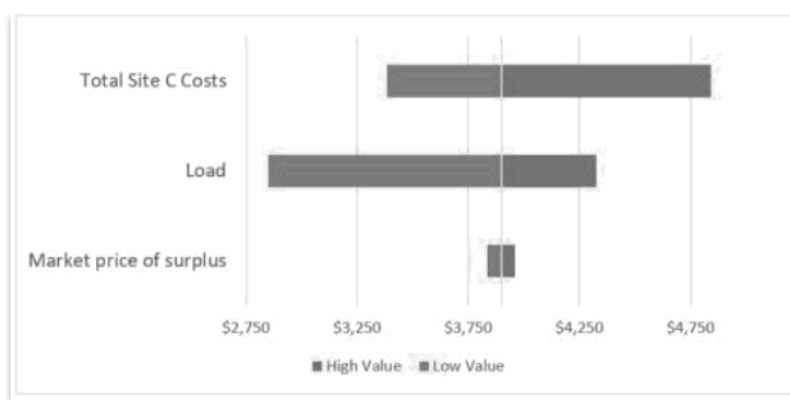
Finding: The Panel confirms that there is no change to its finding: “As can be seen in the graph above, the inputs and assumptions that have the greatest impact on the cost to ratepayers in the Illustrative Alternative Portfolio are the magnitude of the load and Site C termination costs. These are followed by the assumption regarding the financing of IPP projects and the length of the amortization period for the Site C termination

costs. The wind and geothermal energy capital and O&M costs, as well as the market price of surplus energy have the least impact on the results.”

Corrected Table 42: Sensitivity Analysis of Site C (p. 169)

Site C							
Base Case Rate Impact		\$ 3,901 million					
Input Variable	Low Value	Difference from Base Case	High Value	Difference from Base Case	Low Value	Base Case	High Value
Total Site C costs	\$ 3,383	\$ (518)	\$ 4,842	\$ 941	\$8,900 M	\$10,000 M	\$12,000 M
Load	\$ 2,852	\$ (1,049)	\$ 4,325	\$ 424	Low LF	Med LF	High LF
Market price of surplus	\$ 3,835	\$ (66)	\$ 3,962	\$ 61	BC Hydro RRA	Panel Mid C	Panel Mid C ABBLow

Corrected Figure 29: Site C Cost to ratepayers Sensitivity (p. 169)



Finding: The Panel confirms there is no change to its finding that: “For Site C, the inputs and assumptions that have the greatest impact on rates are the Site C total costs and the magnitude of the load. As with the Illustrative Alternative Portfolio, the market price of surplus energy has much less impact on the costs to ratepayers.”

Corrected Table 43: Summary of Sample Scenarios (p. 170)

Scenarios	Rate Impact (\$'m)			Unit energy cost (\$/MWh)	
	A. Revised Illustrative Alternative Portfolio ⁸	B. Site C ⁹	Difference (A - B)	Revised Illustrative Alternative Portfolio	Site C
Commission Assumptions ¹⁰	\$3,234\$3,147	\$3,188\$2,852	\$46\$295	\$32\$31	\$44
Scenarios¹¹					
Medium load forecast	\$4,618	\$3,969\$3,901	\$649\$717	\$34	\$44
Medium load forecast + \$12 billion Site C cost	\$4,618	\$4,129\$4,842	\$489(\$224)	\$34	\$54
Low load forecast, \$12 billion Site C cost	\$3,234\$3,147	\$4,129\$3,793	(\$895)(\$646)	\$32\$31	\$54
Low load forecast + higher wind-geothermal financing	\$3,360\$3,271	\$3,188\$2,852	\$172\$419	\$33\$32	\$44
High load forecast	\$5,121	\$4,325	\$796	\$31	\$44
High load forecast, \$12 billion Site C cost	\$5,121	\$5,266	(\$145)	\$31	\$54

Finding: The Panel confirms that there is no change to the paragraph introducing the sensitivity analysis: “A summary of some sample scenarios is shown below.”

Corrected Figure 32: Cost of Site C to Ratepayers of a Zero-Load Growth (p. 172)

Output		
A	Sunk Costs (F\$18)	\$ 2,100 million
B	Site C Cost to Complete (F\$18)	\$ 4,391 million
C	Flexibility Credit (F\$18)	\$ (66) million
D	Surplus Energy Sales (F\$18)	\$ (3,861) million
E	Total Rate Impact (B+C+D)	\$ 464 million
F	Volume (F18)	98,993
G	UEC (F\$18) (B/F)	\$ 44.35 per MWh

⁸ Revised Illustrative Alternative Portfolio cost plus Site C termination costs minus exports revenues.

⁹ Site C cost to complete less flexibility credit and export revenues.

¹⁰ Low Load Forecast, Panel Mid C market electricity price forecast, Site C total costs of \$10 billion, \$1.8 billion in termination costs amortized over 30 years, and BC Hydro financing for all resources in the Revised Illustrative Alternative Portfolio.

¹¹ The five-six scenarios presented in this table start with using the “Commission Assumptions” and modifying one or two variables as described therein.

Finding: The Panel confirms that there is no change to the finding that “This illustrates that under current market value assumptions, not all of the costs of Site C would be recovered and that the surplus energy is therefore being sold “below cost.” However, if ratepayers need Site C energy, but don’t need it immediately, as with the low load forecast scenario and higher, surplus sales actually lower the cost to ratepayers of Site C.”

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Friday, November 17, 2017 12:50 PM
To: Haslam, David GCPE:EX; Lloyd, Evan GCPE:EX; Gibbs, Robb GCPE:EX; Kristianson, Eric GCPE:EX; Howlett, Tim GCPE:EX
Cc: McNish, James EMPR:EX
Subject: FW: BC'S Energy, Climate and Investment Future
Attachments: 2017-Honorable John Horgan Site C and Prosperity.pdf

FYI - in case you haven't seen this.

From: Minister, EMPR EMPR:EX
Sent: Friday, November 17, 2017 12:49 PM
To: Sanderson, Melissa EMPR:EX
Subject: FW: BC'S Energy, Climate and Investment Future

From: Greg D'Avignon [<mailto:greg.davignon@bccbc.com>]
Sent: Friday, November 17, 2017 10:37 AM
To: OfficeofthePremier, Office PREM:EX
Cc: Plecas, Bobbi ENV:EX; Nikolejsin, Dave MNGD:EX; Wright, Don J. PREM:EX; ken.peterson@bchydro.com; Deputy Minister ENV:EX; Weaver.MLA, Andrew LASS:EX; Minister, EMPR EMPR:EX
Subject: BC'S Energy, Climate and Investment Future

Dear Premier Horgan

Please find the attached letter from the Business Council of BC, with respect to our position on Site C, and BC's Energy, Climate and Investment Future.

Respectfully,
Greg D'Avignon
President & Chief Executive Officer
Business Council of BC
Direct: 604.696.6580



Where Leaders Meet to Unlock B.C.'s Full Potential

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Business Council of
British Columbia
Est. 1966

Suite 810 Telephone: 604-684-3384
1050 West Pender Street info@bccbc.com
Vancouver BC V6E 3S7 www.bccbc.com

November 17, 2017

The Honorable John Horgan
Premier of British Columbia
Government of British Columbia
P.O. Box 9041, Stn. Prov. Govt.
Victoria, BC; V8W 9E1

Dear Premier Horgan:

Re: BC's Energy, Climate and Investment Future

The Business Council of BC and our 250 members spanning every part of the province's economy write today to communicate our views on the future of the Site C project.

British Columbia is at a crossroads in terms of the prosperity of our province. Our ability to deliver equality of opportunity for citizens and to address climate change in a manner that creates the conditions for competitiveness and investment are at risk. Addressing these challenges relates directly to your cabinet's pending decision on Site C. We recognize that this is a complex matter, not least because the previous government failed to undertake a proper independent review of the economic and business case for the project. Nonetheless, the decision now rests with you and your colleagues.

Having considered the evidence, including the BC Utilities Commission's (BCUC) recent report, our reputational risk and the anticipated significant electricity demand as we accelerate into the digital age and low carbon economy, we offer our support for completing the project, for several reasons – some of which are also referenced in a recent submission from the BC Building Trades unions.

First, in reviewing Site C, the BCUC was given a narrow mandate and a very short timeframe. While we recognize that the Commission worked under tight constraints, its report does not reflect a comprehensive examination of the trends shaping the outlook for electricity demand over the medium- and longer-term. Therefore, the BCUC's default to the low load forecast is suspect and inadequate given the reality of our need for energy in the coming decades, let alone the potential of the contribution that reliable firm power can make to a lower carbon future.

.../2

Where leaders meet to unlock BC's full potential

The Honourable John Horgan

November 17, 2017

Page 2

While actual demand growth has underperformed BC Hydro's projections over the last few years, there are reasons to anticipate stronger demand over the next two decades. Apart from a steadily rising provincial population, we anticipate significant growth in the digital economy, healthcare, film production, e-commerce, gaming, mixed reality technologies, financial services, fintech, tourism, the Gateway transportation sector, and segments of advanced manufacturing. Additional demand will arise through shifting regulatory realities touching everything from marijuana legalization (requiring electricity, substations and transmission for cultivation) to increased use of electric vehicles, server farms and carbon sequestration facilities. In addition, electrification transitions are either under way or possible in areas like port terminal operations, mining and metals production¹, value added forest manufacturing, and industrial robotics. Then too, in the medium-term there may be opportunities to sell BC renewable power to Alberta as that province moves away from coal.

Also worth noting in this regard is the City of Vancouver's Renewable City Strategy, part of its Sustainable City plan, which targets 100% renewable energy consumption in Vancouver before 2050. The City's plans, analysed in their October 2017 report,¹ call for 50-75% growth in electricity use within a jurisdiction that accounts for 14% of the provincial population. It is conceivable that more BC municipalities will follow an energy path similar to Vancouver's in the years ahead.

In total, none of these sources of future electricity demand is considered in detail in BCUC's analysis.

As an added point, we would note that cancellation of Site C will stop any future investment and climate gains from upstream electrification in the natural gas and oil sector, while also complicating the situation for other BC industries looking to transition to lower carbon sources of energy. This includes LNG projects that may be developed in British Columbia. Our understanding is that one large LNG project would require all of the power from Site C to support two trains of electrified compression at the facility. As another example, Encana earlier this summer operationalized the electrification of new gas plants in the northeast that draw 200 MWH of firm power. The switch from gas fired operations reduced greenhouse gas emissions by ~ 900,000 tonnes of carbon dioxide equivalent (CO₂e) on an annual basis -- the equivalent of taking 191,000 cars off the road.¹¹ Within the upstream industry, there is further scope to dampen emissions via electrification. These kinds of transition projects in BC -- along with future electricity demand that may stem from Alberta's shift away from coal-fired power -- are overlooked in BCUC's low load forecast.

.../3

¹ We note that the Commission assumes aggressive measures by metal mining operators to reduce energy demand at peak times; we believe this assumption to be dubious.



The Honourable John Horgan

November 17, 2017

Page 3

Second, the BCUC review suggests that the power to be produced by Site C can be replaced with a portfolio of additional renewable projects that are not in existence, and which would be challenging to develop in a timely manner given the delays experienced in advancing all types of energy, industrial and infrastructure projects in BC (and Canada).

Third, the BCUC report does not consider how cancelling Site C mid-way through the construction work would impact BC's and Canada's already eroding reputation as a place to invest. Outside of the real estate sector and the advanced technology industry, BC today is viewed, globally, as an increasingly uncertain, complex and costly place to invest compared to many other jurisdictions, including the United States but also – in some industry sectors – Australia and some emerging economies. The weakness of capital spending and the paucity of greenfield investment in manufacturing and some key natural resource industries are signs of the province's diminished competitiveness. Terminating Site C is likely to compound the problem.

Lastly, the BCUC review was undertaken absent the province having adopted a new energy policy framework that the Business Council believes is urgently needed. An updated and retooled provincial energy strategy is required given the opportunities available in BC to stimulate low-carbon economic growth, advance reconciliation with Indigenous peoples, and remain in the forefront of efforts to tackle climate change. We believe BC can be a leader in supplying relatively low-carbon goods and services, including energy, to the world. A revamped provincial energy policy framework can create conditions that allow this to happen and attract new investments by companies and entrepreneurs in sectors like light tight oil and condensate, LNG, hydro, and wind as well as digital technologies, clean technology, and manufacturing.

We stand ready to work with your Ministers and senior officials in developing a renewed energy strategy for the province.

In summary, our conclusion is that BCUC's Site C review falls short of the mark in some important respects. It ignores the difficulties of developing other sources of power if Site C is terminated. It underestimates the future growth in electricity demand in a global context, where electricity is destined to play a larger role in the overall energy system. Further, the BCUC review overlooks opportunities to export BC-produced renewable energy to other provinces committed to reducing their own carbon emissions.

.../4

The Honourable John Horgan

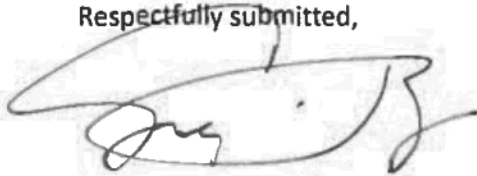
November 17, 2017

Page 4

Finally, unlike the Commission, cabinet must consider the consequences of its decision in terms of the province's reputation in capital markets and in the eyes of investors and corporate managers. Despite our size, bounty of resources, diverse pools of talent and demonstrated innovative capacity, we are at risk of squandering our riches and advantages while competitors benefit from our inaction and confused policies. The climate, reconciliation with Indigenous peoples and middle class incomes and jobs will all suffer unnecessarily if we abandon thoughtful policy approaches, innovation and foundational investment decisions.

Our prosperity will be greater and the global environment healthier if BC and Canada work together to pursue cogent and integrated climate and energy policies that leverage our strengths and keep us in the vanguard of innovation and efficient regulation.

Respectfully submitted,



Greg D'Avignon
President and CEO

Copies to:

Right Honorable Justin Trudeau; Prime Minister of Canada
Honorable James Carr; Minister, Natural Resources Canada
Honorable Catherine McKenna; Minister, Environment and Climate Change Canada
Honorable Michelle Mungall; Minister, Energy, Mines and Petroleum Resources
Honorable George Heyman; Minister, Environment & Climate Change Strategy
Honorable Dr. Andrew Weaver; Leader, Green Party of British Columbia
Mr. Don Wright; Deputy Minister to the Premier
Mr. Dave Nikolejsin; Deputy Minister; Ministry of Energy, Mines and Petroleum Resources
Ms. Bobbi Plecas; Deputy Minister, Climate Change, Ministry of Environment & Climate Change Strategy
Dr. Mark Zacharias, Deputy Minister, Environment, Ministry of Environment & Climate Change Strategy
Mr. Ken Peterson; Executive Chairman of the Board, B.C. Hydro and Power Authority

¹ City of Vancouver Energy and Emissions Forecast Oct 10, 2017

² "Greenhouse gas emissions from a typical passenger vehicle" EPA-420-F-14-040a May 2014

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Friday, November 17, 2017 7:49 AM
To: Howlett, Tim GCPE:EX
Subject: Fwd: Termination of Site C Still Best for BC: McCullough and Swain Respond to BC Government Deputy Ministers' Inquiries to BCUC Respecting Site C

FYI

Sent from my iPhone

Begin forwarded message:

From: "Nikolejsin, Dave MNGD:EX" <Dave.Nikolejsin@gov.bc.ca>
Date: November 17, 2017 at 7:00:28 AM PST
To: "Sanderson, Melissa EMPR:EX" <Melissa.Sanderson@gov.bc.ca>, "Haslam, David GCPE:EX" <David.Haslam@gov.bc.ca>, "Lloyd, Evan GCPE:EX" <Evan.Lloyd@gov.bc.ca>, "Wright, Don J. PREM:EX" <Don.J.Wright@gov.bc.ca>
Subject: Fwd: Termination of Site C Still Best for BC: McCullough and Swain Respond to BC Government Deputy Ministers' Inquiries to BCUC Respecting Site C

Dave Nikolejsin
Deputy Minister
Energy, Mines and Petroleum Resources

Begin forwarded message:

From: Ken Boon <pvla@xplornet.com>
Date: November 16, 2017 at 11:55:56 PM PST
To: <dave.nikolejsin@gov.bc.ca>
Subject: Termination of Site C Still Best for BC: McCullough and Swain Respond to BC Government Deputy Ministers' Inquiries to BCUC Respecting Site C
Reply-To: Ken Boon <pvla@xplornet.com>

November 16, 2017

[View this email in your browser](#)



*This report has been prepared by McCullough Research for the **Peace Valley Landowner Association (PVLA)** and the **Peace Valley Environment Association (PVEA)**.*

**Termination of Site C Still Best for BC:
McCullough and Swain Respond to BC Government
Deputy Ministers' Inquiries to BCUC Respecting Site C**



Date: November 16, 2017

To: Premier John Horgan,
Province of British Columbia

From: Robert McCullough and Harry Swain

Subject: Deputy Ministers' Inquiries Respecting Site C

We are writing you at the request of our clients, the Peace Valley Landowner Association and the Peace Valley Environment Association, regarding the questions raised in the attached letter dated November 15th, 2017.

At the outset, it is important to note that the British Columbia Utilities Commission's (BCUC) Site C Inquiry Report is detailed and well documented. The final report represents the careful consideration and weighing of 10,000 pages of testimony, 2 days of expert presentations, 11 public input sessions, and hundreds of pages of consultant, preliminary and final reports.

Importantly, the BCUC has taken a conservative approach in their calculations – which is good - although industry experts would take a more pessimistic view of load forecasts and cost overruns, a more optimistic view of the savings from terminating Site C, and would factor in the non-treaty storage available from the Mica Dam.

The answers to the questions raised by your Deputy Ministers are set out below.

1. Did the Commission include sunk costs (the estimated \$2.1 billion that has been spent to date on the project) and termination costs (the \$1.8 billion determined by the Commission) in comparing the costs to ratepayers of completing Site C against the costs of pursuing an alternative portfolio of generation resources?

Answer:

Yes, the existing investment for Site C (\$2.1 billion) is included in both the Site C Case and the Alternative Portfolio since these costs have been spent and cannot be recovered. Termination (reclamation) costs have been charged to the Alternative Portfolio as well.

The BCUC treatment of these costs is consistent with economic theory and practice and concludes that there is no cost advantage to proceeding with Site C. It should be noted that the treatment of sunk costs is known as the Fallacy of Sunk Costs by the newly appointed Nobel Laureate Richard Thaler. Once costs have been spent, they do not exert a “thumb on the scales” for future investment decisions.

2. In the event that government elects to terminate the Site C project, has the Commission assumed that BC Hydro would develop and finance the

than independent power producers (IPPs)?

Answer:

Not per se, but the difference between IPP and Crown Corporation should be minimal. It is a postulate of finance that the cost of capital depends on the credit support of the buyer. When an IPP approaches the financial markets, it is the quality of the Power Purchase Agreement (PPA) and the counterparty that determines the cost of capital. If the Province of British Columbia is the ultimate guarantor of the project (in this case with a Triple A credit rating), the cost of capital is virtually the same whether the Crown Corporation or an IPP builds the project.

3. Government will need to consider the total cost of potential demand side management initiatives (rather than just the utility's costs) as it considers the alternatives. Could the Commission advise how the inquiry Terms of Reference led to assessing demand side measures based on the Utility Resource Cost standard, when Total Resource Cost has been the standard for prior Commission proceedings?

Answer:

Properly designed demand side programs are also advantageous to the consumer and produce more benefits than their costs. For example, time of use rates and curtailment programs allow the consumer to correctly time their use of energy and response to system exigencies. A good example is the operation of a paper mill with thermo-mechanical pulping (TMP). The opportunity to schedule TMP for off-peak hours is a significant advantage to the paper mill. And, appropriate curtailment opportunities can be profitable for both the utility (in this case BC Hydro) and the paper mill. During the California energy crisis of 2000-2001, Northwest Power Pool industries from Trail, British

serving California loads during high price periods.

4. If the Site C project were terminated, the \$4.0 billion sunk and remediation costs would need to be recovered, and the amortization period of that recovery would affect BC Hydro rates. Could the Commission please clarify whether it assumed that that these costs would be recovered over 10, 30 or 70 years?

Answer:

The BCUC assumed that sunk costs as well as termination costs would be recovered over thirty years. This is unnecessarily conservative. Economic theory and practice does not require that recovery of a project's costs be accelerated simply because a project was terminated. Logically, the termination of the project should have the same impact on ratepayers as proceeding with the project. Penalizing ratepayers for a bad utility decision is also inequitable. If the goal is to objectively compare the options, then the same seventy-year amortization schedule that is currently in effect should be employed.

The highly accelerated recovery of sunk and reclamation costs is inappropriate – and punitive. It should be noted that forcing the public to pay in advance of already financed costs makes little economic sense. Indeed, various costs could be recovered in one year if the goal is to alarm the public. The reality is that the costs were incurred on a seventy-year amortization schedule and should remain on that schedule. To my knowledge, based on almost 40 years of experience in this area, there is no overwhelming legal or economic purpose to raise rates immediately.

5. We are unaware of prior instances when anything other than BC Hydro's mid-load forecast has been used for planning purposes. Did the

load forecast used in the report) because it is forecasting a period of lower economic growth? Does the Commission include in its load forecast the potential increased electrical power demand of meeting the province's stated objectives to reduce greenhouse gas emissions through greater electrification of our economy?

Answer:

BC Hydro's submissions contradict the experience of lower load growth experienced across the U.S. and Canada. BC Hydro was unable to justify their forecast, or, indeed, accurately explain the components that contributed to their high estimates. The record at the BCUC clearly proves that BC Hydro has over forecasted in virtually every case for many years.

In part, this reflects the decline of traditional industries like pulp and paper, but a more extensive impact is the shift to LED lighting and other energy efficiency measures.

Over more than half a century, for 77% of the time, BC Hydro's forecasts have overstated reality. BCUC might have chosen a lower forecast than the BC Hydro low forecast had their terms of reference allowed. They have a better grasp of industrial evolution, and of price elasticity, than BC Hydro. The fact is that the old one-to-one relation of economic growth to electricity demand has been broken for 20 years all over North America. BC Hydro has just been slow to realize this.

The BCUC clearly weighed all the evidence before it and concluded that in these circumstances the low load forecast is the appropriate forecast. Importantly, the BCUC noted that if it were not outside the terms of reference it would likely/may have found that an even lower load forecast would be appropriate. It is important to remember that Deloitte found that BC Hydro

BC Hydro has not addressed the issue of increased electrification in its submissions, nor did the mandate in the Order in Council directly address this scenario.

That said, there were expert submissions on this topic that indicated that the most important components of electrification – transportation – occur off-peak. The evidence is based on solid research from California and New York where electrification programs are more advanced.

The BCUC noted that increased DSM, consumer self help such as solar panels on houses, coupled with the decline in electricity demand in heritage industries like pulp and paper will very likely offset any increase in electrification demand.

In the event the actual level of demand exceeds the forecast, the alternative scenario utilizing renewables including wind can be expanded – resources that are largely unlimited in scope, low in cost, and readily deployable in response to increased demand.

Northwest Power Pool utilities (Washington, Oregon, Idaho, and Montana) in the United States currently have ten times the wind resources as British Columbia with more being sited and built every day. Most all forecasts suggest the cost of these resources will continue to decrease making the cost of Site C power even less competitive.

Finally, I was disappointed that the questions missed the most important finding of the BCUC – that the Canadian Entitlement – roughly the same size as Site C – is a dependable source of energy and capacity. Moreover, that the authors appeared to have missed the opportunity that I identified – and was positively received by the BCUC and the press – to use the large underutilized resource of the Non-Treaty Storage Agreement to serve the citizens of British Columbia

Conclusion:

I trust this memorandum provides helpful information and analysis that complements the information and analysis you receive from the BCUC. If you have any questions regarding the accuracy or applicability of the above commentary, please do not hesitate to contact me.

Please note that Harry Swain, former Chair of the Federal/Provincial Panel on Site C has reviewed and concurs with the above observations and analysis.

Yours,

A handwritten signature in black ink, appearing to read 'RM', with a long horizontal flourish extending to the right.

Robert McCullough

CC BCUC
BC Government MLAs

Click the image below to download the response in full:

McCULLOUGH RESEARCH

ROBERT F. McCULLOUGH, JR.
PRINCIPAL

Date: November 16, 2017
To: Premier John Horgan
Government of British Columbia
From: Robert McCullough and Harry Swain
Subject: Deputy Ministers' Inquiries Respecting Site C

We are writing you at the request of our clients, the Peace Valley Landowner Association and the Peace Valley Environment Association, regarding the questions raised in the attached letter dated November 15th, 2017.

At the outset, it is important to note that the British Columbia Utilities Commission's (BCUC) Site C Inquiry Report is detailed and well documented. The final report represents the careful consideration and weighing of 10,000 pages of testimony, 2 days of expert presentations, 11 public input sessions, and hundreds of pages of consultant, preliminary and final reports.

Importantly, the BCUC has taken a conservative approach in their calculations – which is good – although industry experts would take a more pessimistic view of load forecasts and cost overruns, a more optimistic view of the savings from terminating Site C, and would factor in the non-treaty storage available from the Mica Dam.

The answers to the questions raised by your Deputy Ministers are set out below.

- I. Did the Commission include sunk costs (the estimated \$2.1 billion that has been spent to date on the project) and termination costs (the \$1.8 billion determined by the Commission) in comparing the costs to ratepayers of completing Site C against the costs of pursuing an alternative portfolio of generation resources?

Answer:

Yes, the existing investment for Site C (\$2.1 billion) is included in both the Site C Case and the Alternative Portfolio since these costs have been spent and cannot be recovered. Termination (reclamation) costs have been charged to the Alternative Portfolio as well.

6023 RIED COLLEGE PLACE • PORTLAND • OREGON • 97202 • 503-777-4686 • ROBERT@MRESEARCH.COM

Robert McCullough is Principal of McCullough Research in Portland, OR, and for over thirty-seven years has advised governments, utilities, and aboriginal groups on energy, metals, paper, and chemical issues. He has testified repeatedly in state, federal, and provincial courts as well as before Congress and regulatory bodies. His testimony in front of the Senate Energy Committee is credited with initiating the Enron trading investigations during which he worked for the U.S. Department of Justice and three western attorney generals. He has consulted for U.S. and Canadian clients on hydroelectric issues in many states and provinces, including on many occasions, presenting on issues before Canadian regulators.

Harry Swain chaired the federal-provincial review of the Site C project in 2013-14. Earlier, he was the federal Deputy Minister of Indian Affairs and later Industry in the period 1987-96. He was a postdoc at Cambridge, taught economic geography at Toronto and UBC, and was a project leader at the International Institute for Applied Systems Analysis, Laxenburg, Austria. On rejoining the federal public service in 1976, he worked in energy policy (renewables, nuclear) and regional development, and for seven years worked in the federal cabinet secretariat. In 1996 he left the federal public service to become a director of Hambros Bank Ltd (London) and CEO of its Canadian subsidiary, working principally in project finance. He retired to Victoria in 2005.

For more information, including all past reports go
to www.peacevalleyland.com/sitecinquiry.

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MailChimp

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Thursday, November 16, 2017 6:30 PM
To: Howlett, Tim GCPE:EX
Subject: Fwd: Bch letter to bcuc
Attachments: FILE_9227.pdf; ATT00001.htm

Sent from my iPhone

Begin forwarded message:

From: "Haslam, David GCPE:EX" <David.Haslam@gov.bc.ca>
Date: November 16, 2017 at 6:29:44 PM PST
To: "Sanderson, Melissa EMPR:EX" <Melissa.Sanderson@gov.bc.ca>, "McNish, James EMPR:EX" <James.McNish@gov.bc.ca>, "Nikolejsin, Dave MNGD:EX" <Dave.Nikolejsin@gov.bc.ca>, "MacLaren, Les EMPR:EX" <Les.MacLaren@gov.bc.ca>, "Beaupre, Darren GCPE:EX" <Darren.Beaupre@gov.bc.ca>, "Grewar, Colin GCPE:EX" <Colin.Grewar@gov.bc.ca>, "Sovka, David GCPE:EX" <David.Sovka@gov.bc.ca>
Subject: Bch letter to bcuc

Melissa. As discussed attached is bch letter to bcuc. This was reviewed by Les yesterday. Bch made minor edit to the intro. Otherwise same. You'll recall bch had a verbal discussion about their concerns and said they would follow up with a more detailed letter. The verbal concerns generated an errata letter and bcuc requested bch letter soonest so bch sent late this afternoon.

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Thursday, November 16, 2017 6:09 PM
To: Lloyd, Evan GCPE:EX; Gibbs, Robb GCPE:EX; Kristianson, Eric GCPE:EX; Zadavec, Don GCPE:EX; Haslam, David GCPE:EX; Howlett, Tim GCPE:EX
Cc: MacLaren, Les EMPR:EX; Nikolejsin, Dave MNGD:EX
Subject: FW: BCUC Site C Inquiry - Errata to Final Report
Attachments: 11-16-2017_A-26 Site C Report Errata.pdf; A-26-1_Appendix-C_Commission-Illustrative-Alternative-Portfolio.xlsx

Hi everyone,

We received an errata today in our general Minister email box from the BCUC.

Thanks,

Melissa

From: Commission Secretary BCUC:EX
Sent: Thursday, November 16, 2017 4:42 PM
To: Minister, EMPR EMPR:EX
Subject: BCUC Site C Inquiry - Errata to Final Report

Dear Minister,

Please see attached correspondence with respect to the above-noted matter.

Original will not follow. A hard copy of the attached is available upon request. Please call the BCUC Regulatory Services at 604-660-4700 to request a copy.

Regards,

Katie Berezan

Administrative Assistant, Regulatory Services

British Columbia Utilities Commission

P: 604.660.4700 **BC Toll Free:** 1.800.663.1385 **F:** 604.660.1102

bcuc.com

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Howlett, Tim GCPE:EX

From: Haslam, David GCPE:EX
Sent: Thursday, November 16, 2017 3:09 PM
To: Sanderson, Melissa EMPR:EX; McNish, James EMPR:EX
Cc: Zadavec, Don GCPE:EX; Howlett, Tim GCPE:EX; Grewar, Colin GCPE:EX; Beaupre, Darren GCPE:EX; Sovka, David GCPE:EX; Giles, Alison GCPE:EX; Currie, David GCPE:EX
Subject: Media Requet_CTV_Letter to BCUC

Melissa – Bhinder approached Finance GCPE for a clip of MCJ. She's unavailable. As is MMM. Bhinder will accept a statement from MMM via email. She may seek a minister on camera tomorrow but that's to be confirmed depending on availability. Recommended messaging is pre-approved.

Reporter

Bhinder Sajan, Reporter

Deadline Thursday, November 16, 2017 4:00 PM

Request

Is a minister available for a clip on the joint letter sent to BCUC re Site C?

Recommendation

- The current uncertainty and division over the Site C project is a direct result of the previous government's irresponsible decision to start construction without proper regulatory oversight.
- It fell to our government to correct that oversight and send the project to the BCUC for review.
- We are now considering the BCUC's final report and other issues as we work towards a final decision on completing or terminating the project that will keep rates affordable for B.C. families and businesses in the long-term.
- We are taking time and care in our decision-making process to ensure the data and analysis we are relying upon is accurate, and that we have a clear understanding of the impacts on ratepayers associated with completing the project or cancelling it.
- That includes working with the Ministry of Finance to conduct an intense economic review of the project over the next few weeks.
- Government has asked the BCUC to clarify some elements of its final report on the Site C project delivered November 1, 2017.
- Our request to the BCUC is part of our due diligence as we work towards a final decision on Site C that will keep rates affordable for B.C. families and businesses in the long term.
- In the report the BCUC assesses a large amount of complex data and analysis and we want to make sure we fully understand the Commission's assumptions and calculations.
- Additionally, as part of our decision-making process the Ministry of Finance will be undertaking a financial analysis of BCUC report, including the implications for and risks to the fiscal plan in the event the project is continued or terminated.

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Thursday, November 16, 2017 2:01 PM
To: Howlett, Tim GCPE:EX
Subject: FW: Site C
Attachments: BCUC review questions.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

From: Sanford, Donna L GCPE:EX
Sent: Wednesday, November 15, 2017 3:15 PM
To: Sanderson, Melissa EMPR:EX
Subject: Site C

Howlett, Tim GCPE:EX

From: Haslam, David GCPE:EX
Sent: Wednesday, November 15, 2017 3:44 PM
To: Zadavec, Don GCPE:EX; Lloyd, Evan GCPE:EX; Gibbs, Robb GCPE:EX; Kristianson, Eric GCPE:EX; Sanderson, Melissa EMPR:EX; Howlett, Tim GCPE:EX
Cc: MacLaren, Les EMPR:EX; Nikolejsin, Dave MNGD:EX
Subject: FW: IN_Allied Hydro Council Report on BCUC Review_15 Nov_2017_V3
Attachments: IN_Allied Hydro Council Report on BCUC Review_15 Nov_2017_V3.docx

All – attached is our IN on the Allied Hydro Council Report. We have one media request seeking comment – GM reporter Sunny Dhillon. See below recommended response – discussed with Don. His deadline is 345. We can probably buy a another 15 minutes or so:

- We just received the Allied Hydro Council of BC's report on the BCUC's review of the Site C project.
- The Allied Hydro Council's report clearly indicates a high level of interest in the government's decision on the Site C project.
- Government will review all the information available to make the best decision in the interests of British Columbians and ratepayers.

Good afternoon. Sunny Dhillon with the Globe.

I'm heading to a news conference at which the Allied Hydro Council of BC is expected to say the BCUC report on Site C was fundamentally flawed and the project should proceed.

Will the minister be offering a response today?

Please let me know.

Thank you.



Sunny Dhillon | Reporter

p: 604-631-6619 (o), 604-349-2593 (m)

e: sdhillon@globeandmail.com | t: @TheSunnyDhillon

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Wednesday, November 15, 2017 3:21 PM
To: Lloyd, Evan GCPE:EX; Gibbs, Robb GCPE:EX; Kristianson, Eric GCPE:EX; Zadravec, Don GCPE:EX; Haslam, David GCPE:EX; Sanderson, Melissa EMPR:EX; Howlett, Tim GCPE:EX
Cc: MacLaren, Les EMPR:EX; Nikolejsin, Dave MNGD:EX
Subject: FW: BCUC Site C Inquiry - Errata to Final Report
Attachments: 11-15-2017_Site C Report Errata.pdf

Hi all,

This just arrived in our Ministers general email box. I spoke with Viki at BCUC who called me. They will publish this on their site, however most likely next week due to the announcement today.

Please call if you have any questions.

Melissa

From: Commission Secretary BCUC:EX
Sent: Wednesday, November 15, 2017 1:46 PM
To: Minister, EMPR EMPR:EX
Subject: BCUC Site C Inquiry - Errata to Final Report

Dear Minister,

Please see attached correspondence with respect to the above-noted matter.

Original will not follow. A hard copy of the attached is available upon request.
Please call the BCUC Regulatory Services at 604-660-4700 to request a copy.

Regards,

Katie Berezan
Administrative Assistant, Regulatory Services

British Columbia Utilities Commission
P: 604.660.4700 **BC Toll Free:** 1.800.663.1385 **F:** 604.660.1102
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Howlett, Tim GCPE:EX

From: Aaron, Sage PREM:EX
Sent: Wednesday, November 15, 2017 12:21 PM
To: Meggs, Geoff PREM:EX; Zadravec, Don GCPE:EX; Sanderson, Melissa EMPR:EX; McNish, James EMPR:EX; Haslam, David GCPE:EX
Cc: Hannah, Matt GCPE:EX; Howlett, Tim GCPE:EX
Subject: report & NR

BC Building Trades report and news release:

<http://www.bcbuildingtrades.org/node/434>

Sage Aaron, Communications Director
Office of the Premier | Government of BC
501 Belleville St, Victoria, BC V8V 2L8 | 778-678-0832

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Friday, November 3, 2017 1:54 PM
To: Haslam, David GCPE:EX; Howlett, Tim GCPE:EX
Subject: Fwd: Rustad pans BCUC Site C report

Sent from my iPhone

Begin forwarded message:

From: "McNish, James EMPR:EX" <James.McNish@gov.bc.ca>
Date: November 3, 2017 at 1:01:13 PM PDT
To: "Haslam, David GCPE:EX" <David.Haslam@gov.bc.ca>, "Sanderson, Melissa EMPR:EX" <Melissa.Sanderson@gov.bc.ca>
Subject: Fwd: Rustad pans BCUC Site C report

Sent from my iPhone

Begin forwarded message:

From: "Dean, Jeff LASS:EX" <Jeff.Dean@leg.bc.ca>
Date: November 3, 2017 at 12:59:58 PM PDT
To: "McNish, James EMPR:EX" <James.McNish@gov.bc.ca>
Subject: Rustad pans BCUC Site C report

Rustad pans BCUC Site C report ⁴

This entry was posted on [November 3, 2017](#) by [admin](#)

Nechako Lake MLA John Rustad says Wednesday's British Columbia Utilities Commission report on the Site C dam project was biased from the very beginning.

"The BCUC report was biased by the NDP through their Order in Council," he posted on his Facebook page. "They forced BCUC to accept BC Hydro's minimum estimate on future power use. The report also talks about amortizing the cost of ending Site C. Sorry, but you have to have an asset to amortize the cost. It would be nothing more than a debt that needs to be replayed by consumers or tax payers."

The commission panel determined "BC Hydro's mid-load forecast to be excessively optimistic and considers it more appropriate to use the low-load forecast," regarding the province's future energy needs. "In addition, the panel is of the view that there are risks that could result in demand being less than the low case."

Rustad countered that if B.C. residents want to move away from internal combustion engines, just one-third of passenger vehicles using electricity would use more than 100 per cent of Site C's production.

Rustad said cancelling Site C would result in a "\$4 billion write off with nothing to show for it." The commission determined that cancelling the project would cost \$1.8 billion, on top of the \$2 billion already spent.

The commission determined that should Site C continue, the project will likely cost more than \$10 billion, which is significantly more than the \$8.3 billion originally announced. In addition, the commission found the project will likely not be completed on time.

Rustad blames the NDP for both findings.

"First, the NDP's delay this year cost the project about \$610 million and delayed the project by a year because they forced BCHydro to miss this year's construction windows," Rustad posted. "The other estimates cost overruns are just that, a possibility that may not happen."

He added the BCUC report does not appear to factor in the write off to the cost of alternatives, claiming that wind or other options would need to be replaced four or more times over the life of Site C, which does not seem to be factored in, including inflation.

"So many apparent holes in the BCUC report," he said. "This seems more and more like a scam produced by the NDP to meet their political goal at the expense of tax payers in BC. This would be comical if it wasn't such a tragedy."

Rustad was a cabinet minister in the previous Liberal government which refused to submit the Site C dam project to an independent review by the utilities commission, which previously was standard in projects such as this.

Jeff Dean | Research and Communications Officer | New Democrat BC Government Caucus
P: 250.356.7656 | C: 250-220-0543 | jeff.dean@leg.bc.ca | www.bcndpcaucus.ca



Follow John Horgan on [Facebook](#) | [Twitter](#) | [Instagram](#)
[Subscribe](#) to John's weekly e-newsletter

From: Haslam, David GCPE:EX
Sent: Tuesday, October 31, 2017 1:33 PM
To: Sanderson, Melissa EMPR:EX; McNish, James EMPR:EX
Cc: Zadravec, Don GCPE:EX; Howlett, Tim GCPE:EX; MacLaren, Les EMPR:EX; Beaupre, Darren GCPE:EX; Grewar, Colin GCPE:EX; Piccinino, Ines MNGD:EX
Subject: FW: Amnesty International Media Advisory

fyi

Media Advisory: Site C Dam Decision Must be Consistent with Government Commitment to Indigenous Rights

MEDIA ADVISORIES
OCTOBER 31, 2017

As Horgan Government Weighs Fate of the Megaproject, Treaty 8 Indigenous First Nations, Human Rights and Environmental Groups Bring a Message That Canadians and the World Expect BC to Keep Its Promise to Uphold Indigenous Rights

At 1:00 p.m. on November 2nd, representatives from Treaty 8 First Nations, human rights and environmental groups will present a literal “boat load” of petitions, postcards and solidarity messages urging the Provincial Government to protect the Peace River Valley. Across the country, more than 120,000 people have called for a halt to construction of the Site C dam. Their voices are joined by tens of thousands of solidarity messages from around the world.

The megaproject would flood more 100 km stretch of the Peace River Valley and its tributaries. If construction proceeds, Treaty 8 First Nations would lose hunting grounds, burial sites and other areas vitally significant to their culture, heritage and sustenance.

The BC Utilities Commission review of the economic case for and against the Site C dam will conclude on November 1 with the delivery of its final report to government. While the report findings will test the unsubstantiated economic justifications for the megaproject in northeast BC, the government’s final decision must respect the rights of Indigenous peoples as set out by Treaty, the Canadian Constitution and international human rights law.

WHO: Speaking at the media event will be:

- Chief Lynette Tsakoza, Prophet River First Nation
- Chief Roland Willson, West Moberly First Nations

- Grand Chief Stewart Phillip, Union of BC Indian Chiefs
- Craig Benjamin, Amnesty International
- Galen Armstrong, Sierra Club BC

WHAT: Press Conference and Photo Opportunity

WHEN: November 2, 2017, from 13:00 to 13:30

WHERE: Steps of the BC Legislature, 501 Belleville St, Victoria, BC

Contact: Jacob Kuehn, Press Officer, Amnesty International; (w) +1 613 744 7667 x 236; (c) +1 613 853 2142; jkuehn@amnesty.ca

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Howlett, Tim GCPE:EX

From: Sas, Jonathan IRR:EX
Sent: Tuesday, December 12, 2017 1:42 PM
To: Howlett, Tim GCPE:EX
Cc: MacDonald, Alex GCPE:EX
Subject: important

Hey Tim, Alex,

MSF would like to put this out as MLA. I'd like to avoid the vortex of approvals. Can you flag if it is violating any Cab confidence?

"I know that the recent decision on Site C will be extremely upsetting for many people across this province. This government shares your grief and disappointment. This is a decision that we did not come by lightly. It came with many sleepless nights, and is the toughest I've had to make in my political life.

I want to start by acknowledging that in the weeks and months leading up to this decision, my community office received many calls, emails and letters about this project. I want to thank everyone who took the time to reach out for their commitment and for speaking out on their principles. s.12,s.13

s.12,s.13

I want to acknowledge, as Minister of Indigenous Relations and Reconciliation, how painful the decision is for many Indigenous people, for some of the impacted Treaty 8 First Nations, and for every citizen fighting for Indigenous rights. I know many friends, leaders and colleagues I've made over many years are disappointed. I want to tell you I hear your frustrations. Site C's impact on Treaty rights were prominent in the poignant testimonials I heard in our government to government meetings with the Treaty 8 Nations last month. s.12,s.13

I want to be clear that our government is not backing away from our commitment to implement the United Nations Declaration on the Rights of Indigenous Peoples. I know that actions, not words, are the only thing that will matter. I look forward to demonstrating concrete progress on this foundational commitment for this government. On Site C, we will continue our government to government relationship with the affected Nations and will work in good faith, beyond mere legal obligations, to find the best possible solutions to the Site C impacts.

The BC Liberals drove this project forward – without independent BCUC review and without a solid budget – to meet political deadlines and make it impossible to reverse. We cannot change the previous government's mistakes – we can only make the best decision for the future. This decision wasn't about votes, donations, or memberships. In the end we could not afford to cancel the project. We chose the best path forward to fund needed investments for First Nations, for housing, and for child care, transit, and poverty alleviation.

Jonathan Sas | Senior Ministerial Assistant | Ministry of Indigenous Relations and Reconciliation | 778 587 4376

Howlett, Tim GCPE:EX

From: Hannah, Matt GCPE:EX
Sent: Tuesday, December 12, 2017 1:13 PM
To: Howlett, Tim GCPE:EX
Subject: FW: Site C Afternoon Media Report - Tuesday, December 12, 2017
Attachments: analysis.gif; analysis.gif; analysis.gif; analysis.gif

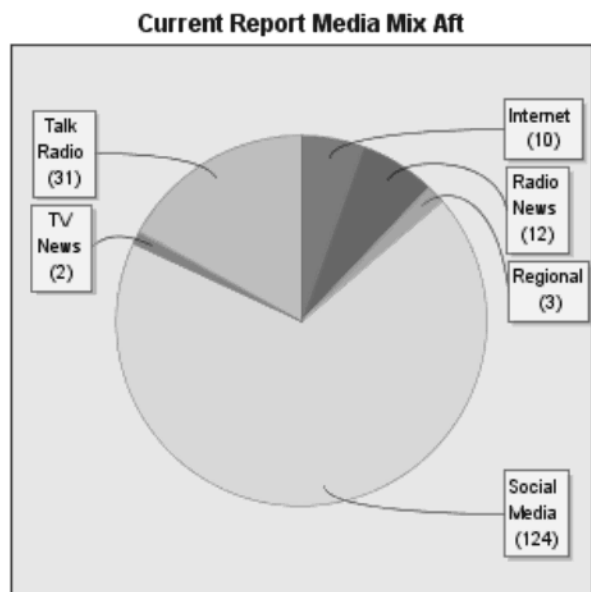
From: Scott.Ryckman@gov.bc.ca [mailto:Scott.Ryckman@gov.bc.ca]
Sent: Tuesday, December 12, 2017 12:31 PM
To: Plecas, Bobbi ENV:EX; Eric.Kristianson@leg.bc.ca; Lloyd, Evan GCPE:EX; Mihlar, Fazil JTT:EX; Nikolejsin, Dave MNGD:EX; Crebo, David GCPE:EX; Haslam, David GCPE:EX; Wright, Don J. PREM:EX; Zadravec, Don GCPE:EX; Caul, Doug D IRR:EX; Foster, Doug FIN:EX; Meggs, Geoff PREM:EX; Holmwood, Jen PREM:EX; Hardin, Karl GCPE:EX; Rowe, Katherine EMPR:EX; MacLaren, Les EMPR:EX; Wanamaker, Lori FIN:EX; Hannah, Matt GCPE:EX; Sanderson, Melissa EMPR:EX; Lowe, Mike GCPE:EX; Oreck, Mira PREM:EX; Wieringa, Paul EMPR:EX; Gibbs, Robb GCPE:EX; Aaron, Sage PREM:EX; Christensen, Suzanne PREM:EX
Cc: Ryckman, Scott GCPE:EX
Subject: Site C Afternoon Media Report - Tuesday, December 12, 2017

Today's News Online - Site C Afternoon Media Report

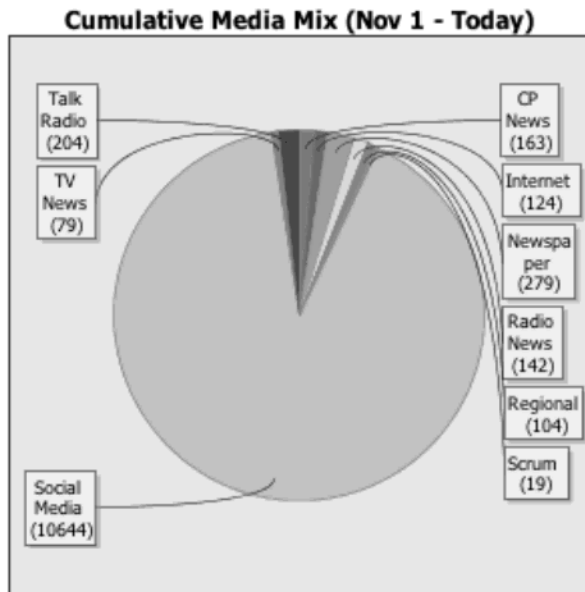
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Tuesday, December 12, 2017

Media Analysis

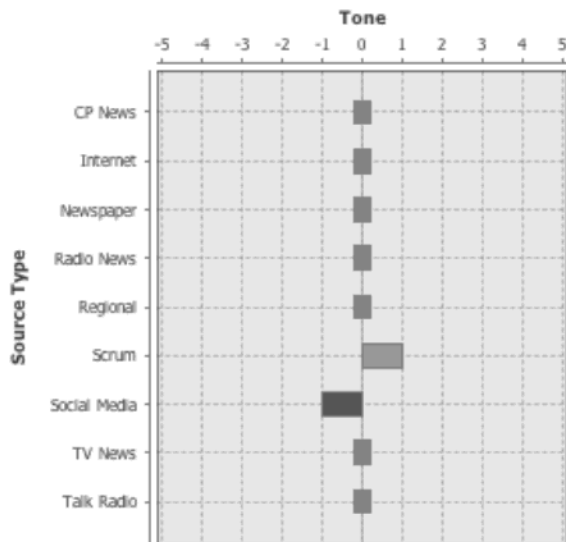


[\[download image\]](#) [\[download numbers\]](#)



[\[download image\]](#) [\[download numbers\]](#)

Cumulative Tone (Nov 1 - Today) Aggregate



[\[download image\]](#) [\[download numbers\]](#)

Cumulative Tone Analysis (2017-11-01 to 2017-12-12)

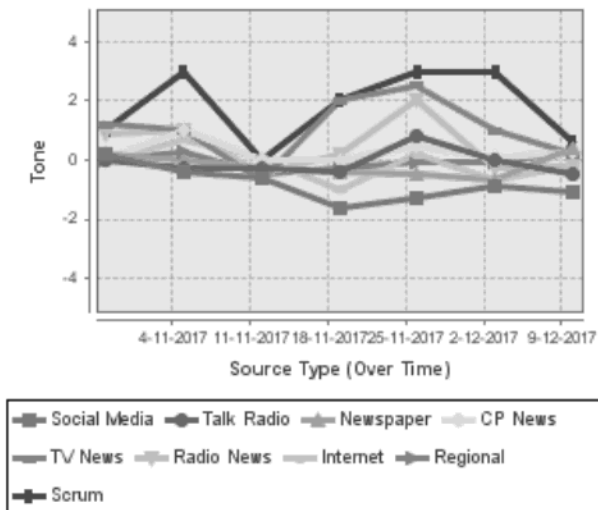


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- [Anderson pleased with NDP - Castanet - Castanet - 12-Dec-2017](#)
- [BIV on Roundhouse December 12: Site C 'simply was not the most economic choice' - BiV - 12-Dec-2017](#)
- [Breaking Bad: The Pathology of Site C - Andrew Nikiforuk - The Tyee - 12-Dec-2017](#)
- [British Columbians could pay huge price in wake of premier's decision to complete Site C dam - Charlie Smith - The Georgia Straight - 12-Dec-2017](#)
- [Green Leader Andrew Weaver claims NDP Site C decision made months ago - Global News: BC 1 \(Vancouver\) - 12-Dec-2017](#)
- [No Magic Solution: Horgan on Approving Site C - Andrew MacLeod - The Tyee - 12-Dec-2017](#)
- [Province to continue building Site C dam - Ming Pao News \(Western edition\) - 12-Dec-2017](#)
- [Site C construction to continue, \\$2.4 billion over budget, Horgan: difficult decision - Sing Tao Daily \(Western edition\) - 12-Dec-2017](#)
- [Site C: What Happens Next? - Zoë Ducklow - The Tyee - 12-Dec-2017](#)
- [The Drilldown: Construction of Site C dam to continue - iPolitics - iPolitics - 12-Dec-2017](#)
- **Social Media**
- [Approving Site C WAS avoidable - Allegra Kelly - Social Media - 12-Dec-2017](#)
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- [Approving Site C WAS avoidable - Trevor Parsons - Social Media - 12-Dec-2017](#)
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- [Big Business & Big Unions are in bed together - Lee Orr - Social Media - 12-Dec-2017](#)
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- [Breaking Bad: The Pathology of Site C - Norm Prince - Social Media - 12-Dec-2017](#)
- [Completely disgusted by Horgan - Carl Bahnmler - Social Media - 12-Dec-2017](#)
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- [Disappointing how many trashing Horgan - Highkey Trans Communist Martha Stewart / - Social Media - 12-Dec-2017](#)
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- [Does BC need Site C? - The Georgia Straight - Social Media - 12-Dec-2017](#)
- [FN leader slams NDP Site C decision - Mark Worthing - Social Media - 12-Dec-2017](#)
- [FN legal action about Site C decision - deBeauxOs - Social Media - 12-Dec-2017](#)
- [First Nations launch legal action - Emma Lui - Social Media - 12-Dec-2017](#)
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- [Fuming about Site C decision - WestCoastCool - Social Media - 12-Dec-2017](#)
- [Horgan's decision making process - Sierra Steele - Social Media - 12-Dec-2017](#)
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- [NDP fails first test - Brian Stedman - Social Media - 12-Dec-2017](#)
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- [Site C against FN wishes - Kaylee Juniper - Social Media - 12-Dec-2017](#)
- [Site C an unforgivable decision - Haida Gwaii CoASt - Social Media - 12-Dec-2017](#)
- [Site C approval disregards FN - John Richmond <9 - Social Media - 12-Dec-2017](#)
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- [Site C decision driven by debt-for-nothing - Resource Works - Social Media - 12-Dec-2017](#)
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- [Treaty 8 vowing to fight in court - Bev Jacobs - Social Media - 12-Dec-2017](#)
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- [Weaver - Horgan told Ackerman Site C is a done deal - CKNW - Social Media - 12-Dec-2017](#) |
- [Weaver on NW - Ben Dooley - Social Media - 12-Dec-2017](#) |
- [Weaver on NW - Cindy Xiu - Social Media - 12-Dec-2017](#) |
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- [Why public is so cynical about politicians - Arctic Red - Social Media - 12-Dec-2017](#) |
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B.C. Conservatives applaud Site C decision

Abbotsford News

Tuesday, December 12, 2017



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B.C. Conservatives applaud Site C decision

Vernon Morning Star

Tuesday, December 12, 2017

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MLA Shypitka not surprised by Site C decision

Cranbrook Daily Townsman

Tuesday, December 12, 2017

By Trevor Crawley

 -2

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Harcourt - Site C approval

Page 305 to/à Page 387

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Howlett, Tim GCPE:EX

From: Spilker, Robyn FIN:EX
Sent: Tuesday, December 12, 2017 10:49 AM
To: Howlett, Tim GCPE:EX
Subject: RE: CKNW: Weaver/Ackerman/Harcourt - Site C approval ■

Thanks Tim!

Robyn Spilker
Senior Ministerial Assistant
Minister of Finance and Deputy Premier
250-952-7627

From: Howlett, Tim GCPE:EX
Sent: Tuesday, December 12, 2017 9:52 AM
To: Currie, David GCPE:EX; Spilker, Robyn FIN:EX; Gillezeau, Rob FIN:EX
Subject: RE: CKNW: Weaver/Ackerman/Harcourt - Site C approval ■

s.13

From: Currie, David GCPE:EX
Sent: Tuesday, December 12, 2017 9:36 AM
To: Spilker, Robyn FIN:EX; Howlett, Tim GCPE:EX; Gillezeau, Rob FIN:EX
Subject: Re: CKNW: Weaver/Ackerman/Harcourt - Site C approval ■

s.13

----- Original message -----

From: "Spilker, Robyn FIN:EX" <Robyn.Spilker@gov.bc.ca>

Date: 2017-12-12 9:00 AM (GMT-08:00)

To: "Howlett, Tim GCPE:EX" <Tim.Howlett@gov.bc.ca>, "Currie, David GCPE:EX" <David.Currie@gov.bc.ca>, "Gillezeau, Rob FIN:EX" <Rob.Gillezeau@gov.bc.ca>

Subject: FW: CKNW: Weaver/Ackerman/Harcourt - Site C approval ■

s.13

Robyn Spilker

Senior Ministerial Assistant

Minister of Finance and Deputy Premier

250-952-7627

From: tno@gov.bc.ca [<mailto:tno@gov.bc.ca>]

Sent: Tuesday, December 12, 2017 8:57 AM

Subject: CKNW: Weaver/Ackerman/Harcourt - Site C approval ■

CKNW (Vancouver)

12-Dec-2017 08:30

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Howlett, Tim GCPE:EX

From: Aaron, Sage PREM:EX
Sent: Tuesday, December 12, 2017 10:10 AM
To: Howlett, Tim GCPE:EX; Hannah, Matt GCPE:EX; Holmwood, Jen PREM:EX
Subject: RE: FN lines

Hi Tim,
This looks good to me – flipping to Geoff and Don Wright.

Sage
778-678-0832

From: Howlett, Tim GCPE:EX
Sent: Tuesday, December 12, 2017 10:00 AM
To: Hannah, Matt GCPE:EX; Aaron, Sage PREM:EX; Holmwood, Jen PREM:EX
Subject: FN lines

Updated lines

s.13,s.16

Tim Howlett
Issues Manager
Strategic Issues Division, GCPE
250.208.4828

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Tuesday, December 12, 2017 8:49 AM
To: Howlett, Tim GCPE:EX
Subject: Fwd: CKNW: Ackerman - Site C approval ■

Sent from my iPhone

Begin forwarded message:

From: <tno@gov.bc.ca>
Date: December 12, 2017 at 8:43:37 AM PST
To: Undisclosed recipients;;
Subject: CKNW: Ackerman - Site C approval ■

CKNW (Vancouver)
CKNW Jon McComb
12-Dec-2017 08:20

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Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Tuesday, December 12, 2017 8:28 AM
To: Oreck, Mira PREM:EX; Howlett, Tim GCPE:EX
Subject: Fwd: CKNW: Ackerman - Site C approval

Sent from my iPhone

Begin forwarded message:

From: <tno@gov.bc.ca>
Date: December 12, 2017 at 8:27:34 AM PST
To: Undisclosed recipients;;
Subject: CKNW: Ackerman - Site C approval

CKNW (Vancouver)
CKNW Jon McComb
12-Dec-2017 08:20
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Howlett, Tim GCPE:EX

From: noreply.newsondemand@gov.bc.ca
Sent: Thursday, November 23, 2017 11:16 AM
To: Howlett, Tim GCPE:EX
Subject: BC Gov News - Experts invited to present to cabinet on Site C



Experts invited to present to cabinet on Site C

As part of the provincial cabinet's deliberations on the Site C hydroelectric project, Don Wright, deputy minister to Premier John Horgan, has invited an expert advisory panel to provide its views on Site C and the BC Utilities Commission's final report.

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**MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES
ELECTRICITY AND ALTERNATIVE ENERGY DIVISION
ESTIMATES NOTE 2017**

ISSUE: BC Utilities Commission's Site C Review

KEY MESSAGES:

s.13,s.17

BACKGROUND:

- On August 2, 2017, government directed the BCUC to undertake a review of BC Hydro's Site C Clean Energy Project (the Site C Inquiry).
- Specifically, BCUC was asked to:
 - Confirm whether or not BC Hydro is on target to complete Site C on time and on budget;
 - Provide advice on implications for ratepayers associated with:
 - Proceeding with the project;
 - Suspending the project, while maintaining the option to resume construction until 2024; and
 - Terminating the project, remediating the site and proceeding with other resource portfolios that provide the same level of benefits at the same or lower costs as Site C.
 - Use BC Hydro's July 2016 load forecast, with updates on developments expected to impact demand as provided by BC Hydro, as a basis for making its determinations on ratepayer implications.

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s.13;s.17

**MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES
ELECTRICITY AND ALTERNATIVE ENERGY DIVISION
ESTIMATES NOTE 2017**

ISSUE: 10-Year Rates Plan and Rates Freeze

KEY MESSAGES:

s.13,s.17

BACKGROUND:

- Electricity rate increases are required to fund investments in aging and new infrastructure that BC Hydro must make to ensure reliable supply and meet British Columbia's expanding energy needs;
- In 2011, BC Hydro applied for a 32.1 percent rate increase over three years. The rates proceeding was suspended to allow for a Deputy Ministers' Review, which made recommendations to reduce BC Hydro costs;
- In 2013, a Rates Working Group was formed to implement the longer-range policy recommendations from the Review, and set out a plan for BC Hydro;
- The Plan required that Government set rates for Fiscal 2014/15 and 2015/16 (9 percent and 6 percent rate increases, respectively), and place caps on rate increases for Fiscal 2016/17, 2017/18, and 2018/19 (4 percent, 3.5 percent and 3 percent). It spreads the rate impacts of large capital investments out over a longer period, while containing costs and gradually reducing BC Hydro's forecast contributions and dividends to Government;
- Direction No. 6 and No.7 to the BCUC and an amendment to Heritage Special Directive No. HC1 were deposited March 2014, enabling the commitments announced in the Plan;
- BC Hydro submitted a three-year revenue requirements application to the BCUC in July 2016;
- Consistent with its new Mandate Letter, BC Hydro amended its application on November 8, 2017 asking for a 0% rate increase in fiscal 2019 rather than the previously requested 3%.
- The *Clean Energy Act* requires BC Hydro to produce an annual rate comparison report;
- Currently, BC Hydro uses a Hydro Quebec report called "Comparison of Electricity Prices in Major North American Cities" to compile its rate comparison report findings;
- BC Hydro completed its ninth annual rate comparison report in November 2016; and
- On average, and in comparison with 21 other jurisdictions depending on consumption level, BC Hydro residential customers paid the fifth lowest rates, commercial customers paid the fifth lowest rates, while the industrial customers paid the seventh lowest rates.

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Friday, November 17, 2017 8:04 PM
To: Howlett, Tim GCPE:EX
Subject: Fwd: RUSH: Estimates binder PO updates
Attachments: 12A - BCUC Site C Review (Dias and Rowe) - Nov 17 kr.docx; ATT00001.htm; 14 BC Hydro 10-Year Rates Plan and Rates Freeze (Buchanan) - KR Nov 17 17.docx; ATT00002.htm

Follow Up Flag: Flag for follow up
Flag Status: Flagged

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Begin forwarded message:

From: "Cochrane, Marlene EMPR:EX" <Marlene.Cochrane@gov.bc.ca>
Date: November 17, 2017 at 7:50:58 PM PST
To: "Sanderson, Melissa EMPR:EX" <Melissa.Sanderson@gov.bc.ca>
Cc: "Marshall, Fraser EMPR:EX" <Fraser.Marshall@gov.bc.ca>
Subject: Fw: RUSH: Estimates binder PO updates

Melissa, please see the attached notes for the Premier's Estimates binder. Dave has approved them. Thanks.

On Nov 16, 2017, at 2:28 PM, Sanderson, Melissa EMPR:EX <Melissa.Sanderson@gov.bc.ca> wrote:

Hi Fraser,

There are two notes in the Premier's Estimates binder from EMPR that require an update. In both cases I believe that there is a newer Issues Note on the topic that could be used to update.

Notes to be updated

- 10-Year Rates Plan and Rates Freeze (October 5, 2017) *needs update with our announcement*
- BC Utilities Commission's Site C Review (October 11, 2017) *needs update re Final Report*

Sent from my iPhone

Howlett, Tim GCPE:EX

Subject: Green Caucus site C Briefing
Location: s.15

Start: Thu 2017-11-09 4:30 PM
End: Thu 2017-11-09 5:30 PM

Recurrence: (none)

Organizer: Sanderson, Melissa EMPR:EX

Howlett, Tim GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Thursday, November 9, 2017 9:23 AM
To: Howlett, Tim GCPE:EX
Subject: FW: Green Caucus site C Briefing
Attachments: Green Caucus site C Briefing

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s.12;s.13

Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Thursday, November 30, 2017 4:12 PM
To: Aaron, Sage PREM:EX
Cc: Hannah, Matt GCPE:EX
Subject: KMs and bios attached
Attachments: Presentations to Cabinet.docx

Tim Howlett
Issues Manager
Strategic Issues Division, GCPE
250.208.4828

Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Thursday, November 23, 2017 10:24 AM
To: Hannah, Matt GCPE:EX
Subject: Fwd: Scrum: Horgan - federal housing, Site C & wildfire money

Tim Howlett
Issues Management
250.208.4828

Begin forwarded message:

From: <tno@gov.bc.ca>
Date: November 22, 2017 at 2:21:20 PM PST
To: Undisclosed recipients;;
Subject: Scrum: Horgan - federal housing, Site C & wildfire money

Scrum
Horgan scrum prior to PM QP
22-Nov-2017 12:33

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Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Wednesday, November 22, 2017 10:57 AM
To: Hannah, Matt GCPE:EX
Subject: FW: Media Advisory: Public Release of McCullough Report and Video on Pending Site C Decision

Anti-Site C press conference is also at 11am. In Vancouver

Who: Robert McCullough, International Energy Expert
Harold Steves, Richmond City Councillor, Former NDP MLA,
Founder, Agricultural Land Reserve

From: Haslam, David GCPE:EX
Sent: Wednesday, November 22, 2017 6:27 AM
To: Zadravec, Don GCPE:EX; Howlett, Tim GCPE:EX; Sanderson, Melissa EMPR:EX; McNish, James EMPR:EX; Beaupre, Darren GCPE:EX; Grewar, Colin GCPE:EX
Subject: Fwd: Media Advisory: Public Release of McCullough Report and Video on Pending Site C Decision

FYI below.

Begin forwarded message:

From: Ken Boon <pvla@xplornet.com>
Date: November 21, 2017 at 8:23:02 PM PST
To: <dave.nikolejsin@gov.bc.ca>
Subject: Media Advisory: Public Release of McCullough Report and Video on Pending Site C Decision
Reply-To: Ken Boon <pvla@xplornet.com>

November 21, 2017

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MEDIA ADVISORY

Public Release of McCullough Report and Video on

Pending Site C Decision

What: The Peace Valley Landowner Association (PVLA) and the Peace Valley Environment Association (PVEA) will hold a press conference to release the new McCullough Report and video on the pending Site C Decision. The report is entitled:

Would you still build Site C?

Impact of the Site C decision on present and future ratepayers

When: Wednesday, November 22, 2017
11:00am

Where: Aspen Room (Third floor)
Four Seasons Hotel Vancouver,
791 W. Georgia St., Vancouver, BC

Who: Robert McCullough, International Energy Expert
Harold Steves, Richmond City Councillor, Former NDP MLA,
Founder, Agricultural Land Reserve

Everyone with an interest in the pending decision on the future of Site C, the largest capital expenditure in the history of BC, is welcome to attend.

Robert McCullough and Harold Steves will be available for interviews following the press conference (in-person or via telephone).

Additional Information:

- Biographies for Robert McCullough and Harold Steves can be found

below.

- For all past McCullough Research Reports, visit peacevalleyland.com/siteinquiry.

Media Contacts:

Amanda Munro: amanda@munrothompson.com / 604-360-3994

Emily Marroquin: emily@munrothompson.com / 604-928-6299

Expert Biographies

Robert McCullough is Principal of McCullough Research in Portland, OR, and for over thirty-seven years has advised governments, utilities, and aboriginal groups on energy, metals, paper, and chemical issues. He has testified repeatedly in state, federal, and provincial courts as well as before Congress and regulatory bodies. His testimony in front of the Senate Energy Committee is credited with initiating the Enron trading investigations during which he worked for the U.S. Department of Justice and three western attorneys general. He has consulted for U.S. and Canadian clients on hydroelectric issues in many states and provinces, including on many occasions, presenting on issues before Canadian regulators.

Harold Steves is a long time Richmond City Councillor, Former NDP MLA, and is one of the founders of the Agricultural Land Reserve. A former Richmond school teacher, Harold operates the family farm in Steveston with his wife Kathy, raising pure bred Belted Galloway cattle. Harold also assists his son Jerry operate a ranch in Cache Creek, B.C. Descended from a pioneer Richmond farming family, he is very active in community life in the Steveston

area, and is particularly interested in the preservation of farmland, heritage preservation, and environmental issues. Harold represents Richmond as second Director on the Board of Directors of Metro Vancouver.

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MailChimp

Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Monday, November 20, 2017 1:52 PM
To: Sanderson, Melissa EMPR:EX; McNish, James EMPR:EX; Haslam, David GCPE:EX
Subject: Green Q on Site C and UBC report

Just received update that Green Q will focus on Site C and UBC Report – possible to flag to the Minister?
I think the existing QP Note and message serves but want to let her know if possible.

UBC's Program on Water Governance put out a report on November 17th comparing employment estimates for Site C vs Alternatives. They suggest that cumulative total jobs from BCUC Alternative would reach more than 100,000 person years of employment by 2054 compared to about 38,000 for Site C.

UBC's Program on Water Governance has conducted a detailed comparison of employment generated by Site C versus the alternative portfolios put forward by BC Hydro and the BCUC.

- Our analysis indicates that terminating Site C and pursuing the alternatives results in modest job losses in the short term, and substantial job gains in the medium and long-term
- These jobs are generated by remediation, conservation, and alternative energy projects.
- Terminating Site C and pursuing any alternative portfolio creates a higher number of sustainable jobs in the province, including in the Peace Region.
- Site C provides the least jobs per dollar spent.

Tim Howlett
Issues Manager
Strategic Issues Division, GCPE
250.208.4828

Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Thursday, November 9, 2017 10:46 AM
To: Hannah, Matt GCPE:EX; Holmwood, Jen PREM:EX; Aaron, Sage PREM:EX
Subject: Re claim that Site C cost overruns are attributable to the new govt

The delay and cost overruns that B.C. Hydro disclosed to the BCUC were the result of tension cracks and related construction delays and issues with their main problems public works contractor.

The first tension crack was discovered in mid February 2017. The second occurred in May 2017. Both under the previous government.

As detailed by Vaughan Palmer

here: <https://www.google.ca/amp/vancouversun.com/opinion/columnists/vaughn-palmer-site-c-troubles-began-with-last-winters-tension-crack-and-are-far-from-over/amp>

Further projected cost increases by the BCUC are related to geotechnical and contracting risks of the project - which would have been also true if the project were sent to the BCUC for review at the outset.

Tim Howlett
Issues Management
250.208.4828

BC Hydro Rate Freeze

Highlights:

- The government has directed BC Hydro to amend its request to the BCUC in order to request a 0% rate increase for April 2018.
- During Estimates, the opposition questioned the \$150 million impact on BC Hydro finances and future rate increases.

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Background:

- The government has directed BC Hydro to amend its current Revenue Requirement Application to the BCUC in order to request a 0% rate increase next year.
- The previous application from BC Hydro was for a 3% increase that would have taken effect on April 1, 2018.
- The BCUC will announce its decision on the application including the request for a 0% increase in due course, likely before the end of the year.
- The rate freeze will mean BC Hydro will have to forego \$150 million in planned revenues next year, and absorb the cumulative impact of that lost revenue in following years.
- The difference in revenue for the next fiscal year will be transferred into the rate smoothing account.
- BC Hydro estimates that eliminating the planned 3% rate increases will save:
 - Residential customers an average of \$23 per year (\$2 per month)
 - Small commercial customers like smaller offices and restaurants \$58 per year (\$5 per month)
 - Medium commercial customers like public schools and hotels an average of \$519 per year (\$43 per month)
 - Large commercial customers like hospitals and universities an average of \$2,076 per year (\$173 per month)
 - Industrial customers between approximately \$133,000 and \$2.0 million per year (\$11,100 to \$167,000 per month) for each single customer site.
- The government has committed to a comprehensive review of BC Hydro to identify cost savings and keep rates low while ensuring BC Hydro has the resources required to continue delivering electricity.
- Details on the scope and process of the review will be developed once the government has made a final decision on Site C.

Site C

Highlights:

- In their final report, the BCUC assumed that the cost of Site C would rise to \$10 billion and that BC Hydro's low load forecast was the most realistic scenario.
- The BCUC also assembled their own alternate energy portfolio based on wind power and significant demand management.
- Based on these assumptions they found that there is little difference in impact on ratepayers between proceeding with Site C or cancelling and building alternate energy.
- The BCUC notes that this could change significantly if the costs of Site C increase further up to \$12 billion (favouring alternate) or if electricity demand increases beyond the low load forecast (favouring Site C).
- The opposition has alleged that the Minister confirmed in estimates that cancelling Site C would lead to a 10% rate hike.

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Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Thursday, November 9, 2017 7:53 AM
To: Sanderson, Melissa EMPR:EX; Haslam, David GCPE:EX
Subject: Updated QP Notes
Attachments: 2017.11.09 QP EMPR - BC Hydro Rate Freeze - FINAL.docx; 2017.11.09 Site C - FINAL.docx

I will brief MCJ on these this morning

Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Wednesday, November 1, 2017 9:49 AM
To: Gillezeau, Rob FIN:EX; Spilker, Robyn FIN:EX
Subject: Fwd: QP Note Site C
Attachments: 2017.11.01 Site C - Final.docx; ATT00001.htm

Tim Howlett
Issues Management
250.208.4828

Begin forwarded message:

From: "Hannah, Matt GCPE:EX" <Matt.Hannah@gov.bc.ca>
Date: November 1, 2017 at 9:43:03 AM PDT
To: "Howlett, Tim GCPE:EX" <Tim.Howlett@gov.bc.ca>
Subject: RE: QP Note Site C

Just a couple minor edits for phrasing. Attached

From: Howlett, Tim GCPE:EX
Sent: Wednesday, November 1, 2017 8:43 AM
To: Hannah, Matt GCPE:EX
Subject: QP Note Site C

Tim Howlett
Issues Manager
Strategic Issues Division, GCPE
250.208.4828

Site C

Highlights:

- The BCUC delivered its final report on the Site C review on November 1st.
- The BCUC assumed that the cost of Site C would rise to \$10 billion and that BC Hydro's low load forecast was the most realistic scenario.
- The BCUC assembled their own alternate energy portfolio based on wind power and significant demand management.
- Based on these assumptions they found that there is little difference in impact on ratepayers between proceeding with Site C or cancelling and building alternate energy.
- The BCUC notes that this could change significantly if the costs of Site C increase further up to \$12 billion (favouring alternate) or if electricity demand increases beyond the low load forecast (favouring Site C).

s.13

Page 432 to/à Page 433

Withheld pursuant to/removed as

s.13

Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Wednesday, November 1, 2017 8:45 AM
To: Gillezeau, Rob FIN:EX; Spilker, Robyn FIN:EX; Henry, Molly FIN:EX
Subject: FW: QP Note Site C
Attachments: 2017.11.01 Site C - draft.docx

MMM will not be present for QP today.

I think that MCJ will be asked to take questions on Site C.

New QP Note attached. I am out of the office this morning but available by phone – I may have to join the QP briefing by phone as well

Howlett, Tim GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Thursday, October 5, 2017 4:45 PM
To: Howlett, Tim GCPE:EX; Sanderson, Melissa MEM:EX; McNish, James EMPR:EX
Subject: BC Hydro confirmed Highway 29 will not impact river diversion schedule

BC Hydro confirmed that Highway 29 will not impact river diversion schedule in their August 30, 2017 filing with BCUC (F1-1).

For future reference

http://www.sitecinquiry.com/wp-content/uploads/2017/09/DOC_90101_F1-1-BCH_submission_SiteC_Public.pdf

p38 – 39 (p47-48 of pdf)

32 *Highway 29 Work*

33 Highway 29 is an arterial highway that connects Hudson's Hope to Fort St. John,
34 running along the north side of the Peace River. It is under the jurisdiction of the
35 Ministry of Transportation and Infrastructure (**MOTI**). Six segments of the highway

1 totalling approximately 30 kilometres will be flooded by the Site C reservoir and
2 therefore need to be realigned.

3 The costs for the realignment are included in the Project budget and BC Hydro is
4 managing the design work. However, the design must be acceptable to MOTI and
5 meet its safety criteria. The contracts will be procured by MOTI since the highway is
6 under MOTI's jurisdiction.

7 BC Hydro plans to construct the highway in stages beginning with the Cache Creek
8 segment, which is closest to the dam site. Under BC Hydro's original schedule, the
9 highway work was scheduled to commence in summer 2017 so that it would be
10 complete before River Diversion in fall 2019. River Diversion will occur during a short
11 window from September to November and will create a head pond that may, under
12 high water conditions, result in flooding of the existing bridge and highway in the
13 Cache Creek area, creating a public safety risk. To mitigate the risk to the public,
14 BC Hydro planned to complete the highway and bridge realignment in Cache Creek
15 before river division.

16 In June 2017 a request was made to BC Hydro to delay the start of this work to allow
17 further discussions with local property owners and consultation with Aboriginal
18 Groups. A delay in start of construction beyond September 1, 2017 could have
19 resulted in missing the construction milestone for completion of the Highway 29
20 Cache Creek segment and, in view of the public safety concerns, could have
21 delayed River Diversion. BC Hydro estimated delaying River Diversion for one year
22 would cost approximately \$630 million.

23 MOTI has since advised that they are willing to discuss the implementation of

24mitigation measures that would manage the risk of flooding while allowing River
25 Diversion to continue. **This development will allow BC Hydro to proceed with River**
26 **Diversion as scheduled, maintaining the Project schedule**, while also postponing the
27 commencement of highway work in Cache Creek, following completion of this
28 Inquiry and further consultation with Aboriginal groups.

Tim Howlett
Issues Manager
Strategic Issues Division, GCPE
250.208.4828

Input

Nominal discount factor in %	6.00%	
Economic life in years	70	
Inflation in %	2.00%	
% debt	100.00%	
BCH Debt rate in %	3.43%	
IPP Financing rate in %	6.40%	
Financing option	IPP rate	Select the option in the
Equity rate in %	8.75%	
Term costs in F\$2018 as at Dec 31, 2017	\$ 1,800	million
Termination costs amortization period	30	
Market Price of Surplus	Panel	Select the option in the
Geothermal Costs	Medium	Select the option in the
Wind Costs	Medium	Select the option in the

Alternative PortfolioBase Case Rate Impact **\$ 4,918** million**Sensitivities**

	Low Value	High Value
Market price of surplus	\$ 4,881	\$ 4,949
Geothermal costs	\$ 4,862	\$ 5,025
Wind costs	\$ 4,860	\$ 5,115
Term costs Amortization	\$ 4,745	\$ 5,134
Financing costs	\$ 4,618	\$ 5,120
Termination costs	\$ 4,106	\$ 5,306
Load	\$ 3,271	\$ 5,537

Do
the

Output: Low LF - Alternative Portfolio

A	Site C Termination Cost (F\$18)	\$	1,395	million
B	Alternative Portfolio Cost (F\$18)	\$	2,663	million
C	Surplus Energy Sale (F\$18)	\$	(788)	million
D	Total Rate Impact (A+B+C)	\$	3,271	million
E	Alt. Portfolio Volume (F18)		82,784	
F	UEC (F\$18) (B/E)	\$	32.17	per MWh

drop down menu

Output: Med LF - Alternative Portfolio

A	Site C Termination Cost (F\$18)	\$	1,395	million
B	Alternative Portfolio Cost (F\$18)	\$	3,766	million
C	Surplus Energy Sale (F\$18)	\$	(243)	million
D	Total Rate Impact (A+B+C)	\$	4,918	million
E	Alt. Portfolio Volume (F18)		102,293	
F	UEC (F\$18) (B/E)	\$	36.81	per MWh

drop down menu

drop down menu

drop down menu

Output: High LF - Alternative Portfolio

A	Site C Termination Cost (F\$18)	\$	1,395	million
B	Alternative Portfolio Cost (F\$18)	\$	4,150	million
C	Surplus Energy Sale (F\$18)	\$	(9)	million
D	Total Rate Impact (A+B+C)	\$	5,537	million
E	Alt. Portfolio Volume (F18)		119,557	
F	UEC (F\$18) (B/E)	\$	34.71	per MWh

not delete. The values in this table are linked to
sensitivity analysis on the 'Tornado' tab.

AHC Response to BCUC Final Report on Site C

On November 1, 2017 the BC Utilities Commission (BCUC) released its Final Report on the BC Hydro (BCH) Site C Project following its Preliminary Report of September 20.

Among its findings, the BCUC Final Report concluded that:

1. The BCH load growth forecast is overly optimistic;
2. Site C is on schedule to meet its November, 2024 completion date, but there are significant schedule risks;
3. The Project cost will likely exceed the BCH budget of \$8.355 billion and will cost at least \$10 billion;
4. There are other alternative portfolios of energy available with equal or lower costs and similar benefits. The BCUC Alternative Portfolio, developed by Commission staff with the assistance of Deloitte LLP, is comprised of wind, solar, geothermal energy sources and batteries. As well there are demand side management (DSM) options that can be utilized and the province could rely to some extent on the Downstream Benefits (DSBs) from the Columbia River Treaty, which are comparable in size and benefits to Site C. In addition there is the non-Treaty storage at Mica that “may have the potential to reduce the PV cost of the illustrative Alternative Portfolio.” And, finally, the Burrard Thermal Electric plant could be reopened for peak power;
5. There are outstanding environmental and First Nations issues that must be addressed if the Project proceeds;
6. Surplus power sales to export markets would entail net financial losses in the near term because of persistent low Mid-C power prices;
7. Suspending the Project is the least attractive option;
8. There will be little difference in ratepayer costs from terminating the Project and proceeding with an Alternative Portfolio of wind, geothermal, solar power and batteries.

The BCUC has generally adopted the arguments taken by Site C opponents, who the BCUC says, have expressed their “beliefs” and their “opinions”. The Allied Hydro Council (AHC) would say, “often without solid factual evidence”. The AHC said in its Technical Session Presentation to the Panel on October 13 that these opponents have relied on one or more of three assertions:

- Future BC power demand will be flat or falling
- Site C capital costs are high and will rise sharply going forward
- Alternatives to Site C are readily available, have equal to or lower costs and have all the same benefits of Site C

The AHC contends that the BCUC have misunderstood or ignored important information and have discounted factual evidence provided by the AHC and a number of other parties who have made submissions to BCUC. At the end of a 187 page Final Report the BCUC states “We have taken no position on which of the termination or completion scenarios has the greatest cost to ratepayers. The illustrative Alternative Portfolio ...has a similar cost to ratepayers as Site C. If Site C finishes further over budget, it will tend to be more costly...”

The AHC' s response to the BCUC Final Report is as follows:

1. *The BCH load growth forecast is reasonable, as the AHC August 21, 2017 Site C - Review Submission to the BCUC stated.*

- a. BCH has electricity demand growing by just 1% per year from 2017 through 2036, a need for the equivalent of 3 Site Cs.
- b. The growth does not, as many opponents believe, rely in a major way on the development of a LNG industry, 2,662 GWH that is only about 3% of total demand in 2036.
- c. As Mark Jaccard argued, if BC and Canada are to meet their GHG reduction commitments the BCH resource supply will need to be expanded by the equivalent of 5 Site Cs for that reason alone.
- d. If electric vehicles continue to grow as rapidly as has been the case, the BCH forecast will prove to be low.
- e. Even if the *energy* produced by Site C would be surplus to our domestic needs for the first few years of its operation, the facility would operate for a century or more, well into a de-carbonized future when our electricity needs would be significantly greater than today; and in the nearer term, BC Hydro will need Site C's *capacity* by the time the facility comes into operation, largely because of the ongoing need to firm the intermittent energy delivered by run-of-river and other projects owned and operated by Independent Power Producers.

2. *BCH does not have a good record in completing projects on schedule.*

- a. The problem has been and continues to be that BCH has inefficient procurement and project management processes. AHC has argued in its Submission that the problems created can be avoided or reduced by adopting more modern processes, such as those used by the independent power producers (IPPs) and Columbia Power Corporation for its hydropower projects (880 MW in four projects).
- b. Some problems could be avoided by using the AHC/ CHC labour agreement used by Columbia Power and used by SNC Lavalin on the John Hart Project (on time and on budget despite geological issues). This is not to ignore the geotechnical and other challenges the Site C Project faces but exhibits the commitment of the labour force and management approach to resolving site issues and concerns.

3. *As with delivering projects on time, BCH does not have a good record in delivering projects on budget.*

- a. The AHC argued in its Submission that adopting better procurement/ project management/ labour agreement practices as used by Columbia Power Corporation could reduce the BCH problem.
- b. The AHC also made the point that while Site C is costly, the cost escalation on the budget from 1980 to the present has averaged just 3% per year. It has not been out of control.
- c. A very important point goes to the apparent lack of understanding by BCUC with respect to investor project decision making. The Panel says it is inappropriate to consider "sunk costs" in making future project investment decisions. AHC has taken the position that most economists would accept, that the decision to proceed with a project should be based on the relative 'out of pocket costs' going forward. For Site C that is not an investment cost decision of \$8.8 billion, or \$12 billion as the BCUC speculate, but is \$8.8 billion less the sunk cost of \$3 billion, or \$5.8 billion. The \$3 billion does not disappear in this analysis, it just is not relevant to a 'go'/'no go' decision if additional power is

needed. The \$3 billion is an accounting issue, and its cost will either be borne by rate-payers or by the shareholders of BCH (taxpayers).

4. *The BCUC's assertion that alternative energy portfolios to Site C will have similar benefits and will be equal to or lower cost than Site C has little technical basis of support.*

- a. There are currently no commercial solar power facilities in BC, although as the AHC noted, there are some in Ontario
- b. While there are a few small geothermal power resources in BC, there are no power facilities; battery technology has been improving but as Deloitte say, "...battery storage is not a commercially feasible technology at the present time.... there is increasing evidence that energy storage will eventually mature into a commercially viable grid-scale resource over the time of the forecast to 2040."
- c. The other storage alternative, pumped storage, has never been used in BC.
- d. Burrard Thermal does not operate because the Province some years back determined that burning natural gas to produce power was not environmentally acceptable.
- e. If it was acceptable, the most cost efficient alternative to Site C would be a CCGT plant that can generate electricity at a unit energy cost (UEC) of \$70/MWh and has 95% availability.
- f. The BCUC Alternative Portfolio is not reliable or realistic, and its costs far less certain than Site C. It does not take into consideration the start over implications of financing, permitting and construction schedule required for alternative energy by 2024.
- g. In its Preliminary Report, the BCUC states that DSBs should not be relied on in the place of Site C. It has reversed this position in the Final Report and consider DSBs a viable option. The AHC contend that the DSBs are not reliable because the Columbia River Treaty can be revoked by the US, and that country under its current Administration is now on a path of revoking a number of international agreements. DSBs are imports, contrary to BC energy policy, and their cost, the UEC, is at least equivalent to Site C power as the AHC Submission demonstrates. DSBs are not free.
- h. The fact that there is some non-Treaty storage at Mica does not change this conclusion. When there was post-Treaty discussions a few years back about the use of Columbia River dam storage for enhancing power generation in BC there was strong environmental opposition to that idea in the Columbia Basin.
- i. The AHC, when asked by the BCUC to support its argument that Site C has lower costs than alternatives, did so in a submission to BCUC on October 16 titled "Replacing Site C With Wind Or Hydro Power". It shows that to replace Site C with wind power would require 17 new wind plants at a capital cost of \$4.1 billion, with a UEC of \$104.40/MWh, using the Deloitte data. For hydropower plants 34 new facilities would be required, at a capital cost of \$7.5 billion, with a UEC of \$131.60/MWh. These compare to Site C with a remaining capital cost of \$5.8 billion, allowing for the \$3 billion of sunk cost, with a UEC of \$105.63/MWh. And, the BCUC Alternative Portfolio, with unproven battery storage, does not provide the storage and dispatchability that Site C would have, which are major benefits.

5. *Environmental and First Nations concerns are critical.*

- a. BCH has gone through exhaustive environmental permitting processes as well as First Nations consultations. But more could be done to gain local and First Nations support.
- b. One approach, which has proven very successful in the Kootenay Region, was developed in the 1990s. That was the Columbia Power Corporation/Columbia Basin Trust (CPC/CBT) ownership/project development model. CPC/CBT were provided with a

cash endowment of \$500 million over 10 years to develop run-of-river hydropower projects. CPC/CBT acquired the rights to develop four power plants and did so. The projects they developed have 880 MW of capacity, second in scale to BCH in BC. All of the projects were delivered on time and on budget. CPC/CBT sell power to BCH and Fortis BC. The CBT uses its share of earnings for Columbia Basin programs and investment. This could be done at Site C by establishing the “NE BC Power Company” owned locally with a long-term power sales agreement with BCH.

- c. Site C has already withstood one First Nations court challenge and no Canadian law or Supreme Court decision gives First Nations a veto over resource project developments, although there is a requirement for consultation and accommodation. AHC believes that the CBT model ensures equitable distribution of control and benefits.

6. *The BCUC has accepted the argument that surplus Site C power exports to Alberta or the US cannot be attractive.*

- a. Most of the BCUC’s attention is focused on the US, the Mid-C market. As the AHC Submission and Technical Session presentation pointed out, the current and recent past Mid-C power prices do not reflect the cost of generating power, they simply indicate that US governments chose to encourage wind power with subsidies and favorable power sales agreements. Wind plants generate when they can and utilities must ‘take or pay’, this often results in oversupply from hydro power plants, which is dumped on the market driving down prices. So until this problem is dealt with Mid-C is not a viable market for long term BC power supplies.
- b. Alberta and Alaska may be and should be considered for profitable sales opportunities, not for distress Site C sales.

7. *AHC agrees with the BCUC that the suspension and possible re-start of the Site C Project should not be given serious consideration.*

8. *The AHC Submission and its follow-up notes to the BCUC demonstrate that; when valid data is used, when a generally accepted levelized cost analysis is used, when valid consideration is given to sunk costs, and when availability and storage benefits are considered, the Site C UEC and capital cost are more attractive than alternative portfolios.*

The AHC contends that the Province of British Columbia should proceed with the completion of the Site C Project in the public and ratepayer’s interest with the above noted adjustments to the BCH procurement approach and overall project management.

Chris Feller, President, Allied Hydro Council of British Columbia

In consultation with Sivertson and Associates Consulting Ltd.

B.C. GREEN CAUCUS

For immediate release

December 11th, 2017

Andrew Weaver responds to Government's decision to continue with Site C

VICTORIA, B.C. - Today Andrew Weaver responded to the NDP government's decision to proceed with the construction of Site C.

"Our caucus is extremely disheartened by this decision. It is fiscally reckless to continue with Site C and my colleagues and I did everything we could to make this clear to the government.

"This government promised to be better than the B.C. Liberals. On this issue, the NDP government's approach has turned out to be no different whatsoever.

"Since the beginning I have been concerned this would end up being a political decision. Today's announcement reflects a sad reality for B.C., and British Columbians deserve better. They deserve a vision grounded in bold ideas that will enable our province to be a leader in the 21st century economy, not more empty campaign promises and political calculation.

"The government's argument that cancelling Site C is too risky due to debt is incredibly cynical. This is a question of priorities. They had no problem adding billions onto the public debt to cancel the tolls on the Port Mann and Golden Ears bridges, transferring those costs to people outside of the Lower Mainland to pick up votes in a couple of swing ridings.

"Today, Site C is no longer simply a B.C. Liberal boondoggle - it has now become the B.C. NDP's project. They are accountable to British Columbians for the impact this project will have on our future.

“We have seen what is happening to ratepayers in Newfoundland because of Muskrat Falls, a similar project, where rates are set to almost double. I am deeply concerned that similar impacts are now in store for B.C. ratepayers.

“The lost economic opportunities from continuing with Site C are profound. Our caucus has met with dozens of local governments, First Nations and B.C. companies with viable alternative energy projects. As countries across the world embrace small scale distributed renewable energy, this decision keeps B.C. locked in the past and risks foregoing enormous opportunities.”

-30-

Media contact

Sarah Miller, Acting Press Secretary

+1 778-650-0597 | sarah.miller@leg.bc.ca

Site C/BC Hydro Questions

Site C/BCUC report

Impact of different continuation and cancellation scenarios on ratepayers

- Continuation
 - What would be the rate impact of continuing with Site C at the \$8.9 billion, \$10 billion, \$12 billion, and \$15 billion cost levels?
- Cancellation
 - BCUC determines that termination costs would be \$1.8 billion, and notes 10, 30, and 70-year amortization periods
 - It has been claimed that cancellation with the costs amortized over 10 years would result in a 9.5% rate increase next year. Can you confirm this?
 - What would be the rate impact of cancellation with costs amortized over 30 years? Over 70 years?

Cost per MWh from Site C and alternative portfolio

- What is BC Hydro's current estimate of \$ cost per MWh from Site C? Why did it decline from \$83/MWh in 2013 to now?
- It's unclear to me how specific numbers were reached by the BCUC on \$/MWh for Site C and the alternative portfolio under different scenarios. Could you clarify how they came up with their figures?

BCUC's illustrative alternative portfolio

- BCUC raised a number of concerns with BC Hydro's alternative portfolio and found it could not be relied upon because of opaque and insufficiently robust assumptions. They found that BC Hydro's alternative portfolio was not the lowest cost portfolio.
 - Could you expand on the differences of opinion between BCUC and BC Hydro on the alternative portfolio and why BCUC rejected BC Hydro's portfolio?
- BCUC stressed that their alternative portfolio was "illustrative only" - is the Ministry undertaking their own development of an alternative portfolio, or is BC Hydro adjusting their portfolio to respond to the Panel's concerns? What work is being done to ensure the alternative portfolio is robust and costed accurately?
- How did BCUC's modelling deal with the declining costs and uncertainty regarding alternative energy development? How did it differ from BC Hydro's modelling?

BC Hydro forecasting and BCUC's choice of low load scenario

- BCUC found that Hydro systematically over estimated future electricity demand and under estimated the value of alternative sources of power. They also found that BC Hydro's industrial forecasts have been considerably below industry benchmarks.

- Where has actual demand historically landed relative to BC Hydro's forecasts?
 - Commercial, residential, and industrial?
 - Why have BC Hydro's industrial load forecasts been inaccurate to this degree?
- How confident are you in the Panel's analysis and assumptions that led them to select the low load forecast?
- What are the risks BCUC references that would bring the forecast below the low load scenario? How likely are these risks to materialize?
- BCUC found that the alternative portfolio has a relatively high rate impact sensitivity to the magnitude of the load forecast.
 - What is the range of potential ratepayer impacts if an alternative portfolio is developed in place of Site C and we reach a mid or high-load scenario?
- Electrification was not incorporated into the load forecast because of high uncertainties on timeline and scale.
 - How would different levels and timelines for electrification affect the load forecasts?
 - How would high levels of electrification affect the ratepayer impacts of the alternative portfolio and its ability to meet demand?
 - Could our GHG reduction targets be used in developing a proxy for electrification estimates?

Site C budget

- BCUC says "given the nature of this type of project and what has occurred to date, total costs for the project may be in excess of \$10 billion and there are significant risks that could lead to further budget overruns"
 - Could you give any more detail on what makes up the difference between BC Hydro's estimate from Oct 4th that the current expected budget is \$8.945 billion (after the missed 2019 river diversion), and BCUC's estimation of at least \$10 billion?
- BCUC found that in a "high impact" scenario the budget may be exceeded by between 20 and 50 percent
 - What further risks make up the potential cost overruns beyond \$10 billion?
 - What is the likelihood of reaching the "high impact" scenario?

BC Hydro debt

- What is the risk to BC's credit rating from cancelling Site C? What is the risk to BC's credit rating from continuing with Site C under different cost projections?
- How will the debt be accounted for between BC Hydro's accounts and broader provincial management of debt?
- What is included in the \$2.1 and \$1.8 billion sunk and termination costs?
 - Do the figures include the costs of cancelling the impact benefit agreements and/or cancelling contracts?

Construction delay

- The Panel finds that further delays are more likely than an in-service date of November 2024, and says it does not share BC Hydro's confidence that the river diversion will be achieved by September 2020.
- What are the cost implications of BC Hydro missing the 2020 river diversion, and missing the 2024 in-service date? What would the ratepayer impacts be?
- What is the likelihood of missing this in-service date, and what are the main contributing factors?

Uncertainties and risks

- BCUC notes that there are uncertainties and risks with both the scenarios of continuing with Site C (e.g. being over budget), and pursuing an alternative portfolio (e.g. higher than predicted load forecast).
 - What is the likelihood of the risks materializing, and if they do, what are the magnitude of those risks (on ratepayers etc.)?
 - How do the likelihood and the magnitude of the risks identified by the Panel compare, for continuing with and cancelling Site C?

Columbia River Treaty entitlement

- What are the benefits and drawbacks of using the Columbia River treaty entitlement, recognizing a legislative change would be needed to do so?

BC Hydro

BC Hydro debt

- How much is BC Hydro's total debt, including deferral accounts?
 - How much does BC Hydro hold in its deferral accounts?
- How much has it grown over the last 5 years? 10 years?
- How does BC's use of deferral accounts compare to other jurisdictions?

Rate freeze

- What will freezing BC Hydro rates mean in terms of lost revenue to BC Hydro?
- Will the rate freeze add to BC Hydro's debt burden? If so, by how much?

Fred James

Chief Regulatory Officer

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November 16, 2017

Mr. Patrick Wruck
Commission Secretary and Manager
Regulatory Support
British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Mr. Wruck:

RE: Project No. 1598922
British Columbia Utilities Commission (BCUC or Commission)
British Columbia Hydro and Power Authority (BC Hydro)
Site C Inquiry – Comments on Commission Models

BC Hydro would like to recognize the Commission and all participants for their efforts in the Site C Inquiry that concluded on November 1, 2017. We appreciate the difficulty of completing the Final Report, especially given the volume of input from BC Hydro, the public, stakeholders, First Nations and other interested parties regarding the future of the Site C Project.

We write to provide comments on two of the models that the Commission used to prepare its Final Report¹ (the Illustrative Alternative Portfolio Spreadsheet² and the Site C UEC Calculator). We provide this information as a follow-up to a meeting with the Commission and at the Commission's request to detail our comments in writing.

BC Hydro performed a preliminary analysis of these two models and has identified what appear to be calculation and input errors. The cumulative effect of these errors is to understate the benefits of completing Site C as compared to the Commission's Illustrative Alternative Portfolio by approximately \$800 million. Given the materiality of the issues identified in this letter to the Commission's Final Report, we believe that it is important to bring these issues to the Commission's attention.

We recognize and respect that the Commission has rendered its Final Report. This letter focuses exclusively on what we assess to be input and calculation errors in the modelling. In other words, these are not instances where BC Hydro simply disagrees with the Commission's methodology or input assumptions. We have had subject matter experts within BC Hydro independently confirm our assessment and present value calculations before providing our comments in writing.

¹ Exhibit A-24.

² Exhibit A-24-2-1.

Summary of Issues Identified and Impacts on the Commission's Analysis

The issues and their impact on the Commission's analysis are summarized in the following table. Each of the items is discussed in greater detail in this letter, and is grouped according to calculation methodology and treatment of input data:

Error	Impact on PV Cost of Termination to "Low LF" Scenario (\$ million)
A Application of incorrect discount rate to Site C surplus (as acknowledged by the Commission in A-25)	+336
B Inconsistent application of inflation factors and discount rates	-60
C Inaccurate treatment of sunk costs	+345
D Double-counting of transmission loss savings on demand-side management	+177
E Use of real rather than nominal cost of capital for IPP financing	No impact except in sensitivity scenarios
F Application of inappropriate (flash) technology assumptions to geothermal resources	No impact except in medium and high load scenarios
Total Impact to PV Costs	+798

Calculation Methodology

A. Application of Discount Rate to Site C Surplus

As has been acknowledged and updated in the Commission's letter of November 15, 2017 (A-25), the Commission's model applied a nominal dollar discount rate to a real dollar cashflow in the Site C model for valuing the trade value of surplus. BC Hydro agrees with the Commission's assessment that the impact of this error results in the net cost of Site C being presented as \$336 million higher than it should be.

B. Application Of Inflation Factors And Discount Rates

The Commission's model appears to have two mathematical errors due to the inconsistent application of depreciation and interest in the Illustrative Alternative Portfolio Spreadsheet. The present value (**PV**) calculation of the Site C termination cost (for all load forecast scenarios) is inconsistent with PV calculations carried out for similar cost components for other resources, such as the cost of wind projects. In the PV calculation of the Site C termination costs:

- Depreciation: The annual depreciation cost of termination (Low LF – NPV DSM tab, row 296) is calculated using the cost of termination at the end of fiscal 2020 (“end of period value”, provided in the Low LF - NPV DSM tab, cell K295) which includes the cost of debt for fiscal 2019 and fiscal 2020. However, the annual depreciation cost for termination should be calculated in a similar manner to the depreciation cost for wind resources (e.g., Low LF - NPV Wind, row 28) thereby reflecting when ratepayers would start to see these costs in rates. As such, the calculation of the cost of termination of Site C should include only one year of debt cost (for fiscal 2019) because ratepayers would likely begin paying the costs of termination of Site C at the beginning of fiscal 2020.
- Interest: The annual interest cost of termination (Low LF – NPV DSM tab, row 297) is calculated using the end of period value in each year. However, the annual interest cost should be calculated in a similar manner as for wind resources (Low LF - NPV Wind tab, row 51) which uses the average of the beginning period value and the end of period value as an approximation for monthly interest costs seen by ratepayers.

In the Commission Scenario for the Low Load Case shown in Table 39 of the Final Report, the net impact of these errors results in the cost of the Illustrative Alternatives being \$60 million higher. This error does not apply to the Site C model.

C. Treatment of Sunk Costs

While sunk costs are usually irrelevant for investment analysis, the manner in which sunk costs are recovered is relevant when considering the impact of Site C termination on ratepayers. This is because the manner in which sunk costs are recovered from ratepayers is expected to vary between the scenario where Site C is completed and the scenario where Site C is terminated.

- If Site C is completed, sunk costs would likely be recovered over the depreciation life of the relevant assets, which is approximately 70 years.
- If Site C is terminated, sunk costs would be recovered over a period to be determined, but likely beginning immediately after termination and recovered over substantially fewer than 70 years.

The Commission model has accounted for the recovery of sunk costs in the comparison of Site C to the Illustrative Alternative Portfolio by reducing the costs to complete Site C and not including sunk costs in the Illustrative Alternative Portfolio. This has significant implications for the Commission's calculations, specifically:

- The Commission's approach prevents analysis of absolute impacts to ratepayers, since the costs already spent would form part of the costs recovered from ratepayers should the Project be completed or be terminated. A treatment of sunk costs to allow for calculation of ratepayer impacts would have included sunk costs as part of the ratepayer cost of Site C, and added the recovery of those costs to the Illustrative Alternative Portfolio.

- By eliminating sunk costs from both portfolios, the Commission's approach to sunk costs has implicitly resulted in the sunk costs being amortized over 70 years, even in the case where Site C is terminated. The Final Report does not refer to this implicit 70 year recovery period. Rather, in the Illustrative Alternative Portfolio, the Commission has explicitly assumed that termination costs would be recovered over 30 years. This is inconsistent, since the sunk and termination costs would both be expected to be recovered from ratepayers in the same way in the event of termination.

This assumption was likely inadvertent, as it is inconsistent with the Commission's other stated assumptions regarding recovery of termination costs. The impact of this assumption is to understate the cost of the Illustrative Alternative Portfolio by \$345 million as compared to the scenario where sunk costs are recovered over 30 years as the Commission has assumed for termination costs.

Treatment of Input Data

D. Transmission Loss Savings

The Commission's model has double-counted transmission loss savings associated with demand-side management (**DSM**) which has the effect of understating the cost of the Commission's alternative portfolio relative to Site C.

- In its original October 11, 2017 portfolio (Exhibit A-22), the Commission increased the amount of energy provided by demand-side management by approximately 11 per cent to reflect the avoidance of transmission losses.
- In BC Hydro's September 29, 2017 submission (F-1-5) we identified DSM energy savings (response to BCUC IR 2.64.0 and attachment), stating "The information presented in Appendix L and Attachment 1 to this response reflects energy savings grossed up to the system level to reflect losses..." In our October 18, 2017 response (Exhibit F-1-17), we reiterated that adding a further factor for avoided losses was incorrect as the energy volumes being used were already adjusted to reflect loss avoidance.
- The Commission stated in the Final Report that it continues to believe the adjustment is appropriate because BC Hydro's adjustment was only for distribution losses, and a further adjustment is required for transmission losses.³
- This is not the case. The volumes provided by BC Hydro and used by the Commission have already been adjusted to reflect transmission losses as well as distribution losses, and thus the Commission scenario double-counts transmission loss savings.
- BC Hydro's DSM programs are broad in their application and are expected to proportionately impact usage in all periods (i.e., the savings themselves are

³ Final Report, Appendix A page 39.

believed to have the same shape as the load). As a result, average loss factors from the load forecast should be applied to energy focused DSM savings rather than peak loss factors.

Correction of this issue would advance the need for new energy resources.

Assuming that wind energy projects are undertaken to meet this need (as appears to be the marginal resource in the Commission's alternative portfolio) this would increase the cost of the Illustrative Alternative portfolio by approximately \$177 million.

E. Cost Of Capital For IPP Financing

The Commission's Illustrative Alternative Portfolio Spreadsheet includes the capability to apply "IPP Financing" to the alternative portfolio as a sensitivity analysis.

- The Commission has used a 6.4 per cent "nominal" cost of capital for IPPs in its sensitivity test (Input and Output sheet, cell E9), which it states is based on BC Hydro's estimate.
- However, BC Hydro's estimate of IPP cost of capital is 6.4 per cent in real terms as opposed to nominal. The nominal cost of capital would be 8.5 per cent.

This impacts only the Commission's sensitivity scenarios, but the effect of using the correct (nominal) value in those scenarios is material.

F. Application of Technology Assumptions to Geothermal Resources

The Commission includes geothermal in the Illustrative Alternative Portfolio Spreadsheet based on what it identifies as representative geothermal projects. In doing so, the Commission has used lower cost assumptions and higher capacity factor assumptions taken from a type of geothermal technology that would not be used by the representative projects. Specifically:

- The Commission utilizes Canoe Reach and Lakelse Lake as representative geothermal projects and utilizes cost and capacity factors that would apply for the use of geothermal flash technology (Sensitivity Data sheet, cells D4 and D5).
- Lakelse Lake does not have a formation temperature high enough to support flash technology. Binary technology is expected to be used⁴.
- While previous studies, including BC Hydro's previous Resource Options Report, have indicated that it is possible that flash technology may be possible at Canoe

⁴

Refer to GeoscienceBC report:

http://www.geosciencebc.com/il/project_data/GBCReport2015-11/GBC2015-11_KWL_Geothermal%20Economics_Project_Report_27Sep16.pdf.

November 16, 2017
Mr. Patrick Wruck
Commission Secretary and Manager
Regulatory Support
British Columbia Utilities Commission
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Reach, the current developer has indicated that binary technology is expected to be used.⁵

- Using assumptions consistent with the use of binary technology would result in:
 - ▶ Higher costs, since binary technology is more expensive than flash technology; and
 - ▶ Lower net capacity factors, since binary technology is expected to achieve an 80 per cent net capacity factor rather than the net 90 per cent of flash technology according to NREL. (We note that the Commission uses a 95 per cent capacity factor: BC Hydro assumes this is based on a CanGEA submission (F66-1) but is unaware of the basis for CanGEA's capacity factor).
- Further, the Commission does not account for reservoir degradation which is expected to result in a decrease in annual generation output by 1 per cent per year over the life of the project. This would make the redevelopment of these sites after 30 years at a 30 per cent cost reduction unlikely.

This inappropriate technology assumption does not impact the Commission's base (Low LF) scenario. However, in the higher load forecast scenarios the impact is expected to be material.

BC Hydro will continue to review the models and will bring any further material issues to the Commission's attention.

We are also currently updating our portfolio modeling to utilize the assumptions made by the Commission in its Illustrative Alternative Portfolio. We will make these results available to the Commission when complete.

For further information, please contact Fred James at 604-623-4317 or by email at bchydroregulatorygroup@bchydro.com.

Yours sincerely,



Fred James
Chief Regulatory Officer

fj/ma

⁵ Refer to Borealis statements: <https://www.youtube.com/watch?v=L6lBpadlkUo>.

ADVICE TO MINISTER

CONFIDENTIAL
GCPE-EMPR ISSUE NOTE

Ministry of Energy and Mines

Date: Nov. 15, 2017

Minister Responsible: Hon. Michelle Mungall

ALLIED HYDRO COUNCIL REPORT

ADVICE AND RECOMMENDED RESPONSE:

s.13

KEY FACTS REGARDING THE ISSUE:

The Allied Hydro Council of BC's (AHC) response to the British Columbia Utility Commission's (BCUC) report concludes that BCUC's final report on BC Hydro's Site C dam is fundamentally flawed and has made up to a \$3 billion error on the "sunk costs" already invested in the project, leading to faulty conclusions about the viability of Site C to provide clean, green hydroelectric power for 100 years.

The AHC analysis strongly argues that the government should go ahead with Site C.

ADVICE TO MINISTER

In addition to the “sunk costs” issue, AHC has identified numerous other issues with the BCUC final report on Site C, including the following:

- BC Hydro's load growth estimate of future electricity needs is reasonable – and that if demand grows by just 1% per year from 2017 through 2036 – the equivalent of three Site C dams will be needed. Demand growth can be expected in order to meet BC and Canadian greenhouse gas emission reduction commitments;
- If the demand for electric vehicles continues to grow as rapidly as recent statistics show, even BC Hydro's growth forecast will be low;
- The BCUC claim that alternative energy sources will have similar benefits and cost the same or less than Site C is not realistic. Alternative supplies are unreliable, particularly given there are no commercial solar power or geothermal power facilities in BC;
- The BCUC is wrong in saying that any surplus Site C power could not be exported to Alberta or the United States for a profit;
- The Columbia River Treaty Downstream Benefits cannot be considered as a reliable alternative to Site C as they are subject to complex international negotiations and can be revoked on notice;
- Project labour agreements as used successfully by BC Premier W.A.C. Bennett on the BC Hydro Heritage Dams and all major dam construction since would greatly assist BC Hydro in completing Site C on schedule;
- While First Nations and environmental concerns are legitimate and should be further addressed to gain support, no Canadian law or Supreme Court decision gives First Nations a veto over resource projects. BC Hydro has undertaken exhaustive environmental permitting and First Nations consultations;
- And contrary to opponents' claims, BC Hydro's growth projections are not dependent on the development of a liquefied natural gas industry, nor is Site C power predicated on the needs of an LNG industry.

The AHC is positioning its response the BCUC final report on Site C as essential analysis for government to consider as it makes a landmark decision by the end of the year that will have repercussions for decades to come.

Key Findings:

The AHC contends that the Province of British Columbia should proceed with completion of the Site C Project in the public and ratepayer's interest with some adjustments to BC Hydro's procurement approach and overall project management.

Background:

The Allied Hydro Council of BC represents 14 building and construction trade unions, as well as three non-traditional construction trade unions. Veteran energy lawyer Jim Quail, and former Columbia Power Corporation CEO Lorne Sivertson, were retained by AHC to analyze the BCUC's November 1 report on the Site C project.

On October 13, 2017, AHC made a technical presentation to the BCUC, which followed on from their August 21, 2017 formal submission to the BCUC. That submission recommended that the Site C project

ADVICE TO MINISTER

be continued, with minor adjustments to the procurement approach and overall project management.

Communications Contact:	Colin Grewar	250-952-0650
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File Created:	15 Nov. 2017	
File Updated:		

November 22, 2017

The Final Report of the British Columbia Utilities Commission Inquiry into Site C

On November 1, 2017, the BC Utilities Commission issued the Final Report in its Site C Inquiry. The Inquiry had been ordered by the new provincial government less than three months earlier. It compressed into mere weeks an analysis that would normally take many months of extensive information-gathering and careful analysis.

The BCUC was not asked to advise government whether the project should be completed or abandoned. Its mandate was to analyze the purely economic dimensions of the question, from the standpoint of Hydro ratepayers over the coming years and decades. The Commission was not asked to examine the more political dimensions of the governments' dilemma – such as environmental or First Nations issues and concerns. Those dimensions remain where they properly belong, in the lap of the government which is aiming to make the final decision within a month or so.

BCUC Verdict on Site C: a Statistical Tie

A common public “takeaway” from the Report has been that it cast a dark cloud of doubt over the project; or even that it spells doom for the Site C facility, in favour of small-scale intermittent generation resources like wind power. That perception is a misreading of what the Commission has said. In fact, the Report indicated a close call, in terms of ratepayer value, between the option of completing and terminating Site C. The Commission examined the economics of Site C in comparison with a hypothetical “alternative portfolio” – a shopping-list of other potential ways to provide the energy and capacity our system will need, and concluded:

. . . the cost to ratepayers of Site C and the Illustrative Alternative Portfolio are virtually equivalent, within the uncertainty inherent in the assumptions.

BCUC Site C Final Report, p. 185

The Commission found what may be called a “statistical tie”. The key phrase, however, is the final part of this passage: “*the uncertainty inherent in the assumptions.*” Prominent BC

energy economist, Simon Fraser University's Dr. Marvin Shaffer explains in this study some of the ways the assumptions applied to the Site C project, on one hand, and the basket of "alternative portfolio" resources, on the other, seriously under-state the advantages of Site C, while also under-stating the costs, risks and disadvantages of the alternative portfolio.

Even with this analytical "thumb on the scale" (which we do not suggest was deliberate) the best the alternative portfolio could come up with was the assignment of roughly equivalent value to the completion of the project.

System Planning

Planning and designing an electrical grid like the BC Hydro system is an enormously complex undertaking. Reconciling the competing imperatives of reliability, affordability and environmental stewardship forces difficult trade-offs and careful prioritization of societal objectives and values. Wishful thinking will not provide us with easy solutions. For example, extensive reliance on wind power might be kinder to the environment in many ways, (though like all sources of supply it has its own set of adverse impacts), but it would also mean back-up is required when the wind stops blowing. The system needs "capacity" resources that are "dispatchable" – that can be switched on as needed, regardless of wind or sun conditions. While Germany, for instance, is often lauded for increasing its reliance on wind generation, this has forced it to burn more coal to fill the holes, so to speak, when the wind resource is not available.

The real world of system planning forces hard choices upon us, especially when we are forced to respond to the damage inflicted on the Earth's climate by our reliance on fossil fuels. Fortunately, BC does not need to burn coal to supplement intermittent electrical generation. Our large "heritage" hydroelectric dams built decades ago have furnished us with capacity to fill the holes in run-of-river and wind power – to the point where we will run short of that kind of dispatchable capacity in a few years: run-of-river is like a capacity "sponge" and has seriously drained the benefits of our heritage dams.

That's a large part of the reason why Site C is on the table.

Load Forecasting

Planning our electrical system depends on not only what kind of future we *expect*, but even more important what kind of future we *hope for*. Slowing and arresting the damage fossil fuels have done to our climate will depend on an enormous investment in electrical generation based on renewable and sustainable resources.

The BCUC's analysis that grades Site C and its hypothetical alternatives as cost-equivalents rests above all on its prediction that our demand for electricity will remain relatively flat

for years to come. It assumes no major policy changes or progress in replacing hydrocarbons with electrons:

Given the uncertainty, the Panel finds additional load requirements from potential electrification initiatives should not be included in BC Hydro's load forecast for the purpose of resource planning. Although available information indicates that the effects of electrification on BC Hydro's load forecast could potentially be significant, the timing and extent of those increases remain highly uncertain.

BCUC Site C Final Report, p. 81, bold in original

This is a wager that we will fail to meet the challenge of climate change.

Tackling climate change will mean harnessing every reasonable resource that gives us electricity without greenhouse gas emissions. If BC has viable wind resources, and geothermal potential, we can be certain that they will be developed. But it's not an "either-or" proposition. We cannot maximize our reliance on intermittent sustainable resources like wind and solar unless we also develop dispatchable generation resources to fill the holes.

\$4 Billion Tab for a Scrapped Project

It was a blunder for the previous government to force BC Hydro to proceed with Site C without a proper review by the BCUC. Had a full analysis been undertaken before any contracts were signed or holes dug, it is unlikely that the project would have gotten a green light. Not because it would not be a valuable addition to the electrical system, but because there may have been better options available in the short to medium term.

That, unfortunately, was billions of dollars ago – billions that one way or the other BC residents, schools, hospitals and business will have to pay for. The question now is not whether Site C was the best idea at the time. The question is whether it is a better idea to see it through, for all of its difficulties, or to blow the whistle, take it all apart, restore the site to its natural state, eat more than \$2 billion in already-spent or "sunk" costs, hitting ratepayers with a bill totalling about \$4 billion in return for *nothing* – a re-planted landscape – and then having to go shopping for other ways to meet our energy and capacity needs. And all of those other ways have their own risks, costs and uncertainties.

That \$4 billion of thrown-away cost, if we scrap the project, changes the question fundamentally. Let's put the number in perspective: BC Hydro's entire annual cost of operating and servicing its debt is about \$4.5 billion. The dead loss flowing from scrapping the Site C project would almost equal an entire year's budget for the Crown corporation.

Think *four* Smart Meter programs . . . except that Smart Meters actually do something very useful for us. Whether or not they were the wisest place to invest \$1 billion of ratepayer money, they measure our electricity consumption. A restored Site C landscape means we have obtained zero value from that huge investment.

The “Sunk Cost” Hot Potato

At page 163 of the Report, the BCUC muses about whether or not BC Hydro would be able to recover its sunk costs from ratepayers if the project is terminated. There is a general regulatory law principle that utilities cannot recover expenditures that were not “prudently” incurred. There is no legal basis to even speculate that BC Hydro could not pass on to ratepayers the cost of scrapping the project, including its thrown-away sunk cost. That’s because the decision to proceed with Site C was not made by BC Hydro, but by government. Hydro was ordered to build it, the budget was approved by Cabinet, and the entire undertaking was exempted from oversight or review by the Utilities Commission. Only government, not the BCUC, could deprive the utility of the right to recover the billions squandered by starting and then abandoning the dam in mid-stride.

And of course if BC Hydro were ordered to stop the project and prevented from recovering the lost billions from its customers, the cost would all fall onto the shoulders of the taxpayers – who are the same people along with the FortisBC electricity customers in the interior who had nothing at all to do with it.

Continue vs. Demolish – the Options Hit Ratepayers Very Differently

If we finish off the dam, the \$2 billion-plus in sunk costs will form part of the total investment in the facility, and will be amortized into rates over a long period, roughly corresponding to the expected useful life of the plant – conservatively 70 years.

If we call a halt, the \$4 billion-plus in sunk costs plus the costs of stopping and remediating become a dead loss that has to be collected as well, but the time-frame over which it will be amortized in our Hydro bills would be far shorter. We can expect ratepayers to continue to pay for a facility that they still use decades from now, but it would be contrary to well-established regulatory law principle to force them to continue to foot the bill for a project abandoned and written off two or three generations earlier.

The guiding rule is that ratepayers living 60 years from now should not be bailing out those alive today. In “utility-speak” that would violate what is known as “intergenerational equity.”

In the Commission’s Report, they suggest time-frames for amortizing the loss flowing from abandonment as long as 70 years. With all due respect, that would be an astonishing

proposition. Ten or (at the outside) twenty years' amortization of a dead loss like this would be in accordance with law and principle.

How long you spread the payments out makes a huge difference in the rate impact – just like the difference between financing a car loan over, say, one year or four. The shorter the amortization, the steeper the monthly hit.

Suggesting that the amortization of the dead loss flowing from abandonment might be stretched as long as that for financing a completed dam may sound even-handed, but actually is another thumb on the scale that makes the options look more equal in their rate impact than they really are.

Public vs. Private Power

Killing Site C would mean that we are thrown deeper into the clutches of private-sector “Independent Power Producers” for decades to come. Dr. Shaffer explains that they are a more expensive source of electricity than BC Hydro because of their far higher cost of borrowing and raising capital. The BCUC compares the cost of the options on the hypothetical footing that future wind and solar would all be built by BC Hydro. This ignores the built-in higher cost of IPPs, and ignores an important built-in financial advantage that the public utility holds for its ratepayers.

Much is said (and generally over-stated) about when we will really need Site C's output for domestic electricity demand. Essentially, the argument is that if even if the dam is a good idea, we're building it too early. “Too early” is mainly about when we think we will do what is needed to combat climate change; but in any event, everyone (including the BCUC) agrees that halting the project for now and resuming in a few years is the worst option of all.

Let's put the issue in its proper perspective: Site C would provide valuable capacity and energy for a century or so. System planning is a long game. And as Dr. Shaffer demonstrates, critics and the BCUC have under-stated the value of the project's output even from the get-go.

The Choice

Is it worth eating billions that will have to be collected through our Hydro bills to demolish the project and start over with a search for alternatives? That is what the issue boils down to. We say that when it comes to the economic dimensions of the issue, it's not a close call at all.

Finishing the project is the hands-down winner.



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MEMORANDUM

To: Jim Quail
From: Marvin Shaffer
Date: November 15, 2017
Re: BCUC Site C Report

The terms of reference for the review of the Site C project called on the BC Utilities Commission (BCUC) to advise on whether the project is on time and on budget, what would be the costs to ratepayers of suspending or terminating the project, and whether there are alternative portfolios of projects and measures that could provide similar benefits at similar or lower cost.

Project Schedule

The BCUC agreed that Site C is currently on schedule to be completed by November 2024 but found that there are tension crack, river diversion and other risks that could result in delay. It concluded the November 2024 in-service date will most likely not be achieved.

A delay in the in-service date will pose no operational problem for BC Hydro. Even under BC Hydro's medium requirements forecast (which the BCUC concluded is too high), BC Hydro will not need any of the 5100 Gwh of energy Site C will produce until 2028. It is forecasting a shortfall of peak generating capacity by 2023, but BC Hydro has access to the downstream benefits under the Columbia River Treaty and other contingency resources that it could use to meet peak capacity requirements until Site C comes on stream.

The main issue with delay is that it adds to the installed cost of completing the project and delays the recovery of any of those costs through surplus sales.

Project Cost

Deloitte Management (technical consultants to the BCUC) estimated that a one year delay in the schedule would increase the cost of Site C to between \$9.1 and \$10 billion. Based on its expectation of some delay plus consideration of other uncertainties in the work remaining to be done, the BCUC concluded that the total cost of Site C will increase from the current estimate of \$8.9 billion to \$10 billion or more.

The BCUC used \$10 billion in its analysis comparing the present value costs of Site C with its illustrative alternative portfolio of projects. This presumably reflects a P90 value, which the BCUC said is an appropriate basis to estimate costs. A P90 value is the estimate which there is a 90% probability of achieving.

It is important to note that the arguably very appropriate use of a conservative P90 value for Site C cost was not followed even in an approximate way for the alternative portfolio of projects BCUC used to compare to Site C.

- *DSM:- Demand side management measures are a major component of BCUC's alternative portfolio. However, BCUC did not undertake any assessment of the uncertainty and risks this resource entails and range of costs that could result. It certainly did not provide any P90 estimates comparable to what BCUC recommended for Site C.*

This is not just a general methodological concern. In its assessment of BC Hydro's load forecast, the BCUC commented on the confounding of the impact of rising prices on electricity requirements versus the impact of DSM programs. Given that BCUC concluded that a low load forecast should be assumed in part because of the effect of rising prices, it is not clear to what extent the price-induced reductions in demand will diminish what can further be achieved with DSM programs. Moreover, there are well documented econometric and other studies that suggest the costs of DSM programs per MWh of demand actually reduced are much higher than the estimates utilities typically calculate based on program participation rates. A key issue is distinguishing program impacts from what would otherwise be done at some point even without the program.

With respect to peak requirements, the Commission noted in its report that a major difference between its illustrative portfolio analysis and the portfolio modelling done by BC Hydro and its own technical consultants was the reliance to a very large degree on capacity-targeted DSM to meet shortfalls. Despite the concerns BC Hydro raised about the effectiveness of those programs, and in some cases the absence of a policy framework at this time that would be needed to implement the measures, the BCUC again provided no assessment of the uncertainty and risks, the range of costs these measures could entail and what P90-comparable estimates should be used.

The DSM estimates are not comparable to what the BCUC estimated for Site C in another very important respect. The BCUC only included the costs it estimated BC Hydro would incur to encourage customers to conserve energy or shift demand to off-peak periods. It did not include the often much larger costs that customers themselves would incur. Its analysis would include, for example, the cost of incentives BC Hydro might offer to encourage customers to purchase more efficient lighting or other electric appliances, but not the amount customers would still have to pay themselves to purchase the more efficient lights or appliances.

The BCUC justified this saying it only included costs that would impact revenue requirements and be recovered in rates. But that is clearly incorrect when trying to assess and compare the full consequences for customers of demand versus supply side measures. It is not only impacts on revenue requirements but also on other expenditures customers incur that must be taken into account.

- *Wind:- Wind is the main supply side alternative in the BCUC's alternative portfolio. The estimates BCUC used are very rough, extrapolating from experience in other jurisdictions and making a number of at best uncertain and in some cases very optimistic assumptions. As with DSM, no risk analysis and range or P90-comparable estimate was provided.*

In its modelling, the BCUC effectively assumed all of the wind projects would be developed by BC Hydro. The costs are developed from capital and operating cost estimates under the assumption the required capital would be financed 100% at BC Hydro's borrowing rate. It did not make any effort to estimate what bid prices would be if, as is quite likely, the wind projects were developed by independent power producers (IPPs).¹

IPP bid prices would incorporate the higher cost of capital private developers face. As well one could not assume, as the BCUC did, that wind projects could be refurbished and available to BC Hydro in the future at 30% less than the cost of a new project. The price BC Hydro would pay for contract renewals at refurbished sites would depend on competitive market conditions at that time.

The BCUC also took a very rough and optimistic approach in its estimate of wind integration costs, the cost of the back-up BC Hydro must provide because of the intermittent nature of wind supply. The BCUC assumed an integration cost of \$1/MWh seemingly based on one outlier estimate in a range of costs provided for other jurisdictions. This cost estimate was one-fifth of what BC Hydro submitted and 60% less than the Commission staff itself had put forward for comment.

- *Geothermal:- When analyzing medium and high load growth cases, BCUC includes 81 MW of geothermal capacity. It explicitly recognized that geothermal may not be commercially viable in British Columbia, but justified its inclusion of geothermal supply saying; "on the balance of probabilities there is a likelihood that some commercially viability may be obtained".² That may be*

¹ The BCUC effectively assumed all wind would be developed by BC Hydro to provide what it considered to be an 'apples to apples' comparison to Site C. Aside from the fact it made no effort to provide comparable ('apples to apples') quality of estimates, the point is that assuming BC Hydro development and financing of all wind projects does not indicate what BCUC was asked to advise on – the likely impacts on ratepayers.

² BCUC Final Report, Appendix A, p.19.

true, but it is important to recognize the speculative nature of this alternative and its cost as compared to what is known and what the BCUC has conservatively assumed about Site C.

Load Forecast and Value of Surplus Sales

The BCUC analyzed BC Hydro's load forecast and resource balance to assess the timing of the need for more resources in the province. Whereas BC Hydro submitted that it would need additional peak capacity by 2023 and additional energy by 2028 based on its mid-range load forecast, the Commission concluded that additional capacity and energy would not be needed for many years after that. It concluded that BC Hydro's mid range forecast was too optimistic and that its low forecast should be used in comparing Site C to alternative portfolios. It also decided that Revelstoke 6 should be assumed to be developed in the mid 2020's so as not to exaggerate the shortfall of capacity BC Hydro would have without Site C.

As for electrification policies and trends in response to aggressive GHG reduction targets, the BCUC took a conservative stance: "Given the uncertainty, the Panel finds additional load required for potential electrification initiatives should not be included in BC Hydro's load forecast for the purpose of resource planning".³

The BCUC's load forecast and resource balance assumptions result in Site C being surplus to requirements for many years after its 2024 or even delayed in-service date. A critically important issue for ratepayer impact is consequently what revenues BC Hydro can realize from surplus sales. Consistent with its other assumptions about Site C, BCUC took a very conservative approach.

The panel rejected the spot market price forecast trading experts from BC Hydro provided and the even higher forecast of its own technical consultants (Deloitte). Based on low current prices it adopted a lower price forecast over the entire period there would be surplus from Site C available for sale. It also decided not to assign any premium to the market value in light of the dispatchability of Site C power, the storage-related trading potential it offers in conjunction with the upstream Williston reservoir and the surplus dependable peak capacity it would have. The only premium the BCUC included for Site C surplus over its conservative spot market price was a \$1/MWh charge for wind integration services it assumed BC Hydro could sell if not needed in British Columbia, a premium that would yield some \$3 million per year.

Taken together, the BCUC's findings on load growth and the value of surplus sales serve to minimize the value of proceeding with Site C and therefore to maximize the rate impact it will have. While there is undoubtedly considerable uncertainty about future load growth, the assumptions BCUC made about the value of surplus sales are contrary to the advice of trading experts and its own consultants, and completely ignore the strategic value of a dispatchable hydro resource like Site C, something most

³ BCUC Final Report, p.81

experts forecast will be increasingly important the more intermittent resources are added in neighbouring jurisdictions.

It is also important to note that the BCUC did not consider the market potential in Alberta, which in the short term will need energy to replace coal-fired generation and in the medium term will need dependable peak generating capacity to complement its planned expansion of wind and other intermittent renewable sources of supply.

Finally and very importantly, the BCUC completely ignored the impact that Site C surplus would have in reducing GHG emissions from thermal power production in Alberta or elsewhere – the most likely source of supply it would displace. Depending on emerging carbon tax or equivalent policies, that could directly increase the value of surplus sales exports. A \$50/tonne tax could add \$20-\$45/Mwh to surplus sales prices – almost equal to or more than the total price BCUC assumed for surplus sales. At a minimum, the impact of Site C surplus on thermal power production and GHG emissions is a critically important social value the BCUC's report did not take into account.

Rate Impact Analysis

In order to assess whether there is an alternative portfolio of projects that could meet BC Hydro requirements at similar or lower cost for ratepayers, BCUC calculated the present value costs (the revenue requirements that must be recovered from customers) associated with the development of Site C as compared to the present value costs of its illustrative alternative portfolio of DSM, wind and geothermal resources (the latter in the mid and high load growth cases only). The present value costs are the discounted sum of BCUC's assumed capital plus operating expenses less surplus sales revenues in both development scenarios.

The results, based on a 'Commission set of assumptions' are shown in Tables 39 and 40 of the report (p.167). These assumptions include: BC Hydro's low load forecast; the Panel's low surplus sales price forecast; Site C costs rising to \$10 billion; termination costs of \$1.8 billion; and BC Hydro financing for all wind or and other resources in the alternative portfolio. With these assumptions the present value costs shown in the Final Report, excluding sunk costs in both cases, are roughly the same: \$3.188 billion for completion of Site C and \$46 million more -- \$3.234 billion -- for the illustrative scenario. After correcting for errors in the surplus sales calculations, the BCUC reported a somewhat larger difference (\$295 million) favouring Site C.⁴

A number of sensitivity test results are shown in Table 43 (p.170). All but one of the results (correcting for the errors in the numbers shown for the alternative portfolio in the high load growth case) show a greater cost advantage for Site C (most notably assuming anything higher than BC Hydro's low load growth). The only case where the alternative

⁴ BCUC, Report Errata, November 16, 2017, p.2.

portfolio exhibits lower costs is if Site C costs rise to \$12.5 billion and the load growth remains at the low forecast.

Based on its assumptions and calculations the Commission concluded that the costs of completing Site C or pursuing its alternative portfolio are roughly the same. There would be a cost advantage to completion of Site C if load grows more rapidly than the Commission assumed and a cost advantage to the alternative portfolio if Site C costs escalate higher than \$10 billion.

It is important to note, however, that BCUC reached this conclusion based on a manifestly unbalanced set of assumption and an incomplete assessment of costs for its alternative portfolio. It also failed to address the markedly different timing and more immediate challenge of the rate impacts in its alternative portfolio as compared to the completion of Site C.

- Lack of balance in assumptions: BCUC concluded that conservative assumptions should be made in respect of the Site C completion scenario. As discussed above, it concluded that a P90 estimate of the remaining costs to complete Site C -- \$10 billion – should be used, adding over \$1 billion to BC Hydro's latest cost estimate. It concluded it should adopt a low load growth forecast and ignored electrification policies and trends due to the uncertainty surrounding them at this time. It then assigned a lower value to Site C surplus sales than trading experts and its own technical consultants forecast. Further, it ignored the value that Site C can realize from storage and the dispatchability of its production, and it ignored the important social and potential market value surplus sales from Site C will realize by displacing thermal power production and reducing GHG emissions in other jurisdictions.

At the same time, while BCUC utilized a P90 estimate in respect of termination costs, it made a number of very questionable and arguably optimistic assumptions about the costs of the measures in its alternative portfolio. It did not address or make any adjustment for the uncertainty in impacts and per unit costs of DSM measures; it did not attempt to estimate the bid prices that BC Hydro would face if it acquired wind energy from IPPs; it used a very low estimate of wind integration costs; and it incorporated geothermal resources in the mid and high load growth cases even though it acknowledged that it is not certain this resource will in fact be commercially viable in BC.

All of this served to maximize the BCUC's cost estimate for Site C and minimize its cost estimate for the alternative portfolio.

- Incomplete assessment of costs: The BCUC did not include all of the costs customers and BC Hydro would incur with its alternative portfolio. As noted earlier in this memo, it improperly excluded what in many cases can be the largest component of DSM costs – the costs that customers themselves incur to reduce requirements or to shift demand to off-peak periods.

Also, in determining the shortfalls in peak generation capacity BC Hydro would face without Site C, the BCUC assumed that Revelstoke 6 would be developed in the mid 2020's. However, nowhere in its spreadsheets does it report the costs of developing Revelstoke 6 – a project that would cost some \$500 million – more in 2018\$. The availability of Revelstoke reduces the need for other capacity oriented measures in alternative portfolio. The BCUC analysis captures the benefit of Revelstoke 6 for this portfolio but not the costs.

- Timing of rate impacts: The BCUC relied on its calculation of present value costs over a 70 year period to assess the consequences for customers of completing Site C versus pursuing its alternative portfolio. While this is an appropriate criterion to compare long term consequences, it says nothing about the different timing of the costs (BC Hydro revenue requirements) and rate impacts.

There are in fact major differences in the timing of the costs and rate impacts in the Site C completion versus alternative portfolio scenarios, but the BCUC did not address them. Most importantly, it did not address the timeframe over which the some \$4 billion of sunk and termination costs would be recovered.

If Site C is completed there would be no termination costs and the sunk costs would properly be recovered over the expected economic life of the asset. Distant future as well as current customers would share in this cost because they share in the benefits it offers. If Site C is abandoned, however, there would be no justification for recovering the termination and sunk costs over anything other than a short period. Deferring cost recovery would simply add to (almost double) the rate smoothing and other regulatory accounts that most analysts believe are already far too high. It would impose an unfair burden on future customers.

An analysis of the annual cost and rate impacts in both scenarios, assuming cost recovery in accordance with standard utility regulation principles, is missing from the BCUC report. If done it would point to a very significant and immediate adverse consequence of terminating the project at this time.⁵

⁵ It would also increase the present value advantage of completing Site C as compared to the alternative portfolio. As shown in Figure 26, p.164, the present value cost of the recovery of sunk (and termination) costs is higher the shorter the amortization period.

The BCUC noted one could argue that perhaps government should absorb these costs. But even if that were done it would not change the magnitude of the impact, just the manner in which BC residents would be affected. It would shift the burden of the recovery of the termination and sunk costs to taxpayers as opposed to ratepayers. There would be differences in the extent to which individual families and businesses would be affected but the impact overall would be the same.

Concluding Comments

The main issue with Site C has never been whether it is an attractive electricity supply resource. Operating in conjunction with the upstream Williston reservoir, it is a cost-effective and strategically valuable resource. As the Joint Review Panel concluded:

Despite high initial costs and some uncertainty about when the power would be needed, the Project would provide a large and long-term increment of firm energy and capacity at a price that would benefit future generations ... and provide a foundation for the integration of other renewable low carbon sources as the need arises.⁶

From an electricity resource planning perspective, the issue with Site C hasn't been whether, but when.

It is widely recognized that Site C should not have been started when it was. With considerable uncertainty over the load growth forecast, and DSM opportunities that could further delay the need for Site C energy and capacity, the start of construction on Site C could and likely should have been delayed a number of years. But circumstances are different now that over \$2 billion has been spent and another near \$2 billion would have to be spent to terminate the project at this time.

There is no case in the BCUC report that ratepayers would be better off to abandon the Site C project at this time. One needs an unbalanced and incomplete costing of the alternatives just to conclude an alternative portfolio would be close in cost. And as for suspending and restarting at a time that would have been more attractive before construction had commenced, the BCUC is very clear. It is the worst of the options available to the government.

Unless the government takes the position that Site C should be abandoned now and forever for environmental, First Nations or other such reasons, the best course of action at this time is to continue to complete the project, taking whatever steps are necessary to minimize remaining costs, maximize the value of the surplus Site C will inevitably produce and address as best as possible the issues that First

⁶ Report of the Joint Review Panel, Site C Clean Energy Project, May 1, p.(iv).

Nations and local residents have in respect of the unavoidable impacts the project will have.

MEMO

Re: Submitting feedback from stakeholder calls

This response template includes the info for all stakeholders calls that will happen today. Sort the excel workbook by column E to see just the data that applies to you. You can clear all the data that doesn't apply to you, and submit a workbook that includes only data on the calls that apply to you. For each call you make today, please fill in a row of data into the excel template.

Instructions for data entry:

Columns A-G: Information on who you're calling, their contact info, who is making the call, and any context notes provided by XX.

Column H-J: Indicate in these columns who made the call, the time you made the call and whether or not you reached your stakeholder. If you did not reach the stakeholder, indicate whether you left a message or not using the drop down menu.

Columns K-N: Use the drop down tabs in K-N to indicate whether a stakeholder indicated that they (K) intend to pursue legal action (L) intend to engage with the media [interviews or ads] (M) have requested a phone call or meeting with another member of government. In column (N) please provide detailed notes on what the stakeholder mentioned regarding any of the flags.

Column O: Use the drop down tab to indicate whether the stakeholder expressed overall support or opposition to the decision.

Column P: Use this column for taking brief notes about the reasons raised by the stakeholder for their support or opposition.

Instructions for data submission:

- 1) At the end of every hour, email your excel workbook to Mira.oreck@gov.bca.ca
- 2) Leave one row empty before you start entering data from calls in the subsequent hour.
- 3) Repeat until all calls are complete.

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STAKEHOLDER GUIDELINES – SITE C

For any questions, call Mira Oreck (604-839-1967)

GOAL:

Connect with as many stakeholders as possible directly about the government's decision on Site C. Allow stakeholders an opportunity to ask questions, share their perspective, plans and next steps.

Guidelines for Stakeholder Outreach

- When reviewing list, determine if any calls need to be set up in advance
- All calls must be made with someone else present
- Note-taker should capture **immediate response, notification of legal action, notification of plans to speak to media, requests for additional meetings or calls, concerns or key reasons for agreement**
- If there is no answer, leave a message with a phone number for a returned call back
- If an issue comes up through the call directly relevant to another ministry, call Tim Howlett (issues manager) immediately (250-208-4828)
- Submit information from call by email every hour to Mira.Oreck@gov.bc.ca
- If an immediate media question arises, contact Jen Holmwood (250-818-4881)

Who will be making calls?

- Premier
- Geoff Meggs
- Don Wright
- Minister Michelle Mungall (James McNish)
- Minister Scott Fraser (Jonathan Sas)
- Minister George Heyman (Caelie Frampton)
- Minister Lana Popham (Will Beale)
- Minister Doug Donaldson (Tim Rennerberg)
- Karen Cooling
- Minister Ralston (Meghan Sali)
- DM - Dave Nikolejsin
- Finance Ministry Staff

Howlett, Tim GCPE:EX

From: Oreck, Mira PREM:EX
Sent: Sunday, December 10, 2017 9:26 PM
To: Sanderson, Melissa EMPR:EX; McNish, James EMPR:EX; Sali, Meghan JTT:EX; Renneberg, Tim FLNR:EX; Sas, Jonathan IRR:EX; Beale, William AGRI:EX; Cooling, Karen LBR:EX; Frampton, Caelie ENV:EX
Cc: Clark, Layne PREM:EX; Howlett, Tim GCPE:EX; Van Meer-Mass, Kate PREM:EX; Nash, Amber PREM:EX
Subject: Stakeholder list and guidelines
Attachments: Stakeholder Feedback Template_Sunday 9pm.xlsx; MEMO- Submitting feedback from stakeholder calls_Sunday 5pm.docx; Stakeholder Guidelines Site C.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Hi, all –

Please see attached three documents:

1. A final stakeholder list (in a new format for submitting feedback)
2. A memo that outlines how to record and submit the information in the calls
3. Guidelines for the calls – as previously discussed this evening

Tomorrow you will receive a script along with FAQ's, talking points and much more.

Please be in touch with any questions tonight or tomorrow.

Many thanks,
Mira

Mira Oreck, Director of Stakeholder Relations
Office of the Premier
#740 – 999 Canada Place
Vancouver, BC
604 775 2116

Howlett, Tim GCPE:EX

From: Oreck, Mira PREM:EX
Sent: Monday, December 11, 2017 10:31 AM
To: Sanderson, Melissa EMPR:EX; McNish, James EMPR:EX; Sali, Meghan JTT:EX; Renneberg, Tim FLNR:EX; Sas, Jonathan IRR:EX; Frampton, Caelie ENV:EX; Beale, William AGRI:EX; Cooling, Karen LBR:EX
Cc: Clark, Layne PREM:EX; Howlett, Tim GCPE:EX; Van Meer-Mass, Kate PREM:EX; Nash, Amber PREM:EX; Wong, Tamarra PREM:EX
Subject: Stakeholder Calls & Scripts
Attachments: Stakeholder Feedback Template_Monday 1030.xlsx; Scripts Final.docx
Follow Up Flag: Follow up
Flag Status: Completed
Categories: Red Category

Hi, all –

Please see the updated call list – it has changed since yesterday so please review it carefully. Yellow background means there is no phone number, green is unassigned.

Please be in touch with questions/changes and of course updates.

Thanks,
Mira

Mira Oreck, Director of Stakeholder Relations
Office of the Premier
#740 – 999 Canada Place
Vancouver, BC
604 775 2116

Howlett, Tim GCPE:EX

From: McNish, James EMPR:EX
Sent: Tuesday, December 5, 2017 12:32 PM
To: Oreck, Mira PREM:EX
Cc: Howlett, Tim GCPE:EX; Sanderson, Melissa EMPR:EX
Subject: Stakeholders list 12:29 Dec 5th
Attachments: Draft Stakeholder Plan Site C Dec 5 1229 pm.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Here is the most up to date version of the Stakeholder Plan.

James McNish
Ministerial Assistant
To the Honourable Michelle Mungall
Minister of Energy Mines and Petroleum Resources
Ph#: 250-387-4471

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**WORKING DRAFT
STAKEHOLDER PLAN – SITE C
NOVEMBER 30, 2017**

GOAL:

Connect with as many stakeholders as possible directly about the government’s decision on Site C. Allow stakeholders an opportunity to ask questions, share their perspective, plans and next steps.

s.13

Guidelines for Stakeholder Outreach

- When reviewing list, determine if any calls need to be set up in advance
- All calls must be made with someone else present

- Note-taker should capture **immediate response, notification of legal action, notification of plans to speak to media, requests for additional meetings or calls, concerns or key reasons for agreement**
- If there is no answer, leave a message with a phone number for a returned AND scheduled call back (i.e. the number should be an AC)
- If an issue comes up through the call directly relevant to another ministry, call Tim Howlett (issues manager) immediately
- Submit information from call (either via survey or directly to Mira Oreck – TBD)
- If an immediate media question arises, contact XX

Note: Mira Oreck will maintain the master document of responses to calls.

Who will be making calls?

- Premier
- Geoff Meggs
- Don Wright
- Minister Michelle Mungall (James McNish)
- Minister Scott Fraser (Jonathan Sas) – must be set up well in advance
- Minister George Heyman (Caelie Frampton)
- Minister Lana Popham (Will Beale)
- Minister Carole James (Robyn Spilker)
- Attorney General (George Smith)
- Minister Doug Donaldson (Tim Rennenberg)
- Minister Harry Bains (Karen Cooling)
- Minister Robinson (Craig Ashbourne)
- DM - Dave Nikolejsin

Internal Stakeholders

- MA's
- EA's
- CA's

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INSIGHTS WEST for GCPE

Survey on Site C - November 2017

Results are based on an online study conducted from November 10 to November 15, 2017, among 1,000 Canadians. The data has been statistically weighted according to Canadian census figures for age, gender and region. The margin of error—which measures sample variability—is +/- 3.1 percentage points, nineteen times.

109 *British Columbian adults.*
gion in British Columbia.
s out of twenty.

Research Factum
Government Communications & Public Engagement
Topic: Site C

Methodology: Results are based on an online study conducted from November 10 to November 15, 2017, among 1,009 British Columbian adults. The data has been statistically weighted according to Canadian census figures for age, gender and region in British Columbia. The margin of error—which measures sample variability—is +/- 3.1 percentage points, nineteen times out of twenty.

In general, are you satisfied or dissatisfied with the way things are going in British Columbia at this time?

- Satisfaction with the way things are going in BC stands at 62% across the province (7% “very satisfied”, 55% “moderately satisfied”).
- Dissatisfaction stands at 33% (24% “moderately dissatisfied”, 9% “very dissatisfied”).
- The lowest level of satisfaction is observed in Northern BC (47%) and the highest in Vancouver Island (69%).

And are you satisfied or dissatisfied with the way British Columbia’s economy is doing at this time?

- Satisfaction with the economy stands at 67% (9% “very satisfied”, 58% “moderately satisfied”).
- Dissatisfaction stands at 28% (23% “moderately dissatisfied”, 5% “very dissatisfied”).
- The lowest level of satisfaction is observed in Northern BC (50%) and the highest in Vancouver Island (72%).

Looking at BC’s energy policy, what should the provincial government’s priority be when it comes to new energy development projects. Please rank these priorities from 1 to 5, with 1 being the most important to you and 5 being the least important to you.

- The two most important priorities are “Supporting new economic opportunities and jobs” (25%) and “Helping fight climate change by shifting more of our economy to clean power” (24%), followed by “Developing new, renewable sources of energy” (20%), “Keeping consumer energy bills low” (19%) and “Defending BC’s natural environment and agricultural lands from permanent flooding” (10%).

Do you agree or disagree with the following statements?

- “BC’s government has a responsibility to balance energy development and environmental protection.” – Agree 91%.
- “Hydroelectric projects require significant public investment, but they are worth it if BC is going to replace fossil fuels that pollute our air.” – Agree 73%

- "BC needs to shift to other renewable energy alternatives like solar and wind power to meet our climate goals, even if they may not provide a reliable energy supply for the province." – Agree 67%
- "We need to proceed with major energy projects to keep our economy strong, even if they impact our environment or Indigenous relations." – Agree 41%

Can you name any hydroelectric dam projects currently under construction in BC? Please type your response in the box below.

- More than two thirds of British Columbians (69%) typed Site C or Site C-related words in the box.
- Three-in-ten (30%) said they could not recall any project, including 39% of Women, 45% of those aged 18-to-34 and 41% of those who reside in the Fraser Valley.

The Site C Dam project is currently under construction in northeast BC. From what you have seen, read or heard about it, do you support or oppose completion of this project?

- Almost half of British Columbians (46%) say they support completing Site C (20% "strongly", 26% "moderately").
- More than a third of British Columbians (35%) say they oppose completing Site C (18% "moderately", 17% "strongly").
- One-in-five British Columbians (20%) are undecided.
- The highest level of support for the completion of Site C is observed among Men (56%), British Columbians aged 55 and over (57%) and residents of Southern BC / Okanagan (61%).
- The highest level of opposition for the completion of Site C is observed among Women (37%), residents aged 35-to-54 (also 37%) and residents of Vancouver Island (43%).
- Among those who are satisfied with the way things are going in BC, support for Site C stands at 44% and opposition at 39%.

To supporters – Why do you support completing the Site C Dam project?

- Four-in-five "supporters" (79%) say Site C It will generate clean, renewable energy for future generations, and two thirds (67%) say it will help create jobs and foster economic development throughout BC.
- Slightly fewer "supporters" say Site C will keep consumer energy bills reasonable, stable and predictable into the next century (63%) and will help BC meet its climate change goals by reducing greenhouse gas emissions (59%).

To opponents – Why do you oppose completing the Site C Dam project?

- Four-in-five "opponents" (81%) say Site C will flood valuable farmland and wildlife habitat, while more than two thirds say it has not been fully approved by all the Indigenous people in the area (69%) and want BC to focus on alternative energy sources like solar and wind power (68%).
- Three-in-five "opponents" (60%) think Site C will cost too much money to complete, and about half (52%) think we don't need it to meet BC's future demand for energy.

As you may know, the Site C Dam project was approved by the previous provincial government in December 2016 without being referred to the BC Utilities Commission (BCUC) for an independent review. After the 2017 provincial election, the new provincial government referred the project to the BCUC for review. Before today, were you aware of this decision by the new provincial government?

- Three-in-five British Columbians (61%) were aware of the provincial government's decision, including 72% of Men, 75% of residents aged 55 and over, and 66% of those who reside in Southern BC / Okanagan.

And, all things considered, do you agree or disagree with the new provincial government's decision to refer the Site C Dam project to the BC Utilities Commission (BCUC) for an independent review?

- Almost two thirds of residents (63%) agree with the provincial government's decision, while one-in-five (25%) disagree.
- The highest level of agreement is observed among Women (64%), residents aged 18-to-34 and 55+ (both also 64%) and residents of Vancouver Island (72%).

Below are statements that support **completing** the Site C project. Please rank these statements from 1 to 5, with 1 being the most persuasive to you and 5 being the least persuasive to you.

- The most persuasive argument is "Completing the Site C project is in the best interests of British Columbians. It will mean affordable and predictable hydro bills, good jobs for workers, and green energy for generations to come", which is ranked #1 for 30% of British Columbians (and 40% among those who support completing Site C).
- About one-in-five residents chose "When Site C is finished, it will play a big role in moving BC and our customers—like Alberta and California—towards cleaner hydroelectric energy and away from burning coal and other fossil fuels that pollute our air" (22%) and "BC should move ahead with alternative energy sources like wind and solar power, but we will need a reliable source of energy to back-up those new power sources. That is a good reason to move ahead with Site C." (21%)
- The least persuasive arguments are "Construction of Site C is already well underway. While it may take \$10 billion to finish construction, we should complete the project so we don't throw away the \$4 billion that have already been invested" (14%) and "It has been estimated that stopping Site C now could cost \$3.8 billion and increase consumers' BC Hydro bills by 10% a year for 10 years. To protect ratepayers, we need to move forward with the project." (13%)

Below are statements that support **stopping** the Site C project. Please rank these statements from 1 to 4, with 1 being the most persuasive to you and 4 being the least persuasive to you.

- There is no clear "winner" on this question, with 28% ranking "Site C should be stopped because it would flood hundreds of acres of valuable farmland, wildlife habitat and Indigenous lands" as their #1 option.
- Across British Columbia, 27% selected either "For BC to achieve the economic benefits of being a climate action leader, we must seize the opportunity now to develop renewable

- energy technologies such as wind and solar. Let's take the money we would need to complete Site C and use it to lead the world in new energy alternatives", including 31% of "opponents".
- Another 27% chose "In just the past few months, there have been stress cracks in the construction of the Site C dam, adding \$600 million to the project already. If we can't guarantee costs won't rise even more, Site C is just too big a risk—so we should cut our losses and stop the project now."
 - The least persuasive argument (19%) is "The BC Utilities Commission recently concluded that Site C is unlikely to be finished either on time or on budget. This project is just too great a risk for taxpayers."

==30==

Howlett, Tim GCPE:EX

From: Gibbs, Robb GCPE:EX
Sent: Friday, November 17, 2017 9:24 AM
To: Meggs, Geoff PREM:EX; Aaron, Sage PREM:EX; Lloyd, Evan GCPE:EX; Kristianson, Eric GCPE:EX; Zadavec, Don GCPE:EX; Haslam, David GCPE:EX; MacLaren, Les EMPR:EX; Nikolejsin, Dave MNGD:EX; Howlett, Tim GCPE:EX; Sanderson, Melissa EMPR:EX; Haslam, David GCPE:EX
Subject: Site C results
Attachments: SiteCNov2017_Tables.xlsx; SiteCNov2017_Factum.pdf

Hi all,

Attached are the polling high-level report and the tables for your review and discussion. Good overall awareness of the project (69%) but the yes/no split is quite a bit closer than was shown in the BCH poll.

Tks,

Robb

Robb Gibbs
ADM – Strategic Communications
Government Communications & Public Engagement
P: 1-778-698-7469
C: 1-778-584-1242

Site C

Highlights:

- The BCUC delivered its final report on the Site C review on November 1st.
- The BCUC assumed that the cost of Site C would rise to \$10 billion and that BC Hydro's low load forecast was the most realistic scenario.
- The BCUC assembled their own alternate energy portfolio based on wind power and significant demand management.

s.13

Contrast:

s.13

Page 102

Withheld pursuant to/removed as

s.13

Background:

- The report finds that suspending the project and restarting later would greatly increase costs and this is not a recommended option.
- The report concludes that based on an assumption of a \$10 billion cost for Site C, and the use of BC Hydro's low load forecast scenario, when compared with the BCUC's alternative energy portfolio, either option would have very similar impact on ratepayers.
- However their sensitivity analysis finds that if project costs increase to \$12 billion (as was noted was a possibility by Deloitte), it would be significantly lower cost to cancel Site C and build an alternative portfolio.
- Conversely, if electricity demand rose in line with BC Hydro's medium load forecast, it would be significantly cheaper to proceed with Site C.
- BCUC estimates that costs of terminating the project and remediating the site would be \$1.8 billion and accepts BC Hydro's estimate that \$2.2 billion will have been spent by year end.
- BCUC questions BC Hydro's load forecasts and assumptions underlying their cost estimate of alternative energy portfolios.
- The BCUC has adopted BC Hydro's low load forecast as the most realistic.
- The BCUC developed their own alternative energy portfolio for analysis based on wind power, demand-side management, and industrial load curtailment.
- During the process, BC Hydro filed new information indicating that the project was a year behind their construction schedule and will cost an additional \$610 million – bringing the total cost to \$8.95 billion according to BC Hydro
- The BCUC projects that \$10 billion is a more realistic final cost for the project.
- BCUC also indicated that there are further risks to cost and schedule that could increase final costs beyond \$10 billion.
- The panel received 620 written submissions and more than 300 people made presentations at community and First Nations public input sessions around the province.
- Ministers Mungall and Fraser will be meeting with First Nations in mid-November.

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s.13

Contrast:

s.13

Page 108

Withheld pursuant to/removed as

s.13

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s.13

Contrast:

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Page 111 to/à Page 113

Withheld pursuant to/removed as

s.13

Site C

Highlights:

- In their final report, the BCUC assumed that the cost of Site C would rise to \$10 billion and that BC Hydro's low load forecast was the most realistic scenario.
- The BCUC also assembled their own alternate energy portfolio based on wind power and significant demand management.
- Based on these assumptions they found that there is little difference in impact on ratepayers between proceeding with Site C or cancelling and building alternate energy.
- The BCUC notes that this could change significantly if the costs of Site C increase further up to \$12 billion (favouring alternate) or if electricity demand increases beyond the low load forecast (favouring Site C).
- The opposition has alleged that the Minister confirmed in estimates that cancelling Site C would lead to a 10% rate hike.

s.13

Page 115 to/à Page 120

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Site C – cost overruns

Highlights:

- The opposition has claimed that Site C was on time and on budget when their government left office.

s.13

Page 122 to/à Page 123

Withheld pursuant to/removed as

s.13

Welgush, Lindsey GCPE:EX

From: Gibbs, Robb GCPE:EX
Sent: Monday, December 11, 2017 11:15 AM
To: Aaron, Sage PREM:EX; Clark, Layne PREM:EX; Lowe, Mike GCPE:EX; Lloyd, Evan GCPE:EX; Zadavec, Don GCPE:EX; Kristianson, Eric GCPE:EX; Haslam, David GCPE:EX; May, Ed LASS:EX
Subject: corrected key messages
Attachments: Site C Key Messages - Dec11V1.docx

Hi,

This version has corrected a typo spotted by Lavne.

Tks,

Robb

Site C Key Messages

Snapshot Messages:

- The old government recklessly pushed Site C past the point of no return.
- Site C should never have been started, but we can't change the past – we can only make the best decision for BC's future.
- We will not ask British Columbians to take on \$4 billion in debt with nothing in return for the people of this province and, even worse, with massive cuts to the services they count on.
- We will not put at risk our ability to deliver on housing, child care, schools and hospitals for families.
- We will launch a Site C turnaround plan to contain costs and add more benefits for people and communities.
- We respect and honour the commitment of people who oppose Site C and work every day to fight climate change.
- We share their determination to protect our environment and create a better future for BC built on clean, renewable energy.
- As we move toward reconciliation, our government and BC Hydro will work with Treaty 8 First Nations on solutions to address their concerns with Site C.

General Messages:

- The old government's legacy of megaproject mismanagement has left B.C. in a terrible situation. But we cannot punish British Columbians for those mistakes and we can't change the past – we can only make the best decision for the future.
- It's clear that Site C should never have been started. But to cancel it would add billions to the province's debt – putting at risk our ability to deliver housing, child care, schools and hospitals for families across B.C. And that's a price we're not willing to pay.
- We will not ask British Columbians to take on an immediate and unavoidable \$4 billion in debt with nothing in return for the people of this province and, even worse, with massive cuts to the services they count on.
- The old government recklessly pushed Site C past the point of no return, committing billions of dollars to this project without appropriate planning and oversight. Our job now is to make the best of a bad deal, overcome the previous government's legacy of megaproject mismanagement, and do everything possible to turn Site C into a positive contributor to our energy future.
- We are putting in place a Site C turnaround plan to contain project costs, provide enhanced project oversight, and add tangible benefits for people and communities.
- We respect and honour the commitment demonstrated by those who oppose Site C, and share their determination to move B.C. to a renewable energy future. So we will be pursuing an alternative energy strategy to develop even greater supplies of the clean power we'll need to electrify key sectors of our economy and meet our climate goals.
- We know this decision is not what some First Nations wanted. Their voices were heard and their perspectives were an important part of the deliberations on a very challenging decision.

On the old government's legacy:

- The old government struck BC with the wrong project at the wrong time with a misleading budget and poor project management.
- Site C was driven by the old government's political agenda and mismanagement of BC Hydro.
- Former Premier Christy Clark drove the project forward – without independent BCUC review and without a solid budget – to meet political deadlines and planned to make it impossible to reverse. The \$4 billion in debt is her legacy.
- Our government is putting an end to the years' of energy policy that put politics ahead of people – where government forced BC Hydro into costly contracts, hiking rates for homeowners and renters, and delivering dividends to government it simply couldn't afford.

How we got here:

- We campaigned on a promise to refer the Site C project to the independent BC Utilities Commission for review. We delivered on that commitment.
- The BCUC validated some of our concerns:
 - Serious budget overruns were identified
 - The existence of alternative sources of green power – wind and solar – that could meet BC's needs were confirmed
- The BCUC ruled out any middle course: to mothball or suspend the project and restart it later was prohibitively expensive

How we're moving forward:

We are addressing issues raised by the BCUC and by British Columbians throughout the province who are concerned about BC's environmental future. Which is why – as we move ahead with completing Site C and making the best of a bad situation – we are putting in place a Site C turnaround plan to:

- Launch a new Project Assurance Board to provide enhanced oversight on future contract procurement and management, project deliverables, environmental integrity, and quality assurance – all within the mandate of delivering the project on time and budget. Based on current projections, BC Hydro has revised the budget to \$10.7 billion.
- Bring in a Community Benefits Programs, mandated with making sure that project benefits assist local communities, and increasing the number of apprentices and First Nations workers hired onto the project.
- Establish a new BC Food Security Fund – based on Site C revenues – dedicated to supporting farming and enhancing agricultural innovation and productivity across BC.

In addition to funding for provincewide food security initiatives, the turnaround plan will:

- Ensure the Peace River Legacy Fund implements solutions to longer-term environmental, social and economic issues.
- Activate the \$20-million agricultural compensation fund to offsets lost sales and stimulate long-term productivity enhancements in Peace Valley agriculture.

Reaching our climate goals:

- Our government respects and honours the commitment of people who oppose Site C, and share their determination to move B.C. to a clean, renewable energy future and to embrace the principles of reconciliation with Indigenous communities.
- As we move forward on climate action, we welcome ideas from across our province as we define an energy strategy that protects our environment, delivers on our climate responsibilities, powers future generations, and creates jobs and opportunities for all British Columbians.

On relations with Indigenous communities:

- We recognize the significant impact on Treaty 8 First Nations opposed to this project.
- We know this decision is not what some First Nations wanted. Their voices were heard and their perspectives were an important part of the deliberations on a very challenging decision.
- UNDRIP guides us on how we engage First Nations. That is why Ministers Mungall and Fraser wanted to hear directly from the Treaty 8 First Nations and to be able to carry those perspectives into Cabinet's deliberations.
- In addressing specific concerns about Site C:
 - BC Hydro and the Ministry of Transportation and Infrastructure will work with Treaty 8 First Nations and others to re-design the Highway 29 re-alignment at Cache Creek to reduce impact on potential burial sites and sacred places. BC Hydro will invite proposals from Treaty 8 First Nations for this roadbuilding work.
 - We'll continue recent engaging with First Nations to seek input into the design of a Peace River Legacy Fund and establish a collective Treaty 8 project advisory committee.

Welgush, Lindsey GCPE:EX

From: Haslam, David GCPE:EX
Sent: Friday, December 8, 2017 11:20 AM
To: Kristianson, Eric GCPE:EX; Gibbs, Robb GCPE:EX; Lloyd, Evan GCPE:EX; Zdravec, Don GCPE:EX
Cc: Plummer, Glen GCPE:EX; Grewar, Colin GCPE:EX; Sovka, David GCPE:EX
Subject: FW: UPDATE latest version of Site C backgrounders
Attachments: Backgrounder 1_Site C FISCAL IMPLICATIONS_8 Dec 2017_1109am.docx; Backgrounder 2_Site C NEW DIRECTIONS_8 Dec 2017_1109am.docx; Backgrounder 3_Site C HOW WE GOT HERE_8 Dec 2017_1109am.docx

Eric – as discussed attached are the backgrounders. Note have 3 now – not 4. The Climate backgrounder has been pulled back. David Sovka holds the pen in my office. Please include him and cc me on any edits. Attached are:

Backgrounder 1 – Fiscal Implications – addresses impact on budget and rates

Backgrounder 2 – New Directions – speaks to mitigation policies (currently being ground-truthed with Les)

Backgrounder 3 – How We Got Here – previous government policies

BACKGROUND

For Immediate Release
[release number]
Dec. 11, 2017

Ministry of Energy, Mines and Petroleum
Resources

Site C Termination Implications for BC Hydro Customers and BC Taxpayers

The decision to proceed with construction of Site C was primarily driven by the government's commitment to ensure that electricity remains affordable for British Columbians.

Based on the the independent analysis provided by the BC Utilities Commission (BCUC) and due diligence conducted by the Ministries of Energy, Mines and Petroleum Resources, and Finance, completing Site C will provide BC Hydro customers a benefit of between \$250 and \$825 million as compared to terminating the project and developing a new alternative portfolio of power projects.

In its report, the BCUC estimated that BC Hydro would need to spend an additional \$1.8 billion for termination and site remediation costs if it were to cancel the project. This is in addition to the \$2.1 billion of sunk construction and planning costs that will have been spent by the end of December 2017.

Faced with nearly \$4 billion of debt-financed spending for which ratepayers and taxpayers would receive no assets or benefits, the Province would have to recover those costs from either BC Hydro customers or taxpayers.

As a regulated utility, BC Hydro is obligated to file a plan with the independent BCUC who would ultimately determine which course of action it deemed most appropriate.

If the BCUC determined that BC Hydro could recover the nearly \$4 billion in Site C costs from its customers, the Commission would then have to decide over what period those debt-financed costs would be recovered:

- If the BCUC opted for a 10-year recovery period, BC Hydro customers' could face a one-time 12.1% rate increase that would last for the next decade. This would be in addition to any other rate increase required to cover BC Hydro's ongoing debt servicing and other operating costs, including recovery of its rate deferral accounts.
- If the BCUC decided on a 30-year recovery period, BC Hydro customers would face an immediate 6.1% rate increase, in addition to any other BC Hydro increases to cover operating costs.
- If the BCUC opted for a longer recovery period of 70 years, customers would not face short-term rate impacts. Such a move would, however force future generations to pay for a valueless asset from which they never receive benefits. This course of action would also increase the risk that provincial bond rating agencies would bring into question BC

Hydro's financial sustainability thus increasing the risk that BC Hydro's entire debt load becomes viewed as non-commercial. This would place significant pressure against the Province's AAA credit rating and annual borrowing costs.

If the BCUC decided that BC Hydro should not recover the \$4 billion of Site C debt from its customers, the corporation and the Minister of Finance would face two options that would significantly impact BC taxpayers:

- If BC Hydro retained the \$4 billion debt, it would first be obligated to write off the Site C costs as unrecoverable, thus causing BC Hydro and the Province to slip into significant deficits. The corporation would then face an even higher risk of no longer being viewed by rating agencies as self-supporting and having its entire debt reclassified as non-commercial.
- Such a move would significantly risk the Province losing its AAA rating with a resultant increase in borrowing costs, thus reducing the annual budget available for key priority spending areas.
- If government itself chose to assume the nearly \$4 billion of Site C debt – thus safeguarding BC Hydro – it would immediately increase BC's level of taxpayer-supported debt from about \$44.6 billion to \$48.6 billion.
- This increase would also erode the Province's key fiscal sustainability debt-to-revenue ratio by 7-8 percentage points – a measure critically assessed by provincial bond-rating agencies and ultimately determines the Province's borrowing and debt-servicing costs.
- Absorbing the Site C debt into government taxpayer-supported debt would likely eliminate planned increases in provincial capital spending over the next 2 years. For context, \$4 billion in assumed Site C debt could pay for the equivalent of:
 - three Royal Columbian Hospitals
 - 66 secondary schools
 - three Evergreen Line transit projects
 - three Pattullo Bridge replacements
- This additional taxpayer-supported debt load would also increase operating costs in the provincial budget by \$120 million to \$150 million annually – with nothing to show for it.

Contact:

Suntanu Dalal

Media Relations

Ministry of Energy, Mines and Petroleum Resources

250 952-0628

BACKGROUND

For Immediate Release
[release number]
Dec. 11, 2017

Ministry of Energy, Mines and Petroleum
Resources

Site C Mitigation Elements

We are working throughout government, with BC Hydro, First Nations and stakeholders to develop actions to address concerns about Site C that were highlighted during the review. While the specific details are still under development, our new direction for Site C is as follows:

New Management Direction

- An independent, expert project assurance team will work with BC Hydro to ensure that the project is completed by November 2024, at a total cost not to exceed \$10.7B.

Agricultural, Communities, Environmental and other interests

- A Peace River Legacy Fund will be introduced, with dam-related funding to implement solutions to longer-term environmental, social and economic issues, including strategies to enhance Peace Valley agricultural production.
- Post completion, worker accommodation facilities will be moved to a local skills-training institution.
- A skills development agreement will be introduced, which includes a labour agreement for procurements not already underway, new apprenticeships, and training programs for jobs on alternative projects.
- A \$20M agricultural mitigation fund will be put in place to compensate lost sales and stimulate enhancements in Peace Valley agriculture.
- In order to enhance British Columbia's food security, double the 3,800 flooded hectares in the Peace River Valley will be added to the Agricultural Land Reserve's productive land base.

Treaty 8 First Nations

- BC Hydro and the Ministry of Transportation and Infrastructure will work with Treaty 8 First Nations and others to re-design the Highway 29 re-alignment at Cache Creek to reduce impact on potential burial sites and sacred places. BC Hydro will invite proposals from Treaty 8 First Nations for this roadbuilding work.
- The Ministry of Indigenous Relations and Reconciliation and BC Hydro will continue to engage Treaty 8 First Nations to seek additional solutions to mitigate the adverse impacts of Site C, and to advance reconciliation.

- As a component of the comprehensive review of BC Hydro, the Province and BC Hydro will consider the development of a new procurement stream for smaller scale renewable electricity projects where Indigenous Nations are proponents or partners to create local employment and commercial opportunities throughout B.C. as well as environmental benefits with the replacement of diesel or fossil fuel-based energy installations. The Ministry of Energy, Mines and Petroleum Resources and the Ministry of Finance will bring these proposals to government by fall 2018.

- The Province will continue recent direct government engagement with First Nations to seek input into the design of a Peace River Legacy Fund and establish a collective Treaty 8 project advisory committee.
- Work will continue in addressing cultural concerns, enhancing business opportunities, and retaining funding/land transfers and contract opportunities.

Pioneer Families

- In addition to ongoing compensation at market rates, BC Hydro will relocate the Boon family home onto new land. Note: new Cache Creek alignment options to mitigate Highway 29 modifications due to First Nation issues will have an incremental impact on the Boon family home.

Contact:

Suntanu Dalal
Media Relations
Ministry of Energy, Mines and Petroleum Resources
250 952-0628

BACKGROUND

For Immediate Release
[release number]
Dec. 11, 2017

Ministry of Energy, Mines and Petroleum
Resources

From IPPs to Site C: Bad Decisions that Shaped BC Electricity Policy

Government's decision to proceed with the completion of Site C was driven, in large part, by a series of decisions made over the past decade and a half that affected the province's energy supply and electricity rates.

In 2002, the previous government introduced the Energy Plan which mandated that all new power generation opportunities were reserved for the private sector. Through the extensive use of Electricity Purchase Agreements with private power producers (IPPs), BC Hydro made long-term commitments to purchase a large supply of new intermittent power, primarily through run-of-river power projects, at prices considerably higher than the cost of BC Hydro's heritage hydroelectric assets.

BC Hydro committed to more than 135 contracts with an average term of 28 years. And while power generated by BC Hydro's heritage assets cost \$32 per MWh, power from IPPs cost \$100 per MWh. Today these contracts represent future financial commitments of over \$50 billion.

The Energy Plan also changed the structure of BC Hydro and established a stand-alone BC Transmission Corporation to allow IPPs to access the transmission system and to sell directly to large consumers.

At the same time that BC Hydro was acquiring this new supply of intermittent power, the previous government directed BC Hydro to decommission its Burrard Thermal generation facility in the Lower Mainland to address growing concerns about local air pollution and greenhouse gas emissions. As the corporation lost Burrard Thermal's capacity to backstop the intermittent power produced by its new suite of IPPs, it was forced to seek new capacity or "firm" power, the type traditionally provided by hydroelectric facilities like Site C.

In 2010, the previous government introduced the Clean Energy Act, which exempted a number of BC Hydro projects and power procurement activities from independent review by the BC Utilities Commission including Site C, the Clean Power Call, the Smart Metering Program and the Northwest Transmission Line.

The former government then compounded the financial problems at BC Hydro caused by these decisions by imposing two additional burdens on the corporation.

First, the former government enabled the use of regulatory accounts to finance \$300 million of the \$1 billion Smart Metering and Infrastructure Program that resulted in some costs being recovered over a longer time than without regulatory accounts.

Second, the previous government required BC Hydro to pay dividends to the province from funds BC Hydro had to borrow. The cost of this debt is a direct cost to BC Hydro ratepayers.

Between 2001 and 2017, BC Hydro has grown its liabilities held in regulatory accounts from \$116 million to \$5.597 billion. These costs will have to be recovered from ratepayers in the future.

As a result of these earlier policy decisions, BC Hydro found itself saddled with a new supply of long-term expensive intermittent power, without the electrical capacity to maintain reliable service to its customers. Faced with these challenges, BC Hydro determined that Site C was the most cost-effective option to both increase capacity in B.C.'s electrical system, to increase supply to address future load growth, and to provide flexibility to add more intermittent renewable power sources in the future.

Contact:

Suntanu Dalal

Media Relations

Ministry of Energy, Mines and Petroleum Resources

250 952-0628

Welgush, Lindsey GCPE:EX

From: MacLaren, Les EMPR:EX
Sent: Friday, December 8, 2017 6:46 AM
To: Haslam, David GCPE:EX; Lloyd, Evan GCPE:EX
Cc: Nikolejsin, Dave MNGD:EX; Wieringa, Paul EMPR:EX; Rowe, Katherine EMPR:EX; Sopinka, Amy EMPR:EX; Foster, Doug FIN:EX
Subject: Rate Impact of Site C

I received the following from BCH yesterday. I spoke with Don W about this yesterday afternoon, and we need to work this into the materials for Monday.

- The rate impact chart utilizes the method developed for the Joint Review Panel to provide up-front, absolute rate impacts of adding Site C into rates on a smoothed and un-smoothed basis. This analysis only describes the rate impact of Site C. Other rate increases to recover other capital and operating cost increases would be separate.
 - o Assumes 100% of project is debt financed (conservative – capital is financed with a combination of debt and cash flow)
 - o Assumes Weighted Average Cost of Debt (conservative – 50% of borrowing to 2024 has been locked in at lower rates with a hedge)
- Note that amortization has been done using a straight-line 70 year amortization period. In reality Site C will be subdivided into several different assets with different amortization periods. The 70-year period is a reasonable simplification as it represents the weighted average amortization period.

\$10.7 B PROJECT COST SUMMARY

- All costs and borrowing (including interest during construction) are capitalized until Site C comes into service in 2024.
- When the estimated \$10.7 billion Site C project comes into service in fiscal 2025, BC Hydro is expected to be in a surplus energy position. Site C energy would thus be sold into energy markets as surplus sales.
- Over time as domestic customer load grows, Site C energy begins to be used more and more to serve this domestic customer load. Site C would completely serve domestic customer load by about fiscal 2035.

Page 136 to/à Page 137

Withheld pursuant to/removed as

s.13;s.17

Page 138

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s.13

Welgush, Lindsey GCPE:EX

From: Kristianson, Eric GCPE:EX
Sent: Monday, December 4, 2017 8:58 AM
To: Lloyd, Evan GCPE:EX; Zadravec, Don GCPE:EX
Cc: Lewis, Jason FIN:EX
Subject: technical briefing

Gentlemen,

I just had a chat with Jason Lewis who is the Director of Capital Markets in Finance with respect to the need to keep information from any proposed technical briefing on Site C embargoed until such time as government's chosen course of action is made public. Jason's advice is that while the bond markets tend not to be speculative like the equities markets, there is, nonetheless, a need to ensure that information is released in a way that does not advantage any group over another. To that end, we should probably treat the technical briefing much like a budget lock-up.

Eric Kristianson
ADM Strategic Issues
GCPE
778-584-1248

Welgush, Lindsey GCPE:EX

From: Zadravec, Don GCPE:EX
Sent: Friday, December 1, 2017 4:45 PM
To: Lloyd, Evan GCPE:EX; Aaron, Sage PREM:EX
Subject: updated draft critical path
Attachments: CONFIDENTIAL DRAFT Site C Dec 1.docx

Please see attached for review and comment.

Regards,

Don Zadravec
Executive Director
Resource Ministries
GCPE
778-584-1252

CONFIDENTIAL DRAFT
Site C Report Critical Path
(Dec 1- Dec 11 Announcement Day)

Timing	Event	Notes
Dec 1	Finalize content and materials for microsite	Completed; launch date TBD
Dec x	MOF financial analysis completed	TBC and need to determine when it will be released
Dec 1	Determine venue for technical briefing and announcement	GCPE with PO
Dec 4-5	Finalize draft of communications materials for announcement, Option 1 and 2	Communications plan (GCPE HQ and MEM Comms) Options narratives (GCPE HQ) Key messages (PO, GCPE HQ, and MEM Comms) News Release (MEM Comms) 4 Backgrounders: Rate Impact, environmental benefits, new direction and how we got here (MEM Comms) Media advisory Speaking Notes (TBD) Q&As Issues matrix Presentation deck for caucus and technical briefing (MEMs Comms with Environment Comms) Event plan (GCPE HQ and PO) Media plan (GCPE HQ and MEMs Comms) Social media plan (GCPE Digital) Draft Op-ed for Premier (GCPE HQ) Stakeholder plans (PO, MO, GCPE HQ MEMs Comms and BCH Comms) Materials for caucus, News release, backgrounders, key messages & FAQs (MO and Caucus Comms)
Dec 5	Presentation to caucus	MMM, Timing and details TBC
s.13		
Dec 6	Outreach to Minister Bains and Minister of State Chow	Serve as ethnic media spokesperson post announcement
Dec 6-7	Briefing of Minister Bains and Minister of State Chow	Preparation post for announcement ethnic media outreach
Dec 7	Dry run of technical presentation	DMs of MEM, Climate Change, MOF
Dec 6-10	Finalize all communications materials	

Welgush, Lindsey GCPE:EX

From: MacLaren, Les EMPR:EX
Sent: Friday, December 8, 2017 7:50 PM
To: Wright, Don J. PREM:EX; Kennedy, Christine PREM:EX
Cc: Nikolejsin, Dave MNGD:EX; Wieringa, Paul EMPR:EX; Lloyd, Evan GCPE:EX
Subject: FW: Information Requests
Attachments: 2-3-4. Debt & Reg Acct Bal.xlsx; 5-6. Government Request for Load IPP Generation - 20171208.xlsx; 7. Estimates Note - Independent Power Producers.docx; 8. Comparison of average rates and hydro generation for Government.xlsx; MEMPR - BCH Rates 2000-2017.xlsx

Don and Christine:

Apologies for the delay, this came in nested in an earlier email that I didn't see on my iPhone. Attached are the responses to the requests from this morning for background financial and rates information. The rates chart I did and BC Hydro corrected. Not sure about the Portland % hydroelectricity. Portland General Electric has hydro rights for 16% of its supply, and some of the purchased power will be from the Federal Columbia Power System with mostly hydro as well <https://www.portlandgeneral.com/our-company/energy-strategy/how-we-generate-electricity#>.

Happy to discuss further.

Les

From: Savidant, Michael [<mailto:michael.savidant@bchydro.com>]

Sent: Friday, December 8, 2017 5:14 PM

To: MacLaren, Les EMPR:EX

Cc: O'Riley, Christopher; Yaremko, Cheryl; Clarke, Gareth; Layton, Ryan; Reimann, Randy; James, Fred

Subject: RE: Information Requests

Les,

Please see below for the responses to your requests for information

1. Rate increases and cumulative:

We have provided our response to your rates spreadsheet in a separate email.

2. BC Hydro debt

3. BC Hydro regulatory account balances
4. Debt to assets and debt to assets less regulatory accounts

Please see the attachment marked "2-3-4" for the information requested.

5. Domestic demand
6. % of power from IPPs

Please see the attachment marked "5-6" for the information requested.

7. Current cost of heritage assets vs IPPs

Our most recent calculations show:

- Cost of heritage assets = \$32/MWh
- Cost of IPPs = \$100/MWh

Please see attachment marked "7" for a note on this topic prepared for the recent estimates debate.

8. Comparison of rates and % hydro generation across key western markets (BC, Seattle, Portland, San Francisco)

Please see the attachment marked "8" for the information requested.

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As at March 31

As at March 31		CGAAP						
\$ millions	F2000	F2001	F2002	F2003	F2004	F2005	F2006	F2007
BC Hydro Net Long-Term Debt	7,005	6,214	6,889	6,849	6,853	6,583	6,627	6,916
BC Hydro Regulatory Account Balances	17	(116)	16	102	161	182	421	445
Net Debt to Assets (including Regulatory Assets)	61%	50%	58%	58%	59%	53%	53%	54%
Net Debt to Assets (excluding Regulatory Accounts)	61%	50%	58%	58%	59%	56%	57%	58%

Prescribed Standards (IFRS + ASC 980)										
F2008	F2009	F2010	F2011	F2012	F2013	F2014	F2015	F2016	F2017	
7,519	9,135	10,696	11,520	12,833	13,962	15,461	16,682	18,002	19,796	
572	1,018	1,713	2,160	4,035	4,434	4,699	5,433	5,908	5,597	
52%	56%	59%	59%	59%	59%	60%	60%	60%	62%	
56%	61%	68%	68%	73%	73%	74%	76%	76%	77%	

F2004	F2005	F2006	F2007	F2008	F2009	F2010	F2011	F2012	F2013	F2014	F2015	F2016	F2017
54,756	55,437	57,296	57,982	58,735	57,381	55,178	55,044	56,773	56,255	57,382	55,478	56,198	56,564
6,133	6,444	6,741	6,041	7,765	8,374	8,893	10,805	10,827	10,675	11,025	13,377	14,319	13,644
11%	12%	12%	10%	13%	15%	16%	20%	19%	19%	19%	24%	25%	24%

BC Hydro Estimates Note

Independent Power Producers

Independent Power Producers make up almost 25% of BC Hydro's electricity supply and about 29% of total costs. BC Hydro's IPP portfolio helps meet future growth in demand, and helps meet the requirements in the Clean Energy Act and Climate Leadership Plan. BC Hydro is taking steps to help keep IPP costs as low as possible for our customers while ensuring we can meet future energy needs.

Key Facts

- For existing projects: BC Hydro has been renewing electricity purchase agreements (EPAs) with IPPs at prices less than what they were paid under the original contracts, recognizing that those producers have typically recovered most of their initial capital costs over their original contract terms. As of September 1, 2017, BC Hydro has renewed EPAs for four run-of-river hydro projects. No biomass EPAs have been renewed at this time.
- For projects not yet built: From Fiscal 2014 to Fiscal 2015, 14 EPAs were terminated, 11 EPAs were deferred and 2 EPAs were downsized and/or deferred.

Key Questions

- How much is BC Hydro paying IPPs?
 - The average cost of purchases for IPP energy is approximately \$100/MWh (Fiscal 2017-Fiscal 2019). The cost of heritage generation is \$32/MWh.
 - IPP electricity purchase costs in Fiscal 2017 were approximately \$1.28 billion.
- How many Electricity Purchase Agreements does BC Hydro have?
 - As of September 1, 2017 BC Hydro has 135 active Electricity Purchase Agreements (EPAs). This includes:
 - 122 EPAs for projects that have reached commercial operations, delivering 20,890 GWh/year of contracted energy to both the integrated and the non-integrated system.
 - 13 EPAs for projects that are in various stages of development, representing 1,256 GWh/year of contracted energy.
- Why is BC Hydro renewing expiring Electricity Purchase Agreements?

- BC Hydro has been renewing contracts with IPPs at prices less than what they would have been paid under the original contracts, recognizing that these IPPs have typically recovered most of their capital costs over their original contract terms. This is in line with our commitment to ensure the energy prices for IPPs are cost-effective and in the best interest of our customers. Decisions on further Hydro EPA renewals are being deferred pending the outcome of the Site C review.
 - Why did BC Hydro terminate, downsize and defer number of contracts with IPPs?
 - Given the current Load Resource Balance, BC Hydro has been managing its portfolio of IPP projects by reducing the amount of electricity it purchases through adjustment to supply contracts.
 - Is BC Hydro paying biomass IPPs not to generate power?
 - In order to secure stable and reliable sources of power, BC Hydro needs to pay IPPs to be available to generate electricity at all times. BC Hydro's contracts with biomass plants allow us to pay less when BC Hydro doesn't need the power at certain times, such as when market energy is available at a lower cost than the fuel used to generate power or when warmer temperatures mean less power is needed. This saves ratepayers money.
 - The financial viability of some Pulp & Paper operations could be significantly impacted by the loss of contracts with BC Hydro. What is BC Hydro doing to help ensure these facilities remain viable?
 - BC Hydro is working with industry to assess the implications of biomass electricity generation renewals. For example, BC Hydro has had discussions with industry regarding the commissioning of a study to assess the long-term availability of cost-effective biomass fuel for EPA renewals, as well as for incremental electricity generation.
 - Is BC Hydro going to renew its MOU with the Clean Energy Association of BC?
 - The MOU is a tri-partite agreement between the Government of BC, the Clean Energy Association of BC and BC Hydro. The three parties will discuss the future approach to collaboration this fall.
- IPP Costs**
- IPPs make up almost 25% of BC Hydro's electricity supply and about 29% of total costs.
 - The cost of heritage generation is \$32/MWh. The average cost of purchases for IPP energy is approximately \$100/MWh (Fiscal 2017-Fiscal 2019).

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- BC Hydro (excluding Powerex) has long-term energy and capacity purchase contracts to meet its expected future domestic electricity requirements. The expected obligations to purchase energy under these contracts have a total value of approximately \$53 billion.
- IPP electricity purchase costs in Fiscal 2017 were approximately \$1.28 billion.
- In Fiscal 2018, IPP electricity purchase costs are expected to increase to \$1.48 billion largely due to a full year of production from the projects coming into service in Fiscal 2017 and additional projects reaching commercial operation during Fiscal 2018.
- In Fiscal 2019, IPP purchase costs are expected to increase to \$1.54 billion.

IPP Portfolio

- BC Hydro has a diverse IPP portfolio (based on Fiscal 2017 Actual):
 - Non-storage hydro – 46 per cent
 - Storage hydro – 19 per cent
 - Biomass – 17 per cent
 - Wind – 8 per cent
 - Gas fired thermal – 7 per cent
 - Other (MSW, solar, biogas, energy recovery) – 3 per cent
- As new projects reach commercial operations, the resource mix within the IPP portfolio changes over time.
- Up to 10 projects could reach commercial operations during 2017, including 7 projects that have already been completed:
 - Projects already completed in 2017:
 - Meikle Wind (Tumbler Ridge)
 - Pennask Wind Farm (Westbank)
 - Shinish Creek Wind Farm (Summerland)
 - Upper Lillooet River (Pemberton)
 - Kwadacha Biomass (Fort Ware)
 - Cranberry Creek Power (Revelstoke)
 - Boulder Creek (Pemberton)

Managing the IPP Portfolio

- Given the Load Resource Balance, BC Hydro has been managing the IPP Portfolio by reducing commitments for electricity purchases through adjustments to supply contracts, where possible.
 - From Fiscal 2014 to Fiscal 2015, 14 EPAs were terminated, 11 EPAs were deferred and 2 EPAs were downsized and/or deferred.

- In cases where EPA terms and conditions were not met by IPPs, terminations, downsizing and deferrals were completed by mutual agreement and net settlement costs were less than \$1 million total. Terminations and downsizing have reduced supply by 1,900 GWh per year on an ongoing basis.
- Deferrals will result in a one-time reduction of over 2,000 GWh before the end of Fiscal 2018. Deferrals give proponents more time to complete projects and the delivery of power is deferred to the future when demand is higher.
- As a result of these actions, rates from Fiscal 2015 to Fiscal 2022 will be, on average, just over 1% lower than they would have been if all contractual commitments had been fulfilled.

Meeting demand

- BC Hydro's current plan is to meet future growth in demand through a mix of conservation, EPA renewals, the Standing Offer Program and the Site C Clean Energy Project. IPPs currently make up almost 25% of supply.
- BC Hydro has a responsibility to ensure B.C. has a reliable supply of power, which means we need firm, reliable sources of power like those from biomass facilities.
 - In order to secure those sources of power, BC Hydro needs to pay IPPs to be available to generate electricity at all times. BC Hydro's contracts with biomass plants allow us to pay less when BC Hydro doesn't need the power at certain times, such as when market energy is available at a lower cost than the fuel used to generate power or when warmer temperatures mean less power is needed. This saves ratepayers money.

Meeting policy requirements

- IPPs help BC Hydro meet the requirements under the *Clean Energy Act* and the Climate Leadership Plan.
 - The *Clean Energy Act* requires that at least 93% of British Columbia's electricity be generated from clean or renewable resources. It also requires BC Hydro to be self-sufficient, which means that BC Hydro must make long term plans so that we do not need to rely on other jurisdictions for power at essential times.
 - Under the Climate Leadership Plan announced in August 2016, 100% of new British Columbia electricity supply to be acquired by BC Hydro for the integrated grid must come from renewable or clean sources, except in cases where government, through an Integrated Resource Plan, authorizes the use of other resources (e.g., natural gas, waste-to-energy) to address specific reliability or cost concerns.

Clean Energy Association of British Columbia

- In October 2015, the provincial government and BC Hydro signed a memorandum of understanding (MOU) with the Clean Energy Association of British Columbia that supports continued collaboration to deliver clean, reliable and affordable electricity to British Columbians.

- The MOU expires in December 2017, and the future approach to collaboration between the three parties will be discussed further this fall.

Electricity Purchase Agreement (EPA) Renewals

- In negotiating EPA renewals, BC Hydro considers a number of factors, such as:
 - IPP's opportunity cost, which is linked to the market value of energy
 - IPP's cost of service
 - BC Hydro's opportunity cost
 - Impact on the 10 Year Rates Plan
 - BC Hydro's Load Resource Balance
- In the absence of an exemption, BC Hydro is required to file amended, new or renewed EPAs with the BCUC for acceptance under Section 71 of the *Utilities Commission Act*.
- BC Hydro has been renewing electricity purchase agreements (EPAs) with IPPs at prices less than what they were paid under the original contracts, recognizing that those producers have typically recovered most of their initial capital costs over their original contract terms.
 - For example, in January 2017, the BCUC accepted two EPAs for hydro project renewals (Akolkoex and Soo River) as cost-effective and in the public interest.
 - In its decision, the BCUC noted that: "the timing and the pricing of energy and capacity are attractive features of these contracts and adequately consider the public interest. Moreover, the EPA renewals allow existing projects to continue providing reliable generation with benefits to the Province of BC, regional districts and local communities. The Panel finds that the energy pricing for each of the two EPAs is cost-effective."
 - In September 2017, the BCUC accepted a third EPA for a hydro project renewal (Boston Bar) as cost-effective and in the public interest
- Hydro Electricity Purchase Agreement Renewals:
 - As of September 1, 2017, BC Hydro has executed four EPA renewals for hydro projects since July 2016. Two of those EPAs were accepted by the

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BCUC in January 2017, one EPA was accepted in September 2017, and one EPA will be filed for acceptance in October 2017.

- Fifteen other hydro project EPAs are due to expire before the end of the 10 Year Rates Plan period (i.e., Fiscal 2024).
- In August 2017, BC Hydro filed an application with the BCUC regarding the EPA for the Ocean Falls Hydro facility, which serves our customers in the Bella Bella Non-Integrated Area. BC Hydro and the owner (Boralex) had reached an impasse on pricing for a renewed contract after almost two years of discussions. BC Hydro has requested that the BCUC set a just and reasonable rate for Boralex's electricity service to BC Hydro. BC Hydro has not yet received a response from the BCUC concerning this application.
- The 10 Year Rates Plan assumes the renewal of 75% of the aggregate energy volume from expiring run-of-river contracts, and the renewal of 100% of the volume associated with storage hydro and projects serving non-integrated areas.
- Decisions on further Hydro EPA renewals are being deferred pending the outcome of the Site C review.
- Biomass Electricity Purchase Agreement Renewals
 - A total of nine biomass Electricity Purchase Agreements are due to expire before the end of the 10 Year Rates Plan period (i.e., Fiscal 2024).
 - The 10 Year Rates Plan assumes that 50% of the aggregate energy and capacity volumes from expiring biomass contracts will be renewed, at a price based on BC Hydro's estimates for a reasonable cost of service. This effectively creates a budget for biomass renewals during the 10 Year Rates Plan period.
 - If all agreements were renewed at the estimated price and 50% of their energy volume, each agreement holder would experience a significant reduction in revenues from electricity sales.
 - For agreement holders that are BC Hydro customers in the Pulp & Paper sector, the potential loss in revenues could impact the overall viability of their mill operations.
 - BC Hydro is commissioning a study to provide an updated assessment of the long-term availability of cost-effective biomass fuel supplies for electricity generation in BC.
 - BC Hydro is in the process of evaluating the implications of biomass EPA renewals, including the impact on BC Hydro customers with biomass

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generation contracts, and the need to deliver the 10 Year Rates Plan targets. This process will be informed by BC Hydro's integrated resource planning process.

- o To September 1, 2017, BC Hydro has not renewed any biomass EPAs.

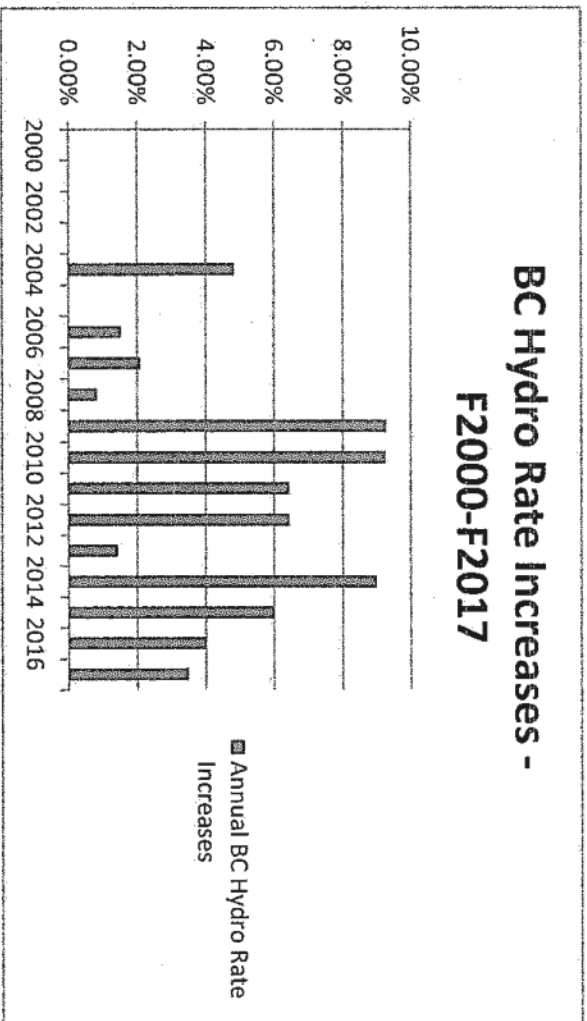
Comparison of average rates and per cent hydro generation across key western markets in BC, Seattle, Portland and San Francisco
(in Cdn\$ and excluding taxes)

Cities	Residential 1000 kWh (cents/kWh)*	Small Power 500 kW/ 100,000 kWh (cents/kWh)*	Medium Power 1000 kW/ 400,000 kWh (cents/kWh)*	Large Power 50,000 kW/ 30,600,000 kWh (cents/kWh)*	Per cent of Hydro Generation
Vancouver (BC Hydro)	11.08	11.38	8.72	6.29	98%
Seattle (Seattle City Light)	15.05	12.37	10.53	9.22	88%
Portland (Pacific Power and Light)	14.57	14.21	10.89	8.46	8%
San Francisco (Pacific Gas and Electric)	31.05	28.57	22.87	14.66	12%

*Based on the 2017 Hydro Quebec, Comparison of Electricity Prices in Major North American Cities at average prices and consumption levels

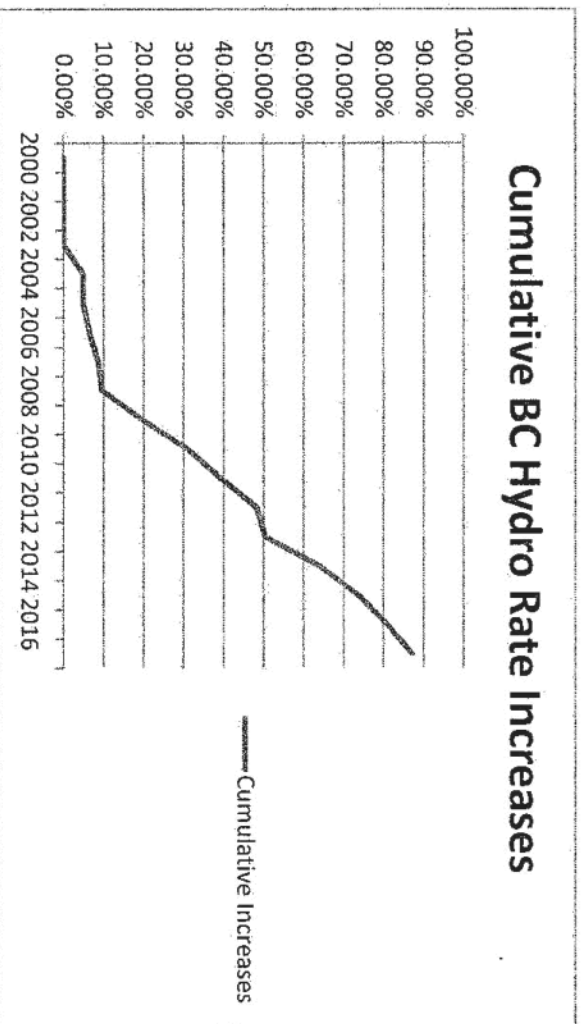
BC Hydro Rate Increases - F2000-F2017

Fiscal Year Ending March 31	2000	2001	2002	2003	2004	2005	2006
Rate Increase	0.00%	0.00%	0.00%	0.00%	4.85%	0.00%	1.54%
Pre-Rate Rider Rate Factor	100.00	100.00	100.00	100.00	104.85	104.85	106.46
Rate Rider Change							
Rate Rider	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Post-Rate Rider Rate Factor	100.00	100.00	100.00	100.00	104.85	104.85	106.46
Total Rate Increase	0.00%	0.00%	0.00%	0.00%	4.85%	0.00%	1.54%
Cumulative Rate Increase	0.00%	0.00%	0.00%	0.00%	4.85%	4.85%	6.46%



2007	2008	2009	2010	2011	2012	2013	2014	2015
0.10%	2.34%	8.74%	6.11%	8.00%	3.91%	1.44%	9.00%	6.00%
106.57	109.06	118.60	125.84	135.91	141.23	143.26	156.15	165.52
2.00%	-1.50%	0.50%	3.00%	-1.50%	2.50%	5.00%	5.00%	5.00%
2.00%	0.50%	1.00%	4.00%	2.50%	5.00%	5.00%	5.00%	5.00%
108.70	109.61	119.78	130.88	139.31	148.29	150.42	163.96	173.80
2.10%	0.84%	9.28%	9.26%	6.44%	6.44%	1.44%	9.00%	6.00%
8.70%	9.61%	19.78%	30.88%	39.31%	48.29%	50.42%	63.96%	73.80%

Cumulative Rate Increases 2014-2017 - 24.4%



	2016	2017
	4.00%	3.50%
	172.14	178.17
	5.00%	5.00%
	180.75	187.08
	4.00%	3.50%
	80.75%	87.08%

Welgush, Lindsey GCPE:EX

From: Wright, Don J. PREM:EX
Sent: Thursday, November 9, 2017 8:19 AM
To: Nikolejsin, Dave MNGD:EX
Cc: Maclaren, Les EMPR:EX; Foster, Doug FIN:EX; Lloyd, Evan GCPE:EX; Zadravec, Don GCPE:EX; Haslam, David GCPE:EX; Wieringa, Paul EMPR:EX; Rowe, Katherine EMPR:EX
Subject: Re: Site C Update

Yep

Sent from my iPhone

On Nov 9, 2017, at 8:16 AM, Nikolejsin, Dave MNGD:EX <Dave.Nikolejsin@gov.bc.ca> wrote:

agreed

From: Maclaren, Les EMPR:EX
Sent: November 9, 2017 8:07 AM
To: Nikolejsin, Dave MNGD:EX <Dave.Nikolejsin@gov.bc.ca>; Wright, Don J. PREM:EX <Don.J.Wright@gov.bc.ca>; Foster, Doug FIN:EX <Doug.Foster@gov.bc.ca>
Cc: Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca>; Zadravec, Don GCPE:EX <Don.Zadravec@gov.bc.ca>; Haslam, David GCPE:EX <David.Haslam@gov.bc.ca>; Wieringa, Paul EMPR:EX <Paul.Wieringa@gov.bc.ca>; Rowe, Katherine EMPR:EX <Katherine.Rowe@gov.bc.ca>
Subject: Site C Update

Further to our discussion yesterday afternoon, I spoke with BC Hydro last evening and the BCUC Chair this morning.

On Tuesday BC Hydro staff called BCUC staff to flag the computational errors they had identified related to discount rates and transmission losses (Items 1A, B, C and 2C from the BC Hydro Overview of Initial Findings) plus a typo in table 43. Commission staff asked for further details to be e-mailed, which has not yet occurred.

The Chair says that the BCUC will issue a public amendment with respect to any errors. His initial thoughts, pending review of the detailed material from BC Hydro, is that changes in the single digits hundreds of millions are unlikely to change the Commission's conclusions, given the ranges in costs associated with some of the assumptions (the cited termination costs which range from \$700M to over \$2B).

I noted we were preparing a letter pulling together comments from EMPR, Finance and BCH seeking clarification on a number of the Commission's assumptions. The Commission would make that letter public along with their response.

Given the above, I recommend that we give BC Hydro the go-ahead to send their detailed information on the modelling errors, and that our letter just focus on the assumption issues. I can work with David to get the next draft circulated later today.

Les MacLaren

Assistant Deputy Minister
Electricity and Alternative Energy Division
BC Ministry of Energy, Mines and Petroleum Resources
NOTE NEW OFFICE PHONE NUMBER: 778-698-7183
Cell: 250-889-3479

Energizing BC—clean, sustainable and productive

Welgush, Lindsey GCPE:EX

From: Kristianson, Eric GCPE:EX
Sent: Wednesday, November 8, 2017 7:29 AM
To: Lloyd, Evan GCPE:EX; Zadravec, Don GCPE:EX; Gibbs, Robb GCPE:EX
Subject: More context

T. Redies: Just a couple of final questions from me, Minister. First off, I would like to acknowledge the B.C. Hydro staff who were here today. We also had a chance to meet with them last week, so I appreciate their time and being made available to answer our questions.

[1725]

I just want to go back to the BCUC report and some of the discussions we've had earlier today around regulatory accounts. I appreciate that the minister says they're still doing analysis on what the impacts are going to be, but the BCUC report indicated or inferred that if Site C was going to be terminated, there was the potential for a very large regulatory account

HSE - 20171107 PM 048/JMS/1725

the BCUC report — and I appreciate the minister says they're still doing analysis on what the impacts are going to be. But the BCUC report indicated or inferred that if Site C was going to be terminated, there was the potential for a very large regulatory account to be created that would be amortized over some period. The BCUC remarked that they hadn't come to any agreement as to how long that would be amortized.

In our briefing the other day, I had the opportunity to ask the B.C. Hydro folks about this. I just want to confirm and get this on record. When asked if the termination costs and the sunk costs of Site C were put into a regulatory account and amortized over ten years, the B.C. Hydro folks indicated that, in order to do that, that would require a 9.5 percent increase in rates.

So, Minister, when the decision is being looked at over the coming weeks, can we be assured that you are going to take into consideration the whole affordability question, which you talked about earlier? Because it would seem to me, based on the analysis that Hydro has done, that the termination is going to result in a substantial increase in rates to ratepayers.

Hon. M. Mungall: Yes, as I have said previously to media particularly and perhaps some time this afternoon. We've had a lot of conversations. But absolutely, the lens of affordability will be included in our decision-making process. That's one of the reasons we wanted to send things to the B.C. Utilities Commission to do that analysis for ratepayers, so that we could get those hard numbers from them in terms of suggestions on what would happen if we did terminate.

T. Redies: Could the minister or the B.C. Hydro CEO confirm that terminating Site C and putting that amount into a regulatory account, amortized over ten years, would cost ratepayers an extra ten percent in their rates?

Hon. M. Mungall: The figures that the member is citing were part of the evidence that B.C. Hydro did put forward in the BCUC process. B.C. Hydro can confirm here. It already confirmed with the B.C. Utilities Commission.

Eric Kristianson
ADM Strategic Issues
GCPE
778-584-1248

Welgush, Lindsey GCPE:EX

From: Maclaren, Les EMPR:EX
Sent: Friday, December 8, 2017 9:05 AM
To: Haslam, David GCPE:EX; Lloyd, Evan GCPE:EX
Cc: Nikolejsin, Dave MINGD:EX; Wieringa, Paul EMPR:EX; Foster, Doug FIN:EX
Subject: FW: BC Hydro Electricity Rate Comparison Annual Report No. 10
Attachments: 00_2017_12_07_ERCAR_2017_FF.pdf; 2017-050 IS - Hydro-Quebec Rate Comparison Report.docx

Here is another piece for our puzzle. Attached is a BC Hydro Issue Sheet and annual rates report as required by regulation.

On the key metric of residential bills, at average consumption of 1,000 kW.h/month, BC ranks 5th (6th using BC Hydro's index methodology). This is still first (lowest) quartile. Typically BC has been 3rd after Quebec and Manitoba. For the last two years both Calgary and Edmonton have been lower due to depressed energy market prices in Alberta. This not expected to persist after Alberta's carbon tax kicks in in January.

If you look at the table for residential bills on page 4 of the pdf, you will see the impact of the residential stepped rate. At low levels of consumption (apartments and condos) BC is 3rd lowest, but at higher levels of consumption BC moves to 9th place as a greater amounts of the higher Tier 2 rate is reflected in customers' bills.

At the other end of the spectrum, for large commercial and industrial rates BC Hydro ranks between 5th and 8th (page 11).

Les

From: BC Hydro, Regulatory Grp [mailto:BCHydroRegulatoryGroup@bchydro.com]
Sent: Thursday, December 7, 2017 11:36 AM
To: Minister, EMPR EMPR:EX
Cc: Commission Secretary BCUC:EX; Elaine.McKnight@gov.bc.ca; Maclaren, Les EMPR:EX
Subject: BC Hydro Electricity Rate Comparison Annual Report No. 10

Please find attached:

BC Hydro's letter to the Minister dated December 7, 2017 enclosing its Electricity Rate Comparison Annual Report No. 10.

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Regulatory Compliance & Filings
BC Hydro
bchydroregulatorygroup@bchydro.com
Smart about power in all we do.

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Ken Peterson
Executive Chair
Phone: 604-623-4046
Fax: 604-623-4407
bchydroregulatorygroup@bchydro.com

Via email: MEM.Minister@gov.bc.ca

December 7, 2017

Hon. Michelle Mungall
Minister of Energy and Mines and
Petroleum Resources
PO Box 9060 Stn Prov Govt
Victoria BC V8W 9E3

Dear Minister Mungall:

RE: **British Columbia Hydro and Power Authority (BC Hydro)
Electricity Rate Comparison Annual Report No. 10**

BC Hydro writes to the Minister to file its Electricity Rate Comparison Annual Report (**Report**) which provides a comparison of BC Hydro's monthly bills and average prices for residential, commercial and industrial customers with other North American utilities as of April 1, 2017 (**Attachment A**) and therefore includes BC Hydro's 3.5 per cent rate increase that was effective on that date. The report is prepared in response to *Clean Energy Act* section 8(4), which states that:

"The authority must provide to the minister, in accordance with the regulations, an annual report comparing the electricity rates charged by the authority with electricity rates charged by public utilities in other jurisdictions in North America, including an assessment of the extent to which the authority's electricity rates continue to be competitive with those other rates."

BC Hydro has adhered to the Province of British Columbia's Rate Comparison Regulation (Ministerial Order No. M167) (**Attachment B**). The Rate Comparison Regulation requires that the Report provide a comparison of BC Hydro's monthly electricity bills with at least one public utility in each of at least 15 other North American jurisdictions, including all of the following: the provinces of Alberta, Quebec, Ontario and Manitoba; and the states of Washington, Oregon and California. The comparison concerns the previous year's applicable rates for residential, commercial and industrial customers in Canadian funds. Additionally, BC Hydro is to provide its previous five years of applicable rates.

For efficiency and consistency in reported data, the Report consists of information taken from a Hydro-Quebec rate survey report titled "Comparison of Electricity Prices in Major North American Cities" in which BC Hydro participates. The Hydro-Quebec report is



BC Hydro
Power smart

December 7, 2017

Hon. Michelle Mungall

British Columbia Hydro and Power Authority (BC Hydro)

Electricity Rate Comparison Annual Report No. 10

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prepared each year. Monthly bills and average prices are calculated and submitted to Hydro-Quebec by the participating utilities using the rates that are in place as of April 1 of that current year. As such, some of the rates used may be interim rates that are approved and in effect at that time. The Hydro-Quebec report is typically available by the fall of the same year.

The Report indicates that BC Hydro's monthly bills and average prices for the residential and medium power categories remain within the first (i.e., lowest rate) quartile of the public utilities surveyed while BC Hydro's small and large power categories are in the second quartile. On average, and based on the Hydro Quebec report, BC Hydro's residential rates are sixth lowest, small power (defined by Hydro Quebec as less than 100 kilowatts (kW)) are eighth lowest, medium power (defined by Hydro Quebec as 100 kW to 5,000 kW) are fifth lowest, and large power (defined by Hydro Quebec as greater than 5,000 kW) are seventh lowest. BC Hydro applicable rates for each category are listed in Table 11 of Attachment A.

For further information, please contact Fred James at 604-623-4317 or by email at bchydroregulatorygroup@bchydro.com.

Yours sincerely,

Ken Peterson
Executive Chair

Is/rh

Enclosure

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BC Hydro Electricity Rate Comparison Annual Report

Report No. 10

Attachment A

Rates as at April 1, 2017

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Monthly Bills and Average Prices as at April 1, 2017	1
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Monthly Bills and Average Prices as at April 1, 2017

This is the tenth Electricity Rate Comparison Annual Report (Report) prepared by BC Hydro in response to the Rate Comparison Regulation, issued by Ministerial Order No. M167 under the *Clean Energy Act* on June 28, 2011.¹ The Report provides a comparison of BC Hydro's monthly bills and average prices for residential, commercial and industrial customers with other North American utilities, including those in Alberta, Quebec, Ontario, Manitoba, Washington, Oregon and California in Canadian funds.²

Each year BC Hydro participates in a Hydro-Quebec rate comparison survey, submitting bill calculations based on electricity prices that are in place as of April 1 of the current year, and which may reflect approved interim rate increases.

Hydro-Quebec compiles the information and provides the monthly bills and average prices for 12 Canadian utilities and 10 American utilities in an annual report. The Report provides survey information taken from the Hydro-Quebec report entitled *Comparison of Electricity Prices in Major North American Cities*.³

The Hydro-Quebec report provides the monthly bills, excluding taxes and non-utility levies, calculated for specific consumption points for four different customer segments: residential, small power, medium power and large power. The average price is also calculated, for each customer segment and specific consumption point, by dividing the monthly bill by the amount of monthly energy consumption. For example, if an electric bill for 1,000 kWh was calculated to be a monthly amount of \$50, the average price would be \$50 divided by 1,000 kWh, or 5 cents/kWh.

¹ The first Electricity Rate Comparison Annual Report was issued on June 10, 2009 in response to Ministerial Order No. M114, which was subsequently replaced by Ministerial Order No. M167.

² Monthly bills and average prices for American utilities have been converted to Canadian dollars using the exchange rate as at 12 p.m. Eastern on April 1, 2017 of \$0.7468 (C\$1 = US\$0.7468). The Canadian dollar had depreciated by 2.57 per cent relative to the U.S. dollar since April 1, 2016.

³ 2017 Hydro-Quebec Comparison of Electricity Prices in Major North American Cities Report.

The monthly bills for customers are presented in [Table 1](#), [Table 2](#), [Table 3](#) and [Table 4](#). The average prices for customers are presented in [Table 5](#), [Table 6](#), [Table 7](#) and [Table 8](#). BC Hydro's monthly bills and average prices over the past five years are summarized in [Table 9](#) and [Table 10](#).

The Hydro-Quebec residential segment includes calculations for BC Hydro's residential customers. The Hydro-Quebec small power segment includes calculations for both BC Hydro's general service under 35 kW customers and general service 35 kW and over customers, while the medium power segment includes calculations for BC Hydro's general service 35 kW and over customers. Lastly, the Hydro-Quebec large power segment includes calculations for BC Hydro's general service 35 kW and over customers and transmission service customers. [Table 11](#) shows the specific BC Hydro rate schedules that have been included in each Hydro Quebec segment. [Table 12](#) summarizes BC Hydro's relative rankings in each rate class during the last five years of participation in the survey.

Based on the data from the Hydro-Quebec survey, BC Hydro's monthly bills and average prices for all customer segments are within the first (i.e., lowest rate) quartile of utilities for the residential and medium power categories, with low rates providing a competitive advantage to these customer segments in BC Hydro's service area. BC Hydro's small power category has moved from the first quartile to the second quartile of utilities for the first time. BC Hydro's large power category ranking is unchanged from last year and remains in the second quartile. The rankings of the top five participating utilities including BC Hydro with the lowest monthly bills and average prices are noted in the tables. Out of the 22 utilities providing data, BC Hydro's monthly bills and average price rankings against the other utilities using the Hydro-Quebec report for April 1, 2017 data are as follows:

Rate Class & Usage	Ranking at April 1, 2017
Residential	
Residential - 625 kWh	3
Residential - 750 kWh	3
Residential - 1,000 kWh	5
Residential - 2,000 kWh	9
Residential - 3,000 kWh	9
Small Power	
Small Power - 750 kWh/6 kW	7
Small Power - 2,000 kWh/14 kW	7
Small Power - 10,000 kWh/40 kW	7
Small Power - 14,000 kWh/100 kW	5
Small Power - 25,000 kWh/100 kW	8
Medium Power	
Medium Power - 100,000 kWh/500 kW	4
Medium Power - 200,000 kWh/500 kW	5
Medium Power - 200,000 kWh/1,000 kW	5
Medium Power - 400,000 kWh/1,000 kW	5
Medium Power - 1,170,000 kWh/2,500 kW	6
Large Power	
Large Power - 2,340 MWh/5,000 kW/25 kV	6
Large Power - 3,060 MWh/5,000 kW/25 kV	6
Large Power - 5,760 MWh/10,000 kW/120 kV	5
Large Power - 17,520 MWh/30,000 kW/120 kV	7
Large Power - 23,400 MWh/50,000 kW/120 kV	8
Large Power - 30,600 MWh/50,000 kW /120 kV	8

Table 1 Residential Monthly Bills

Hydro-Quebec Electricity Prices Comparison Report – Residential Monthly Bills as of April 1, 2017 CDN \$/Month									
Utility	City	625 kWh (1st)	750 kWh (1st)	1,000 kWh (1st)	2,000 kWh (1st)	3,000 kWh (2nd)			
Hydro-Quebec	Montreal, QC	49	56	71	160	249			
Manitoba Hydro	Winnipeg, MB	57 (2nd)	67 (2nd)	87 (2nd)	166 (1st)	246 (1st)			
EPICOR Energy	Edmonton, AB	73 (5th)	83 (4th)	103 (3rd)	184 (3rd)	264 (3rd)			
Enmax	Calgary, AB	73 (4th)	83 (5th)	105 (4th)	189 (4th)	274 (4th)			
Newfoundland Power ²	St. John's, NL	76	88	112 (5th)	207 (5th)	303 (5th)			
BC Hydro	Vancouver, BC	62 (3rd)	77 (3rd)	111 (5th)	246 (9th)	381 (9th)			
NB Power	Moncton, NB	89	103	130	238	346			
CenterPoint Energy ¹	Houston, TX	93	108	123	239	356			
Florida Power and Light ¹	Miami, FL	88	103	134	284	434			
Commonwealth Edison ¹	Chicago, IL	102	119	151	237	343			
Seattle City Light	Seattle, WA	85	107	151	326	501			
Nashville Electric Service ¹	Nashville, TN	101	118	152	288	424			
Hydro Ottawa	Ottawa, ON	101	118	152	288	424			
Pacific Power and Light ¹	Portland, OR	96	113	146	319	492			
SaskPower	Regina, SK	108	125	159	297	434			
Nova Scotia Power	Halifax, NS	105	124	161	312	463			
Maritime Electric ¹	Charlottetown, PE	112	129	164	304	415			
Toronto Hydro ¹	Toronto, ON	112	129	163	300	436			
DTE Electric ¹	Detroit, MI	133	159	212	424	635			
NSTAR Electric & Gas	Boston, MA	181	216	285	560	836			
Consolidated Edison ¹	New York, NY	193	228	297	572	848			
Pacific Gas and Electric ¹	San Francisco, CA	184	230	310	780	1,317			

¹ These bills have been estimated by Hydro-Quebec and may differ from actual bills.

² Newfoundland Power rates.

Note: Bill calculations exclude taxes and levies. BC Hydro's bill calculation includes the rate rider. The top five participating utilities with the lowest monthly bills are ranked in the table above, from lowest to highest. The sort order indicates the utility's overall ranking in the category.

Table 2 Small Power Monthly Bills

Hydro-Quebec Electricity Prices Comparison Report – Small Power Monthly Bills as of April 1, 2017						
CDN \$/Month						
Utility	City	6 kW 750 kWh 17% load factor	14 kW 2,000 kWh 20% load factor	40 kW 10,000 kWh 35% load factor	100 kW 14,000 kWh 19% load factor	100 kW 25,000 kWh 35% load factor
Manitoba Hydro	Winnipeg, MB	(2nd) 84	(1st) 188	(1st) 854	(2nd) 1,707	(2nd) 2,235
Enmax	Calgary, AB	102	(2nd) 201	(2nd) 969	(1st) 1,536	(1st) 2,094
Hydro-Quebec	Montreal, QC	(3rd) 86	(3rd) 208	(4th) 990	(4th) 1,816	2,686
EPCOR Energy	Edmonton, AB	(4th) 88	(4th) 210	(3rd) 988	2,021	(5th) 2,596
Newfoundland Power ²	St. John's, NL	93	(5th) 241	1,014	1,818	(4th) 2,533
CenterPoint Energy ¹	Houston, TX	(1st) 76	285	(5th) 1,013	1,850	(3rd) 2,489
Seattle City Light	Seattle, WA	(5th) 93	247	1,237	(3rd) 1,784	2,826
BC Hydro	Vancouver, BC	(7th) 100	(7th) 250	(7th) 1,138	(5th) 1,818	(8th) 2,834
Commonwealth Edison ¹	Chicago, IL	114	258	1,278	2,085	2,998
Florida Power and Light ¹	Miami, FL	107	263	1,321	2,460	3,252
NB Power	Moncton, NB	121	284	1,349	2,347	3,366
SaskPower	Regina, SK	129	294	1,350	2,596	3,525
Pacific Power and Light ¹	Portland, OR	133	316	1,421	2,384	3,493
Hydro Ottawa	Ottawa, ON	129	315	1,503	2,341	3,757
Nova Scotia Power	Halifax, NS	120	294	1,533	2,699	3,832
DTE Electric ¹	Detroit, MI	136	340	1,620	2,260	4,020
Toronto Hydro ¹	Toronto, ON	156	353	1,610	2,916	4,498
Maritime Electric ³	Charlottetown, PE	153	368	1,711	2,965	4,195
Nashville Electric Service ¹	Nashville, TN	158	360	1,605	3,246	4,247
NSTAR Electric & Gas	Boston, MA	202	520	2,736	5,380	7,251
Pacific Gas and Electric ¹	San Francisco, CA	233	598	2,857	4,788	6,866
Consolidated Edison ¹	New York, NY	243	809	2,815	5,368	6,947

1) These bills have been estimated by Hydro-Quebec and may differ from actual bills.

2) Newfoundland Power rates.

Note: Bill calculations exclude taxes and levies. BC Hydro's bill calculation includes the rate rider. The top five participating utilities with the lowest monthly bills are ranked in the table above, from lowest to highest. The sort order indicates the utility's overall ranking in the category.

Table 3 Medium Power Monthly Bills

Hydro-Quebec Electricity Prices Comparison Report -- Medium Power Monthly Bills as of April 1, 2017						
CDN \$/Month						
Utility	City	500 kW 100,000 kWh 28% load factor	500 kW 200,000 kWh 56% load factor	1000 kW 200,000 kWh 28% load factor	1000 kW 400,000 kWh 56% load factor	2500 kW ¹ 1,170,000 kWh 65% load factor
Manitoba Hydro	Winnipeg, MB	(1st) 9,455	(1st) 13,271	(1st) 18,693	(1st) 26,325	(1st) 65,021
Enmax	Calgary, AB	(2nd) 10,256	(2nd) 15,093	(3rd) 19,848	(2nd) 29,523	(2nd) 75,715
Newfoundland Power ⁴	St. John's, NL	(3rd) 10,356	(3rd) 16,414	(2nd) 19,584	(3rd) 31,565	(4th) 86,123
Hydro-Quebec	Montreal, QC	(4th) 12,070	(4th) 17,155	(5th) 24,140	(4th) 31,878	(3rd) 79,040
BC Hydro	Vancouver, BC	(4th) 11,660	(5th) 17,443	(5th) 23,328	(5th) 34,878	(6th) 94,890
Commonwealth Edison ²	Chicago, IL	12,507	18,043	25,005	35,768	(5th) 91,453
CenterPoint Energy ²	Houston, TX	11,776	17,589	26,274	37,900	98,233
Seattle City Light	Seattle, WA	(5th) 11,726	21,242	(4th) 23,129	42,108	119,608
Pacific Power and Light ²	Portland, OR	14,802	22,840	28,231	43,568	109,930
EPSCOR Energy ³	Edmonton, AB	15,392	22,122	28,572	42,033	113,207
Florida Power and Light ²	Miami, FL	15,115	21,721	30,129	43,342	115,897
SaskPower	Regina, SK	15,787	23,198	31,560	46,382	113,215
OTE Electric ²	Detroit, MI	16,019	23,343	32,019	46,260	112,121
NB Power	Moncton, NB	14,499	23,769	28,994	47,534	134,588
Hydro Ottawa	Ottawa, ON	15,229	26,254	30,258	52,308	151,227
Nova Scotia Power	Halifax, NS	17,033	25,538	34,065	51,075	137,388
Nashville Electric Service ²	Nashville, TN	18,053	26,626	35,847	52,993	158,845
Maritime Electric ²	Charlottetown, PE	17,960	29,150	35,865	58,245	164,553
Toronto Hydro ²	Toronto, ON	19,192	31,274	37,936	61,871	165,401
NSTAR Electric & Gas	Boston, MA	29,283	42,754	58,343	85,284	233,920
Consolidated Edison ²	New York, NY	30,903	45,259	61,746	90,458	186,106
Pacific Gas and Electric ²	San Francisco, CA	33,924	47,580	65,713	91,482	187,868

- 1) Supply voltage of 25 kV, customer-owned transformer.
 2) These bills have been estimated by Hydro-Québec and may differ from actual bills.
 3) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.
 4) Newfoundland Power rates.

Note: Bill calculations exclude taxes and levies. BC Hydro's bill calculation includes the rate rider. The top five participating utilities with the lowest monthly bills are ranked in the table above, from lowest to highest. The sort order indicates the utility's overall ranking in the category.

Table 4 Large Power Monthly Bills

Hydro-Quebec Electricity Prices Comparison Report – Large Power Monthly Bills as of April 1, 2017 CDN \$5000/Month							
Utility	City	5,000 kW 2,340,000 kWh 25 kV 65% load factor	5,000 kW 3,060,000 kWh 25 kV 85% load factor	10,000 kW 5,760,000 kWh 120 kV 80% load factor	30,000 kW 17,520,000 kWh 120 kV 81% load factor	50,000 kW 23,400,000 kWh 120 kV 65% load factor	50,000 kW 30,600,000 kWh 120 kV 85% load factor
Manitoba Hydro	Winnipeg, MB	(1st) 127.6	(1st) 153.5	(1st) 252.7	(1st) 766.0	(1st) 1,089.2	(1st) 1,321.9
Hydro-Quebec	Montreal, QC	(2nd) 135.1	(2nd) 158.6	(2nd) 288.5	(3rd) 873.3	(3rd) 1,265.9	(3rd) 1,501.3
Newfoundland Power ⁴	St. John's, NL	(4th) 169.4	(4th) 212.6	397.5	(2nd) 867.2	(2nd) 1,226.4	(2nd) 1,498.2
Enmax	Calgary, AB	(3rd) 149.1	(3rd) 186.3	(4th) 353.2	(5th) 1,070.4	(5th) 1,484.1	1,855.7
EPCOR Energy ¹	Edmonton, AB	195.8	234.9	(3rd) 317.2	(4th) 948.9	(4th) 1,395.0	(4th) 1,617.0
Commonwealth Edison ²	Chicago, IL	(5th) 182.2	(5th) 220.9	391.1	1,104.7	1,528.2	1,915.7
BC Hydro	Vancouver, BC	(6th) 189.8	(6th) 230.7	(5th) 367.5	(7th) 1,114.1	(8th) 1,574.8	(8th) 1,925.0
CenterPoint Energy ³	Houston, TX	193.7	236.4	419.5	1,267.9	1,779.1	2,192.0
NB Power	Moncton, NB	202.5	240.5	440.2	1,333.1	1,920.3	2,294.7
SaskPower	Regina, SK	217.4	265.4	431.4	1,293.7	1,809.0	2,233.8
Florida Power and Light ²	Miami, FL	231.5	276.2	463.9	1,399.4	2,013.2	2,407.2
DTE Electric ²	Detroit, MI	223.7	259.7	484.4	1,463.7	2,154.7	2,507.8
Pacific Power and Light ²	Portland, OR	218.4	267.1	497.5	1,501.7	2,136.6	2,588.8
Hydro Ottawa	Ottawa, ON	303.8	381.2	565.8	1,183.7	1,567.1	(5th) 1,854.2
Seattle City Light	Seattle, WA	239.4	307.3	533.7	1,621.2	2,200.2	2,821.0
Maritime Electric ²	Charlottetown, PE	234.9	284.9	544.7	1,650.9	2,349.0	2,848.6
Toronto Hydro ²	Toronto, ON	410.6	445.3	575.3	1,234.4	1,658.3	1,946.4
Nova Scotia Power	Halifax, NS	252.2	310.3	591.6	1,794.2	2,521.8	3,103.5
Nashville Electric Service ²	Nashville, TN	319.5	385.9	583.4	1,698.6	2,492.8	2,910.4
Consolidated Edison ³	New York, NY	372.0	441.5	848.1	2,567.3	3,718.7	4,413.8
Pacific Gas and Electric ²	San Francisco, CA	372.3	450.9	859.9	2,600.6	3,699.4	4,485.4
NSTAR Electric & Gas	Boston, MA	446.1	541.6	1,035.1	3,136.4	4,457.8	5,412.9

1) Customer-owned transformer

2) These bills have been estimated by Hydro-Québec and may differ from actual bills.

3) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

4) Newfoundland Power and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.

Note: Bill calculations exclude taxes and levies. BC Hydro's bill calculation includes the rate rider. The top five participating utilities with the lowest monthly bills are ranked in the table above, from lowest to highest. The sort order indicates the utility's overall ranking in the category.

Table 5 Residential Average Prices

Hydro-Quebec Electricity Prices Comparison Report – Residential Average Prices as of April 1, 2017 CDN c/kWh						
Utility	City	625 kWh	750 kWh	1,000 kWh	2,000 kWh	3,000 kWh
Hydro-Quebec	Montreal, QC	(1st) 7.77	(1st) 7.45	(1st) 7.07	(1st) 8.00	(2nd) 8.30
Manitoba Hydro	Winnipeg, MB	(2nd) 9.18	(2nd) 8.97	(2nd) 8.71	(2nd) 8.32	(1st) 8.19
EPCOR Energy	Edmonton, AB	(5th) 11.73	(4th) 11.11	(3rd) 10.34	(3rd) 9.18	(3rd) 8.80
Enmax	Calgary, AB	(4th) 11.65	(5th) 11.12	(4th) 10.45	(4th) 9.45	(4th) 9.12
Newfoundland Power ²	St. John's, NL	12.10	11.68	11.15	(5th) 10.36	(5th) 10.10
BC Hydro	Vancouver, BC	(3rd) 9.98	(3rd) 10.27	(5th) 11.08	(9th) 12.30	(9th) 12.70
NB Power	Moncton, NB	14.27	13.69	12.97	11.89	11.53
CenterPoint Energy ²	Houston, TX	14.91	14.36	12.34	11.97	11.85
Florida Power and Light ²	Miami, FL	14.02	13.74	13.39	14.20	14.47
Commonwealth Edison ²	Chicago, IL	16.37	15.80	15.10	11.84	11.45
Seattle City Light	Seattle, WA	13.58	14.24	15.05	16.28	16.69
Nashville Electric Service ²	Nashville, TN	16.14	15.72	15.19	14.40	14.13
Hydro Ottawa	Ottawa, ON	16.19	15.75	15.21	14.40	14.13
Pacific Power and Light ²	Portland, OR	15.42	15.04	14.57	15.95	16.41
SaskPower	Regina, SK	17.26	16.67	15.94	14.84	14.47
Nova Scotia Power	Halifax, NS	16.80	16.51	16.15	15.60	15.42
Maritime Electric ²	Charlottetown, PE	17.89	17.24	16.42	15.19	13.82
Toronto Hydro ²	Toronto, ON	17.91	17.20	16.32	14.99	14.55
DTE Electric ²	Detroit, MI	21.26	21.24	21.22	21.19	21.18
NSTAR Electric & Gas	Boston, MA	28.97	28.74	28.45	28.02	27.88
Consolidated Edison ²	New York, NY	30.94	30.37	29.67	28.62	28.26
Pacific Gas and Electric ²	San Francisco, CA	29.39	30.65	31.05	38.99	43.91

1) In Canadian currency.

2) These bills have been estimated by Hydro-Québec and may differ from actual bills.

3) Newfoundland Power rates.

Note: The top five participating utilities with the lowest average prices are ranked in the table above, from lowest to highest. The sort order indicates the utility's overall ranking in the category.

Table 6 Small Power Average Prices

Hydro-Quebec Electricity Prices Comparison Report – Small Power Average Prices as of April 1, 2017 CDN c/kWh						
Utility	City	6 kW 750 kWh 17% load factor	14 kW 2,000 kWh 20% load factor	40 kW 10,000 kWh 35% load factor	100 kW 14,000 kWh 19% load factor	100 kW 25,000 kWh 35% load factor
Manitoba Hydro	Winnipeg, MB	(2nd) 11.16	(1st) 9.39	(1st) 8.54	(2nd) 12.19	(2nd) 8.94
Enmax	Calgary, AB	13.57	(2nd) 10.05	(2nd) 9.69	(1st) 10.97	(1st) 8.37
Hydro-Quebec	Montreal, QC	(3rd) 11.42	(3rd) 10.40	(4th) 9.90	(4th) 12.97	10.74
EPICOR Energy	Edmonton, AB	(4th) 11.74	(4th) 10.48	(3rd) 9.88	14.43	(5th) 10.39
Newfoundland Power ³	St. John's, NL	12.39	(5th) 12.05		(5th) 10.14	(4th) 10.13
CenterPoint Energy ²	Houston, TX	(1st) 10.12	14.26	(5th) 10.13	12.99	(3rd) 9.96
Seattle City Light	Seattle, WA	(5th) 12.37	12.37	12.37	(3rd) 12.74	11.31
BC Hydro	Vancouver, BC	(7th) 13.37	(7th) 12.49	(7th) 11.38	(5th) 12.99	(8th) 11.34
Commonwealth Edison ²	Chicago, IL	15.25	12.90	12.78	14.89	11.99
Florida Power and Light ²	Miami, FL	14.26	13.15	13.21	17.57	13.01
NB Power	Moncton, NB	16.10	14.21	13.49	16.76	13.46
SaskPower	Regina, SK	17.21	14.70	13.50	18.54	14.10
Pacific Power and Light ²	Portland, OR	17.77	15.78	14.21	17.03	13.97
Hydro Ottawa	Ottawa, ON	17.18	15.73	15.03	16.72	15.03
Nova Scotia Power	Halifax, NS	16.06	14.71	15.33	19.28	15.33
DTE Electric ²	Detroit, MI	18.20	16.99	16.20	16.14	16.08
Toronto Hydro ²	Toronto, ON	20.81	17.64	16.10	20.83	17.99
Maritime Electric ²	Charlottetown, PE	20.45	18.40	17.11	21.18	16.78
Nashville Electric Service ²	Nashville, TN	21.04	18.01	16.05	23.19	16.99
NSTAR Electric & Gas	Boston, MA	26.97	25.98	27.36	38.43	29.00
Pacific Gas and Electric ²	San Francisco, CA	31.01	29.91	28.57	34.20	27.47
Consolidated Edison ²	New York, NY	32.41	40.46	28.15	38.34	27.79

1) In Canadian currency.

2) These bills have been estimated by Hydro-Quebec and may differ from actual bills.

3) Newfoundland Power rates.

Note: The top five participating utilities with the lowest average prices are ranked in the table above, from lowest to highest. The sort order indicates the utility's overall ranking in the category.

Table 7 Medium Power Average Prices

Hydro-Quebec Electricity Prices Comparison Report – Medium Power Average Prices as of April 1, 2017									
CDN c/kWh									
Utility	City	500 kW 100,000 kWh 28% load factor	500 kW 200,000 kWh 56% load factor	1000 kW 200,000 kWh 28% load factor	1000 kW 400,000 kWh 56% load factor	1000 kW 1,170,000 kWh 65% load factor	2500 kW ¹ 1,170,000 kWh 65% load factor		
Manitoba Hydro	Winnipeg, MB	(1st) 9.45	(1st) 6.64	(1st) 9.35	(1st) 6.58	(1st)	5.56		
Enmax	Calgary, AB	(2nd) 10.26	(2nd) 7.55	(3rd) 9.92	(2nd) 7.38	(2nd)	6.47		
Newfoundland Power ⁵	St. John's, NL	(3rd) 10.36	(3rd) 8.21	(2nd) 9.79	(3rd) 7.89	(4th)	7.36		
Hydro-Quebec	Montreal, QC		(4th) 8.58		(4th) 7.97	(3rd)	6.76		
BC Hydro	Vancouver, BC	(4th) 11.66	(5th) 8.72	(5th) 11.66	(5th) 8.72	(6th)	8.11		
Commonwealth Edison ³	Chicago, IL	12.51	9.02	12.50	8.94	(5th)	7.82		
CenterPoint Energy ³	Houston, TX	11.78	8.79	13.14	9.48		8.40		
Seattle City Light	Seattle, WA	(5th) 11.73	10.62	(4th) 11.56	10.53		10.22		
Pacific Power and Light ³	Portland, OR	14.80	11.42	14.12	10.89		9.40		
EPICOR Energy ⁴	Edmonton, AB	15.39	11.06	14.29	10.51		9.68		
Florida Power and Light ³	Miami, FL	15.11	10.86	15.06	10.84		9.91		
SaskPower	Regina, SK	15.79	11.60	15.78	11.60		9.68		
DTE Electric ³	Detroit, MI	16.02	11.67	16.01	11.57		9.58		
NB Power	Moncton, NB	14.50	11.88	14.50	11.88		11.50		
Hydro Ottawa	Ottawa, ON	15.23	13.13	15.13	13.08		12.93		
Nova Scotia Power	Halifax, NS	17.03	12.77	17.03	12.77		11.74		
Nashville Electric Service ³	Nashville, TN	18.05	13.31	17.92	13.25		13.58		
Maritime Electric ³	Charlottetown, PE	17.96	14.57	17.93	14.56		14.06		
Toronto Hydro ³	Toronto, ON	19.19	15.64	18.97	15.47		14.14		
NSTAR Electric & Gas	Boston, MA	29.28	21.38	29.17	21.32		19.99		
Consolidated Edison ³	New York, NY	30.90	22.63	30.87	22.61		15.91		
Pacific Gas and Electric ³	San Francisco, CA	33.92	23.79	32.86	22.87		16.06		

1) In Canadian currency.

2) Supply voltage of 25 kV, customer-owned transformer.

3) These bills have been estimated by Hydro-Québec and may differ from actual bills.

4) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

5) Newfoundland Power rates.

Note: The top five participating utilities with the lowest average prices are ranked in the table above, from lowest to highest. The sort order indicates the utility's overall ranking in the category.

Table 8 Large Power Average Prices

Hydro-Quebec Electricity Prices Comparison Report – Large Power
Average Prices as of April 1, 2017
CDN c/kWh

Utility	City	5,000 kW 2,340,000 kWh 25 kV 65% load factor	5,000 kW 3,060,000 kWh 25 kV 85% load factor	10,000 kW 5,760,000 kWh 120 kV 80% load factor	30,000 kW 17,520,000 kWh 120 kV 81% load factor	50,000 kW 23,400,000 kWh 120 kV 65% load factor	50,000 kW 30,600,000 kWh 120 kV 85% load factor
Manitoba Hydro	Winnipeg, MB	(1st) 5.45	(1st) 5.01	(1st) 4.39	(1st) 4.37	(1st) 4.65	(1st) 4.32
Hydro-Quebec	Montreal, QC	(2nd) 5.77	(2nd) 5.18	(2nd) 5.01	(3rd) 4.98	(3rd) 5.41	(3rd) 4.91
Newfoundland Power ²	St. John's, NL	(4th) 7.24	(4th) 6.95	(4th) 6.90	(2nd) 4.95	(2nd) 5.24	(2nd) 4.90
Enmax	Calgary, AB	(3rd) 6.37	(3rd) 6.09	(4th) 6.13	(5th) 6.11	(5th) 6.34	(5th) 6.06
EPICOR Energy ¹	Edmonton, AB		8.37	(3rd) 7.68	(5th) 5.51	(4th) 5.42	(4th) 5.96
Commonwealth Edison ³	Chicago, IL	(5th) 7.79	(5th) 7.22		(4th) 6.79	(4th) 6.31	(4th) 5.28
BC Hydro	Vancouver, BC	(6th) 8.11	(6th) 7.54	(5th) 6.38	(7th) 6.36	(8th) 6.73	(8th) 6.26
CenterPoint Energy ¹	Houston, TX		8.28		7.28	7.24	7.60
NB Power	Moncton, NB		8.66		7.86	7.64	8.21
SaskPower	Regina, SK		9.29		8.67	7.49	7.38
Florida Power and Light ³	Miami, FL		9.89		9.03	8.05	7.99
DTE Electric ¹	Detroit, MI		9.56		8.49	8.41	8.35
Pacific Power and Light	Portland, OR		9.33		8.73	8.64	8.57
Hydro Ottawa	Ottawa, ON		12.98		12.46	9.82	6.76
Seattle City Light	Seattle, WA		10.23		10.04	9.27	9.25
Maritime Electric ¹	Charlottetown, PE		10.04		9.31	9.46	9.42
Toronto Hydro	Toronto, ON		17.55		14.55	9.99	7.05
Nova Scotia Power	Halifax, NS		10.78		10.14	10.27	10.24
Nashville Electric Service ³	Nashville, TN		13.65		12.61	10.13	9.70
Consolidated Edison ³	New York, NY		15.90		14.43	14.72	14.65
Pacific Power and Light ³	San Francisco, CA		15.91		14.74	14.93	14.84
NSTAR Electric & Gas	Boston, MA		19.06		17.70	17.97	17.90

- 1) In Canadian currency.
- 2) Customer-owned transformer.
- 3) These bills have been estimated by Hydro-Quebec and may differ from actual bills.
- 4) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Quebec based on the applicable general rate.
- 5) Newfoundland Power and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.

Note: The top five participating utilities including BC Hydro with the lowest average prices are ranked in the table above, from lowest to highest. The sort order indicates the utility's overall ranking in the category.

Table 9 BC Hydro Monthly Bills Summary

BC Hydro Monthly Bills Summary for the Previous Five Years						
CNS\$/Month	April 1, 2013 ¹	April 1, 2014 ²	April 1, 2015 ³	April 1, 2016 ⁴	April 1, 2017 ⁵	
Vancouver, BC						
Residential						
625 kWh	50	55	58	60		62
750 kWh	62	67	72	74		77
1,000 kWh	89	97	103	107		111
2,000 kWh	198	215	228	238		246
3,000 kWh	306	334	354	368		381
Small Power						
750 kWh/6 kW	79	86	92	95		100
2,000 kWh/14 kW	201	219	233	242		250
10,000 kWh/40 kW	960	1,015	1,075	1,120		1,138
14,000 kWh/100 kW	1,632	1,734	1,836	1,912		1,818
25,000 kWh/100 kW	2,294	2,510	2,658	2,769		2,834
Medium Power						
100,000 kWh/500 kW	9,563	10,207	10,794	11,256		11,660
200,000 kWh/500 kW	14,414	15,310	16,181	16,884		17,443
200,000 kWh/1,000 kW	19,207	20,534	21,720	22,643		23,328
400,000 kWh/1,000 kW	28,909	30,740	32,493	33,889		34,878
1,170,000 kWh/2,500 kW	78,776	83,763	88,570	92,439		94,890
Large Power						
2,340 MWh/5,000 kW/25 kV	157,631	167,643	177,269	185,006		231,493
3,060 MWh/5,000 kW/25 kV	192,035	203,833	215,470	224,920		276,242
5,760 MWh/10,000 kW/120 kV	295,443	322,044	341,362	355,023		463,887
17,520 MWh/30,000 kW/120 kV	895,720	976,368	1,034,937	1,076,363		1,399,442
23,400 MWh/50,000 kW/120 kV	1,266,076	1,380,070	1,462,863	1,521,420		2,013,159
30,600 MWh/50,000 kW/120 kV	1,547,611	1,686,954	1,788,148	1,859,722		2,407,246

- 1) Rates used reflect a 1.44 per cent approved increase effective April 1, 2013.
- 2) Rates used reflect a 9.00 per cent approved increase effective April 1, 2014.
- 3) Rates used reflect a 6.00 per cent approved increase effective April 1, 2015.
- 4) Rates used reflect a 4.00 per cent proposed increase effective April 1, 2016.
- 5) Rates used reflect a 3.50 per cent proposed increase effective April 1, 2017.

Note: Bill calculations exclude taxes and levies and include the rate rider.

Table 10 BC Hydro Average Prices Summary

BC Hydro Average Prices Summary for the Previous Five Years					
CDNc/kWh	April 1, 2013 ¹	April 1, 2014 ²	April 1, 2015 ³	April 1, 2016 ⁴	April 1, 2017 ⁵
Vancouver, BC					
Residential					
625 kWh	8.03	8.75	9.27	9.64	12.10
750 kWh	8.26	9.00	9.54	9.92	11.68
1,000 kWh	8.91	9.71	10.29	10.70	11.15
2,000 kWh	9.88	10.77	11.42	11.88	10.36
3,000 kWh	10.21	11.12	11.80	12.27	10.10
Small Power					
750 kWh/6 kW	10.58	11.53	12.23	12.72	10.12
2,000 kWh/14 kW	10.06	10.97	11.63	12.09	14.26
10,000 kWh/40 kW	9.60	10.15	10.75	11.19	10.13
14,000 kWh/100 kW	11.66	12.39	13.12	13.66	13.21
25,000 kWh/100 kW	9.18	10.04	10.63	11.07	9.96
Medium Power					
100,000 kWh/500 kW	9.56	10.21	10.79	11.26	11.66
200,000 kWh/500 kW	7.21	7.66	8.09	8.44	8.72
200,000 kWh/1,000 kW	9.60	10.27	10.86	11.32	11.66
400,000 kWh/1,000 kW	7.23	7.69	8.12	8.47	8.72
1,170,000 kWh/2,500 kW	6.73	7.16	7.57	7.90	8.11
Large Power					
2,340 MWh/5,000 kW/25 kV	6.74	7.16	7.58	7.91	8.11
3,060 MWh/5,000 kW/25 kV	6.28	6.66	7.04	7.35	7.54
5,760 MWh/10,000 kW/120 kV	5.13	5.59	5.93	6.16	6.38
17,520 MWh/30,000 kW/120 kV	5.11	5.57	5.91	6.14	6.36
23,400 MWh/50,000 kW/120 kV	5.41	5.90	6.25	6.50	6.73
30,600 MWh/50,000 kW/120 kV	5.06	5.51	5.84	6.08	6.29

- 1) Rates used reflect a 1.44 per cent approved increase effective April 1, 2013.
- 2) Rates used reflect a 9.00 per cent approved increase effective April 1, 2014.
- 3) Rates used reflect a 6.00 per cent approved increase effective April 1, 2015.
- 4) Rates used reflect a 4.00 per cent proposed increase effective April 1, 2016.
- 5) Rates used reflect a 3.50 per cent proposed increase effective April 1, 2017.

Table 11
Corresponding BC Hydro Rate
Schedules included in each Segment of
the Hydro-Quebec Rate Survey

Hydro Quebec Segment	Corresponding BC Hydro Rate Schedule
Residential	
625 kWh	RS 1101
750 kWh	RS 1101
1,000 kWh	RS 1101
2,000 kWh	RS 1101
3,000 kWh	RS 1101
Small Power	
750 kWh/6 kV	RS 1300
2,000 kWh/14 kV	RS 1300
10,000 kWh/40 kV	RS 1500
14,000 kWh/100 kV	RS 1500
25,000 kWh/100 kV	RS 1500
Medium Power	
100,000 kWh/500 kV	RS 1600
200,000 kWh/500 kV	RS 1600
200,000 kWh/1,000 kV	RS 1600
400,000 kWh/1,000 kV	RS 1600
1,170,000 kWh/2,500 kV	RS 1611
Large Power	
2,340,000 kWh/5,000 kV/25 kV	RS 1611
3,060,000 kWh/5,000 kV/25 kV	RS 1611
5,760,000 kWh/10,000 kV/120 kV	RS 1823
17,520,000 kWh/30,000 kV/120 kV	RS 1823
23,400,000 kWh/50,000 kV/120 kV	RS 1823
30,600,000 kWh/50,000 kV/120 kV	RS 1823

Table 12 BC Hydro Rankings Summary in
Hydro-Quebec Rate Surveys, Out of 22
Utilities Surveyed

BC Hydro Rates Comparisons Ranking Summary for Previous Years

Vancouver, BC	April 1, 2013	April 1, 2014	April 1, 2015	April 1, 2016	April 1, 2017
Residential					
625 kWh	3	3	3	3	3
750 kWh	3	3	3	3	3
1,000 kWh	3	3	3	5	5
2,000 kWh	5	5	7	8	9
3,000 kWh	6	7	8	9	9
Small Power					
750 kWh/6 kW	6	5	5	6	7
2,000 kWh/14 kW	5	4	6	6	7
10,000 kWh/40 kW	5	4	6	8	7
14,000 kWh/100 kW	4	5	5	5	5
25,000 kWh/100 kW	4	4	6	7	8
Medium Power					
100,000 kWh/500 kW	4	3	4	4	4
200,000 kWh/500 kW	4	3	3	4	5
200,000 kWh/1,000 kW	4	3	4	5	5
400,000 kWh/1,000 kW	4	4	4	5	5
1,170,000 kWh/2,500 kW	6	4	4	5	6
Large Power					
2,340 MWh/5,000 kW/25 kV	6	4	4	6	6
3,060 MWh/5,000 kW/25 kV	6	3	5	7	6
5,760 MWh/10,000 kW/120 kV	3	3	6	6	5
17,520 MWh/30,000 kW/120 kV	5	4	7	9	7
23,400 MWh/50,000 kW/120 kV	5	4	7	9	8
30,600 MWh/50,000 kW/120 kV	5	4	7	9	8

**BC Hydro Electricity Rate Comparison
Annual Report**

Report No. 10

Attachment B

Ministerial Order No. M 167

PROVINCE OF BRITISH COLUMBIA
**REGULATION OF THE MINISTER OF ENERGY AND MINES
AND MINISTER RESPONSIBLE FOR HOUSING**

Clean Energy Act

Ministerial Order No.

M 167

I, Rich Coleman, Minister of Energy and Mines and Minister Responsible for Housing, order that the Rate Comparison Regulation, B.C. Reg. 140/2009, is repealed, and the following Rate Comparison Regulation is made.

RATE COMPARISON REGULATION

Definition

1 In this regulation:

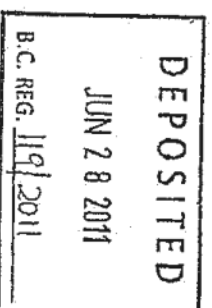
"Act" means the *Clean Energy Act*;

"applicable rates" means, with respect to a public utility's electricity rates, the average monthly bill for electricity, but not any other terms and conditions of those rates.

Report requirements

2 In a report to be provided to the minister under section 8 (4) of the Act, the authority must do all of the following:

- (a) include a comparison with at least one public utility in each of at least fifteen other jurisdictions in North America, including all of the following:
 - (i) the provinces of Alberta, Quebec, Ontario and Manitoba;
 - (ii) the states of Washington, Oregon and California;
- (b) compare the previous year's applicable rates for residential, commercial and industrial customers with similar rates of the public utilities referred to in paragraph (a);
- (c) express the monetary comparisons in Canadian currency;
- (d) provide the authority's previous 5 years of applicable rates.



Date JUN 28 2011


Minister of Energy and Mines and Minister
Responsible for Housing

(This part is for administrative purposes only and is not part of the Order.)

Authority under which Order is made:

Act and section: Clean Energy Act, S.B.C. 2010, c. 28, s. 37 (1)

Other: Utilities Commission Act, R.S.B.C. 1996, c. 473, s. 123.1 (4) (c); M114/2009

June 9, 2011

Resub R7772011/27

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BC HYDRO ISSUES SHEET

Issue: **HYDRO-QUEBEC RATE COMPARISON REPORT**
Spokesperson: Media Relations

ISSUE SUMMARY

Hydro-Quebec's annual rate comparison report was released on October 7. B.C.'s rankings have dropped since 2016 in the residential and small commercial categories while the medium, large commercial and industrial categories have remained the same.

HISTORY OF THE ISSUE

- Electricity rates are always topical in the news. BC Hydro often points to the Hydro-Quebec study to demonstrate B.C.'s low rates when compared to other major North American cities.

FACTS

- Hydro-Quebec releases its *Comparison of Electricity Prices in Major North American Cities* on an annual basis. BC Hydro participates in the survey, providing bill calculations based on rates in effect at April 1. Therefore, the latest report represents rates as of Apr. 1, 2017 when BC Hydro's rates increased 3.5 per cent.

- The results of BC Hydro's rankings based on rates effect Apr. 1, 2017 are as follows:

Power category	F17 ranking	F16 ranking
Residential	6	5
Small power	8	6
Medium power	5	5
Large power	7	7

- According to the 2017 report, the top six North American cities with the lowest residential rates are:
 1. Montreal
 2. Winnipeg
 3. Edmonton
 4. Calgary
 5. Newfoundland
 6. Vancouver
- The three North American cities with the highest residential rates are:
 1. San Francisco
 2. New York
 3. Boston
- The three Canadian cities with the highest residential rates are:
 1. Toronto
 2. Charlottetown
 3. Halifax

- BC Hydro's residential rates have dropped from fifth lowest rates in 2016 in North America to sixth lowest in 2017. BC Hydro remains in the first quartile.
 - Note: Based on an assumed average consumption level of 1,000 kWh/month, BC Hydro ranks as fifth lowest in North America in the report. However, BC Hydro calculates its Service Plan using an index approach that takes into account the five different consumption levels for residential customers that the report details, which places BC Hydro in sixth. This approach has been used since 2015.
 - The decline in ranking was primarily due to Newfoundland Power and Labrador Hydro (St. John's, Newfoundland) who had dropped their residential rate by 7 per cent in Jul. 1, 2016 as a result of the change in rates flowing from an annual review of Newfoundland and Labrador Hydro's power supply costs, under their rate stabilization program. This adjusts bills to largely reflect the year-to-year cost of oil for the generation of electricity.
- BC Hydro's small commercial rates dropped from sixth lowest in 2016 to eighth lowest in 2017.
 - This decline was also due to the overall decline in rates from Newfoundland Power and Labrador Hydro as a result of their review of power supply costs which moved their ranking above BC Hydro's ranking.
 - CenterPoint Energy (Houston, Texas) also bumped BC Hydro's ranking as they moved from a seventh place ranking in 2016 to a sixth place ranking in 2017. CenterPoint's rate increase effective September 2016 were modest at less than 1 per cent impact compared to BC Hydro's increase of 4 per cent in 2017.
- BC Hydro's medium commercial rates remained the same at fifth lowest in 2017.
 - Although Newfoundland Power and Labrador Hydro rates decreased and moved up in the medium power ranking as third lowest in 2017, BC Hydro's ranking remained in fifth position as Commonwealth Power (Chicago, Illinois) moved unfavorably down in ranking below BC Hydro. Commonwealth Power received approval to increase electricity delivery rates by just over 5 per cent effective Jan. 1, 2017 compared to BC Hydro's increase of 4 per cent in fiscal 2017.
- BC Hydro's industrial rates remain the seventh lowest in North America in 2017.
 - No change in ranking in the large power category for BC Hydro from the previous year. The utilities in the first quartile (top 6 ranking) have remained the same with some shifting in the ranking.
- BC Hydro will submit its updated Electricity Rate Comparison Annual Report to the Minister of Energy, Mines and Petroleum Resources in early November. The report is based on the Hydro Quebec Report and will be copied to the BCUC.

KEY MESSAGES

- BC Hydro's rates remain among the lowest in North America.
- BC has the sixth lowest residential rates, the eighth lowest small commercial rates, the fifth lowest medium commercial rates and the seventh lowest large commercial and industrial rates when compared to other major North American cities.
- According to the Hydro-Quebec report, BC Hydro residential customers pay around 30 per cent less for their electricity service than customers in Toronto, which has the highest rate in the country, and a third of what customers in San Francisco pay, which has the highest rates in North America.
- Adjusting for inflation, electricity in B.C. costs the same today as it did back in 1978. In fact, the average family pays more than twice as much for their TV, internet and phone services than they do for their electricity.

TOP QUESTIONS AND ANSWERS

Question	Answer
1. Why did BC Hydro's residential rates drop from fifth lowest to sixth lowest in 2017?	<ul style="list-style-type: none"> • Newfoundland Power and Labrador Hydro dropped their residential rate by 7 per cent on July 1, 2016. • Thier decrease in rates moved them up in ranking at fifth place, moving BC Hydro down to sixth. • Our rates are still in the first quartile.
2. What is BC Hydro's response to low income customers that have to make the choice between heating and eating?	<ul style="list-style-type: none"> • Programs for low income customers are a priority. We're investing \$7.8 million in low-income programs over three years. We want to make it easier for British Columbians to find energy efficiencies and save on their electricity. • Updates to existing low-income programs have more than doubled the number of eligible customers. • BC Hydro, in partnership with FortisBC, offers two programs for qualifying low-income households – the Energy Conservation Assistance Program (ECAP) and energy saving kits.
3. Why did small commercial rates drop from sixth lowest to eighth lowest in 2017?	<ul style="list-style-type: none"> • The decline was also due to the overall decline in rates from Newfoundland Power and Labrador Hydro. • CenterPoint Energy also lowered BC Hydro's ranking. CenterPoint's rate increase effective September 2016 were modest at less than 1 per cent impact compared to BC Hydro's increase of 4 per cent in 2017.

Welgush, Lindsey GCPE:EX

From: Lowe, Mike GCPE:EX
Sent: Thursday, August 3, 2017 12:50 PM
To: Lloyd, Evan GCPE:EX; Sherlock, Stephanie GCPE:EX; Holmwood, Jen PREM:EX
Subject: FW: Chinese Language Media Report AM - Thursday, August 03, 2017

As mentioned in my previous email, here's the new auto-generated Chinese media report to come twice daily:

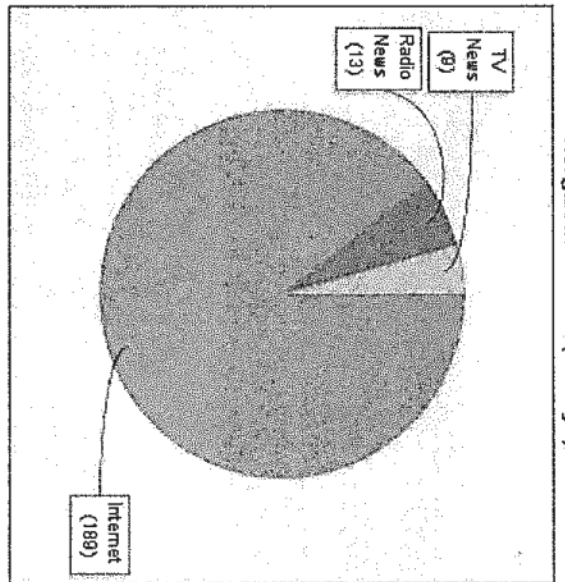
From: Scott.Ryckman@gov.bc.ca [mailto:Scott.Ryckman@gov.bc.ca]
Sent: Thursday, August 3, 2017 11:52 AM
To: Ryckman, Scott GCPE:EX; Lowe, Mike GCPE:EX
Subject: Chinese Language Media Report AM - Thursday, August 03, 2017

Today's News Online - Chinese Language Media Report AM
DO NOT FORWARD THIS E-MAIL TO ANYONE

Thursday, August 03, 2017

Media Analysis

Horgan Media Mix (90 days)



Horgan tone (90 days)

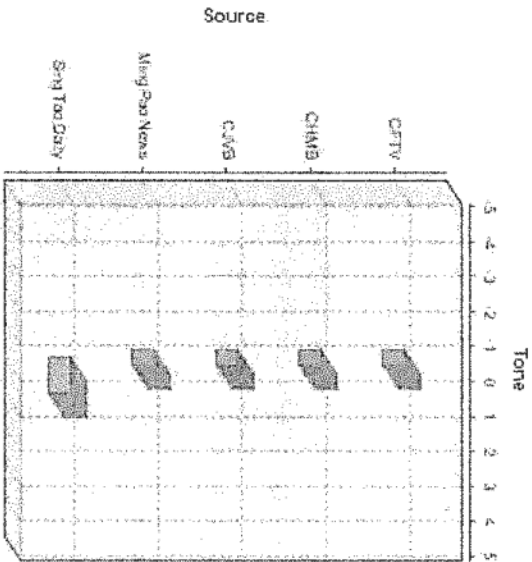


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Welgush, Lindsey GCPE:EX

From: Howlett, Tim GCPE:EX
Sent: Tuesday, December 12, 2017 12:56 PM
To: Lloyd, Evan GCPE:EX; Sanderson, Melissa EMPRE:EX; Haslam, David GCPE:EX
Subject: FAQ Updates
Attachments: SiteC-FAQ updates-Dec12V1.docx

The PO has asked for updated FAQs on Site C.
They include reax to Green and BC Liberals as well as additional language on FN

I am going to send the attached to them for review/signoff and distribution to MAs.

Tim Howlett
Issues Manager
Strategic Issues Division, GCPE
250.208.4828

NEW QAs (December 12th)

Q: The Greens are saying the amount of debt from Site C is comparable to the amount of debt you took on by cancelling tolls. Did you make the right choice?

- These are two very different scenarios. In one case you have a useful asset that is a critical piece of transportation infrastructure while in the other you have nothing.
- We made a commitment to eliminate tolls and we followed through on that. That's what British Columbians expect us to do.
- By eliminating tolls, British Columbians get a benefit: families save up to \$1,500 a year.
- Cancelling Site C would mean British Columbians taking on \$4 billion in debt with nothing in return. Even worse, it would mean massive cuts to the services they count on.

Q: Andrew Weaver has suggested a recall campaign against Michelle Mungall. Is that appropriate?

- Minister Mungall has done an excellent job on this file despite inheriting a mess from the BC Liberals, and I think people understand that.
- With all due respect to Andrew Weaver, the people of Nelson-Creston can choose their own MLA. And they have elected Michelle three times because of the excellent work she has done.

Note: Recall campaigns can't begin until 18 months after an election.

Q: The BC Liberals say the project was on time and on budget under their government and that the NDP has caused new costs – is this true?

- That's absurd. The BC Liberals recklessly pushed Site C past the point of no return, committing billions of dollars to this project without appropriate planning and oversight.
- The two tension cracks which led BC Hydro to miss the river diversion schedule occurred under the old government – but their full impacts weren't revealed until our government ordered an independent review.
- The work of the BC Utilities Commission made it clear that the old government had grossly underestimated the costs and risks associated with the project.
- We did the due diligence to bring in expert independent analysis and have revised the project cost estimate to \$10.7 billion.

Q: First Nations are strongly criticizing this decision. Is it a broken promise on reconciliation?

- Our government is, and I personally am, fully committed to reconciliation and a new government-to-government approach.
- I know that it isn't enough just to say it. Our government has to demonstrate it through meaningful progress – and that is exactly the hard work we are committed to do.
- We acknowledge that this decision is painful and difficult for those Nations that oppose the project, and that some will see it as a setback on the path to reconciliation.
- I can tell you that impacts on First Nations weighed heavily on our deliberations – on both our hearts and minds.
- And we are committed to work with nations to find solutions to some of those impacts where possible – but also, to continue the hard work of walking a path of reconciliation.

Your government has committed to UNDRIP which includes free, prior and informed, consent. Is this not a clear contravention of that commitment?

- We inherited this project from the old government after it was two years into construction and with billions of dollars already spent.
- We have been clear that it is not a project we favour and is not a project we would have started.
- The rights of Indigenous peoples outlined in UNDRIP – rights that many Canadians take for granted – are pathways to creating opportunity and shared prosperity for everyone.
- Our commitment to UNDRIP and a relationship based on rights recognition and respect has not and will not change.

Q: How could it be more expensive to pay off \$4 billion than \$10 billion?

- When Site C is built, costs can be paid off over 70 years because we have a useful asset. Revenues from electricity sales can also be used to reduce the costs.
- If the project were cancelled, there is nothing to back up the debt so the nearly \$4 billion would need to be recovered much more quickly.
- This would hit hydro customers with a 12% rate hike or it would have to be taken onto the Province's books which would put at risk our ability to deliver the schools, hospitals, transit, bridges and many other things British Columbians rely on.
- \$4 billion is the equivalent of more than 66 secondary schools, 11 hospitals, or 3 Pattullo Bridges.

Q: People are saying that the sunk and remediation costs aren't actually \$4 billion. Is this true?

- The BC Utilities Commission and an independent study by Deloitte both confirmed that the sunk costs are \$2.1 billion and that termination and remediation costs would be \$1.8 billion.
- If the project were cancelled, the nearly \$4 billion would need to be recovered with no asset to back it up.

Welgush, Lindsey GCPE:EX

From: Zadravec, Don GCPE:EX
Sent: Thursday, November 23, 2017 1:03 PM
To: Lloyd, Evan GCPE:EX
Subject: FW: Site C Status Update

Latest on draft website

From: Albert, Steve GCPE:EX
Sent: Thursday, November 23, 2017 12:36 PM
To: Zadravec, Don GCPE:EX; Moser, Walter GCPE:EX; Haslam, David GCPE:EX
Cc: Pratt, Andrew GCPE:EX
Subject: Site C Status Update

Hi folks. Here's where we're at.

Complete:

- Site C QA page: <https://www2.qa.gov.bc.ca/gov/content/industry/electricity-alternative-energy/electricity/site-c>
- Site C 'Popular Topics' feature has been added to <https://www2.qa.gov.bc.ca/gov/content/industry>
- Site C link has been added to 'How may we help you?' under 'Farming, Natural Resources & Industry' on home page <https://www2.qa.gov.bc.ca/gov/content/home>
- Site C mosaic: <https://www2.qa.gov.bc.ca/gov/search?id=2E4C7D6BCAA4470AAAD2DCADF662E6A0&q=site+c> (note that the mosaic link points to production, so won't work until we go live)
- The Site C short URL, gov.bc.ca/sitec has been secured and will work once we go live

s.13

Please let me know if there are any questions or concerns with above, otherwise we can go to production at any time.

Cheers,

Steve Albert

Director, Online Service Solutions
C: 250-508-1481

From: Zadravec, Don GCPE:EX
Sent: Wednesday, November 22, 2017 2:02 PM
To: Moser, Walter GCPE:EX; Haslam, David GCPE:EX
Cc: Albert, Steve GCPE:EX; Pratt, Andrew GCPE:EX
Subject: RE: Site C graphic

We have a meeting at 2:15. This is one of the items for discussion. If there is follow up, we will connect with Steve and you.

From: Moser, Walter GCPE:EX
Sent: Wednesday, November 22, 2017 1:57 PM
To: Haslam, David GCPE:EX
Cc: Albert, Steve GCPE:EX; Zadravec, Don GCPE:EX; Pratt, Andrew GCPE:EX
Subject: Re: Site C graphic

I think I see the image updated on the way site. David and Don - are you taking the DM through the site / page? Do you want us to join...

On Nov 22, 2017, at 11:14 AM, Haslam, David GCPE:EX <David.Haslam@gov.bc.ca> wrote:

Thanks Steve/Andrew. I like it. The QA you sent around yesterday looks pretty good too. I suggest adding the graphic and then we can send to our superiors for feedback. Cheers - d

From: Albert, Steve GCPE:EX
Sent: Wednesday, November 22, 2017 10:44 AM
To: Haslam, David GCPE:EX; Zadravec, Don GCPE:EX; Moser, Walter GCPE:EX
Cc: Pratt, Andrew GCPE:EX
Subject: FW: Site C graphic
Importance: High

Attached is the proposed Site C graphic from Andrew. (thanks for the lightning-fast turnaround, Andrew!)

Cheers,

Steve Albert

Director, Online Service Solutions
C: 250-508-1481

From: Pratt, Andrew GCPE:EX
Sent: Wednesday, November 22, 2017 10:21 AM
To: Albert, Steve GCPE:EX
Subject: Site C graphic
Importance: High

Andrew Pratt

Director, Graphic Communications
Government Communications and Public Engagement
4th floor, 617 Government Street, Victoria, BC V8W 9V1
T: 250 356-8120
F: 250 387-6070

Graphic Design Requests

BCID Website

Graphics 411 Information and Resources

Welgush, Lindsey GCPE:EX

From: Sanderson, Melissa EMPR:EX
Sent: Sunday, November 12, 2017 2:43 PM
To: Lloyd, Evan GCPE:EX
Subject: Re: Rollout Site C Nov 12.docx

Hi Evan,

s.22

So just to clarify MMM will be doing consultations via teleconference. Does that change this before I alert the group via email?

Sent from my iPhone

> On Nov 12, 2017, at 12:24 PM, Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca> wrote:

>

> Having (hopefully) resolved some travel and logistical uncertainty please note latest (revised) SiteC roll-out covering the next few days. Note uncertainty about when precisely BCUC might post the EMPR/FIN letter. Timing of IB and letter release on our part TBD - in consideration of a) unencumbered FSJ meetings Tuesday and b) maximizing BCUC time to respond to key Qs

>

> Evan

> <CONFIDENTIAL DRAFT Site C Nov 12.docx>

>

>

> Sent from my iPad

Welgush, Lindsey GCPE:EX

From: Zadravec, Don GCPE:EX
Sent: Friday, November 24, 2017 4:49 PM
To: Lloyd, Evan GCPE:EX
Cc: Kristianson, Eric GCPE:EX
Subject: FW: Letter to BCUC
Attachments:

01_SiteC_BCH_CRSP_LTR.docx; ATT00001.htm; 02_SiteC_BCH_CRSP_ATT_01.docx; ATT00002.htm; 03_SiteC_BCH_CRSP_ATT_02.docx; ATT00003.htm; 04_SiteC_BCH_CRSP_ATT_03_CP.docx; ATT00004.htm; 05_SiteC_BCH_CRSP_ATT_03.pdf; ATT00005.htm; 06_SiteC_BCH_CRSP_ATT_04_CP.docx; ATT00006.htm; 07_SiteC_BCH_CRSP_ATT_04.pdf; ATT00007.htm

Evan, can we discuss briefly Monday a.m.?

From: Haslam, David GCPE:EX
Sent: Friday, November 24, 2017 4:18 PM
To: Zadravec, Don GCPE:EX
Subject: Fwd: Letter to BCUC

Don. Second letter to bcuc from bch attached. All aware. Has not been sent yet. Call me and I will walk you thru it.

Sent from my iPhone

Begin forwarded message:

From: "Sauer, Darwin" <Darwin.Sauer@bchydro.com>
To: "Haslam, David GCPE:EX" <David.Haslam@gov.bc.ca>
Subject: Fwd: Letter to BCUC

Sent from my iPhone

Begin forwarded message:

From: "Magre, Leela" <Leela.Magre@bchydro.com>
Date: November 24, 2017 at 3:59:02 PM PST

To: "Sauer, Darwin" <Darwin.Sauer@bchydro.com>
Subject: Letter to BCUC

Hi Darwin,

As discussed. The most important piece is the letter, the rest of the attachments are the analysis.

Thanks,
Leela

Leela Magre | Manager, Policy & Research

BC Hydro
333 Dunsmuir St, 15th floor
Vancouver, BC V6B 5R3

P 604 623 4008
M 236 993 0338
E leela.magre@bchydro.com

bchydro.com

Smart about power in all we do.

From: BC Hydro, Regulatory Grp
Sent: 2017, November 24 3:54 PM
To: Magre, Leela; Savdant, Michael; BC Hydro, Regulatory Grp
Cc: James, Fred; Reimann, Randy; De Zoysa, Sanjaya
Subject: RE: OK to file

Please see attached, as requested.

Please let us know when we may file.

Thank you

BC Hydro Regulatory

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Fred James
Chief Regulatory Officer
Phone: 604-623-4046
Fax: 604-623-4407
bchydroregulatorygroup@bchydro.com

November 24, 2017

Mr. Patrick Wruck
Commission Secretary and Manager
Regulatory Support
British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Mr. Wruck:

RE: Project No. 1598922
British Columbia Utilities Commission (BCUC or Commission)
British Columbia Hydro and Power Authority (BC Hydro)
Site C Inquiry – Results of Analysis of Commission Portfolio

BC Hydro is writing further to our letter to the Commission of November 16, 2017. As described in our previous letter, BC Hydro has now utilized our portfolio and rate impact models to analyze the assumptions made by the Commission in its Illustrative Alternative Portfolio referenced in the Final Report. This document provides a summary of the findings from our analysis utilizing these assumptions.

Our analysis of the Commission's Illustrative Alternative Portfolio addresses the methodological errors identified to the Commission in our November 16, 2017 letter, but has retained the Commission's assumptions in the analysis of the Illustrative Alternative Portfolio where they appear to be deliberate. Please refer to Attachment 1 for a summary of these corrections. Further details on the analysis methodology and results are provided in Attachments 2, 3 and 4.

BC Hydro continues to have concerns with a number of the assumptions made by the Commission in its Illustrative Alternative Portfolio. We believe the costs and resources utilized in this portfolio have a very low probability of occurring or of being achievable. As such, BC Hydro makes no representation on our ability to deliver this portfolio in the manner assumed by the Commission.

We have provided two scenarios:

1. A scenario which is consistent with the Commission's past decisions on how to assess the cost to ratepayers of demand-side management and current policy regarding financing of alternative resources, specifically:
 - ▶ Using Total Resource Cost (TRC) for demand-side management resources rather than the Utility Cost.

- ▶ Using IPP financing rates for new generation resources, reflective of IPPs constructing alternative resources other than Site C and upgrades to BC Hydro facilities.
- 2. A scenario which utilizes the Commission's assumptions from the Final Report regarding the cost of demand-side management and financing of alternative resources, specifically:
 - ▶ Using Utility Cost rather than Total Resource Cost.
 - ▶ Using BC Hydro rather than IPP financing rates.

The key findings from this updated portfolio analysis as compared to previous BC Hydro submissions are shown in Table 1 below. We have performed calculations for the Low and Mid Load forecasts. We have not had sufficient time to calculate impacts for the High Load forecast.

Table 1 provides:

- Present value results representing the difference in present value costs between the Terminate and Continue scenarios.
- Incremental Cumulative Rate Impacts, which represent the difference in rates between the Terminate and Continue scenarios.

Table 1 Ratepayer Impacts of Site C Termination

Portfolio Assumptions	Current Policy and Precedent (TRC & IPP Financing)				Commission Assumptions (Utility Cost & BCH Financing)			
	Present Value Cost Analysis (\$2018 billions)							
Low Load Forecast	1.7				0.8			
Mid Load Forecast	4.2				2.0			
Estimated Incremental Cumulative Rate Increases (%)								
	F20	F24	F44	F94	F20	F24	F44	F94
Low Load Forecast	6.8	7.7	10.5	36.5	6.8	7.7	9.0	32.5
Mid Load Forecast	6.4	7.2	8.3	25.1	6.4	7.2	3.8	13.8

As shown by these results:

- Terminating Site C results in \$1.7 billion of higher present value costs to ratepayers than completing Site C, even when utilizing the low load forecast and the assumptions in the Commission's Illustrative Alternative.
- Terminating Site C results in higher cumulative rate impacts in all years relative to completing Site C, even when utilizing the low load forecast and the assumptions in the Commission's Illustrative Alternative.
- Utilizing a 30-year amortization period for termination and sunk costs (as the Commission assumes for termination costs) results in a near-term rate impact of approximately 7 per cent for five years when coupled with the Commission's

November 24, 2017
Mr. Patrick Wruck

Commission Secretary and Manager
Regulatory Support
British Columbia Utilities Commission
Site C Inquiry – Results of Analysis of Commission Portfolio

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Illustrative Alternative Portfolio assumptions. This initial rate impact would be greater than 10 per cent if a ten-year amortization period is utilized.

- ▶ BC Hydro believes it is contrary to the regulatory principle of intergenerational equity to have future ratepayers pay for a project decades from now that had been cancelled and from which they are deriving no benefit.

In all portfolios, cumulative rate impacts of Termination are larger in the low load than the mid load forecast. This is because of the reduction in customer sales resulting from the combination of low load growth and a large amount of incremental demand-side management in the Commission's illustrative Alternative Portfolio.

Figure 1 and Figure 2 below show the annual cumulative rate impacts, as set out in Table 1, of Termination as compared to Completion of Site C under the Low and Mid Load forecasts (respectively).

Figure 1 Incremental Rate Impacts: Termination, Low Load

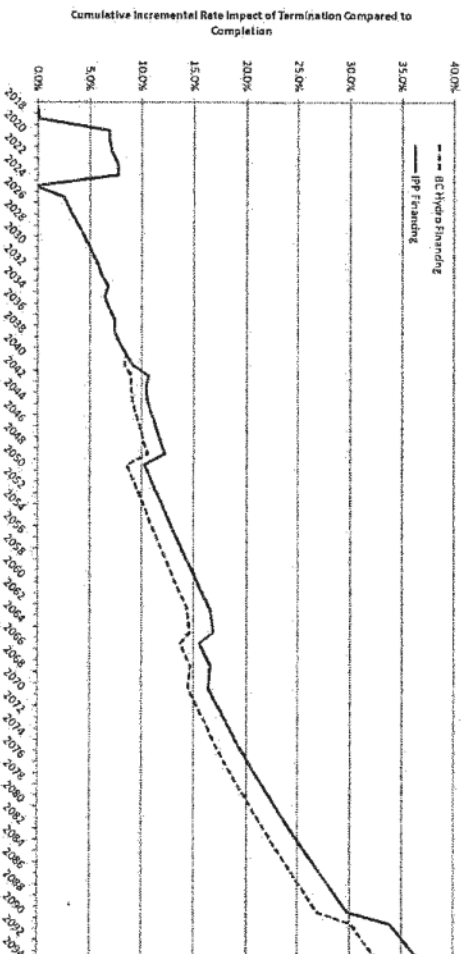
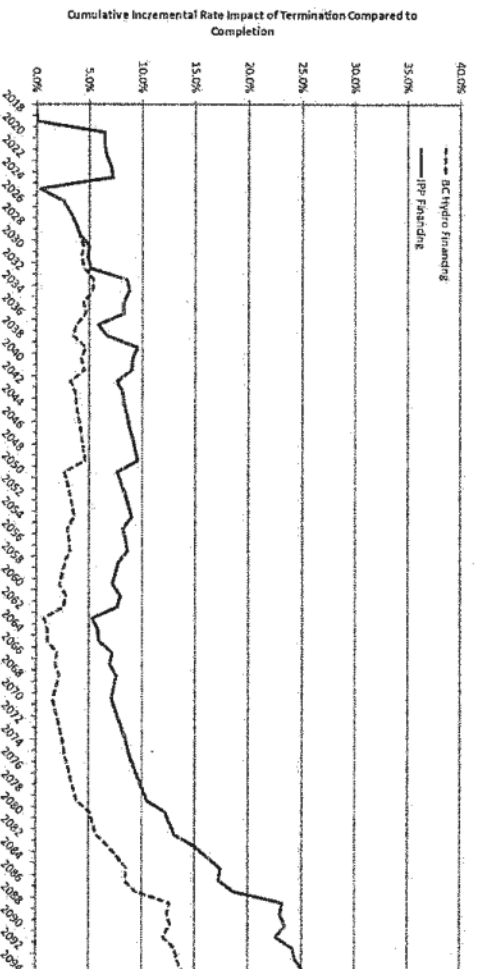


Figure 2 Incremental Rate Impacts: Termination, Mid Load



November 24, 2017
Mr. Patrick Wruck
Commission Secretary and Manager
Regulatory Support
British Columbia Utilities Commission
Site C Inquiry – Results of Analysis of Commission Portfolio

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For further information, please contact Fred James at 604-623-4046 or by email at bchydroregulatorygroup@bchydro.com.

Yours sincerely,

Fred James
Chief Regulatory Officer

fj/ma

Enclosures (4)

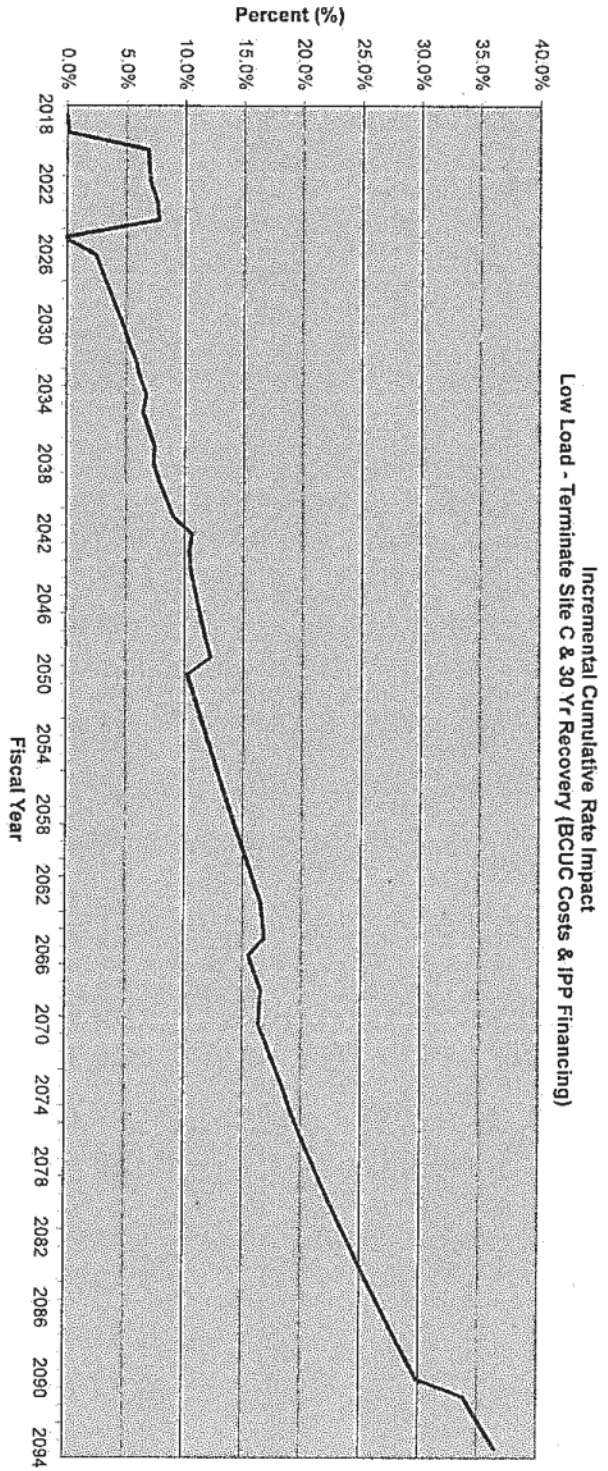
Attachment 1	Summary of Methodology and Areas of Correction
Attachment 2	Comparison of Analysis to Previous Filings
Attachment 3	Resources Identified in Analysis using Illustrative Alternative Portfolio
Attachment 4	Incremental Cumulative Rate Impact Analysis

Site C Inquiry

Results of Analysis of Commission Portfolio

Attachment 3

Resources Selected in Analysis using Illustrative Alternative Assumptions



Revenue Requirement (Ratepayer Costs) Summary

Rate Impact Model - Low Load - Terminate 30 Yrs with BCUC Costs & IPP Forwarding rates

Attachment 4
Summary
Page 2

	Revenue	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Change in Revenue Requirement (Ratepayer Costs):																										
Domestic Energy Costs	0.0	(0.9)	(12.7)	(23.5)	(35.3)	(51.3)	(78.4)	25.6	122.4	122.6	122.8	120.7	122.5	123.4	124.4	121.9	127.3	119.4	119.3	131.5	139.4	150.9	175.8	201.8	235.1	264.7
Operating Costs	0.0	5.1	56.1	96.8	112.6	117.0	121.6	121.6	121.6	123.6	93.3	86.8	52.2	40.2	25.8	14.1	(16.8)	3.5	27.0	28.5	35.0	55.3	47.9	30.4	41.8	44.0
Amortization	0.0	0.0	133.0	133.0	133.0	133.0	133.0	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	
Finance Charges	0.0	0.1	156.1	143.6	135.3	132.1	130.6	(210.9)	(202.4)	(198.5)	(195.6)	(192.9)	(192.7)	(193.1)	(194.3)	(195.7)	(196.6)	(196.5)	(197.0)	(196.6)	(195.9)	(195.4)	(194.9)	(194.2)	(194.2)	
Return on Equity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DSM Account	0.0	(0.1)	(60.1)	(98.6)	(112.6)	(117.0)	(121.6)	(137.0)	(161.7)	(178.3)	(162.1)	(144.7)	(111.3)	(100.5)	(87.3)	(70.8)	(53.2)	(35.8)	(18.0)	(0.0)	(10.1)	(104.3)	(113.9)	(115.8)	(108.4)	
DSM Additions	0.0	0.4	5.7	12.2	19.7	27.5	35.8	44.7	55.5	67.5	77.5	87.1	94.3	101.2	107.1	112.2	115.3	118.8	124.4	133.2	144.4	158.9	176.8	198.4	224.7	
DSM Recoveries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Estimated Total Change in Revenue Requirement:																										
Estimated Revenue Requirement - Base Case	4,538	4,788	4,831	5,156	5,350	5,525	5,718	6,055	6,257	6,435	6,432	6,626	6,800	6,992	7,201	7,414	7,599	7,578	7,732	8,012	8,197	8,414	8,658	8,925	9,059	9,485
Estimated Revenue Requirement - Scenario	4,538	4,787	5,207	5,414	5,550	5,758	5,931	6,860	6,168	6,345	6,359	6,550	6,747	6,947	7,163	7,378	7,571	7,542	7,743	7,943	8,163	8,407	8,669	8,950	9,192	9,574
Domestic Revenues	(4,538)	(4,788)	(4,831)	(5,156)	(5,282)	(5,425)	(5,589)	(5,901)	(6,059)	(6,210)	(6,199)	(6,370)	(6,527)	(6,702)	(6,889)	(7,083)	(7,248)	(7,230)	(7,407)	(7,613)	(7,793)	(8,009)	(8,234)	(8,488)	(8,650)	(9,045)
Revenue Shortfall (Surplus)	0.0	5.2	284.3	289.1	308.3	333.1	342.0	(10.8)	109.3	134.8	162.9	180.5	216.9	245.4	274.4	294.3	322.8	312.6	340.5	367.9	370.3	390.0	435.4	472.3	562.4	559.7
Estimated Incremental Impact on Future Rates																										
Typical Customer Bill (2017 = 100)																										
Base Case	107.7	110.4	113.8	119.2	121.3	123.9	126.6	131.0	135.6	137.6	135.3	139.0	140.9	142.9	145.5	148.5	150.7	148.8	150.5	153.2	154.5	156.6	159.4	162.4	163.0	167.7
Scenario	107.7	110.5	120.8	125.1	128.3	131.5	134.4	132.7	139.0	140.9	139.9	143.2	145.7	148.2	151.3	154.7	157.4	155.2	157.5	160.6	161.9	164.7	167.9	171.4	173.7	178.1
Base Case	7.7%	10.4%	13.8%	18.2%	21.3%	23.9%	25.6%	33.0%	37.2%	38.3%	36.3%	40.0%	40.5%	42.9%	45.5%	48.5%	50.7%	48.6%	50.5%	53.2%	54.5%	56.9%	59.4%	62.4%	63.0%	67.7%
Scenario	7.7%	10.5%	20.8%	25.1%	28.3%	31.5%	34.4%	32.7%	38.0%	40.9%	40.2%	45.2%	45.7%	48.2%	51.3%	54.7%	57.4%	55.2%	57.5%	60.6%	61.9%	64.7%	67.9%	71.4%	73.7%	78.1%
Estimated Incremental Cumulative Rate Impact																										
	0.0%	0.1%	6.8%	6.8%	7.1%	7.6%	-0.2%	2.4%	3.0%	3.6%	4.2%	4.7%	5.2%	5.6%	6.2%	6.2%	6.7%	6.4%	6.9%	7.4%	7.5%	7.8%	8.4%	9.0%	10.6%	10.4%
Line 17 - Line 18																										

Revenue Requirement (Ratepayer Costs) Summary
(millions)

Rate Impact Model - Low Load - Terminals 30 Yrs with BCUC Costs & IPP Financing Data

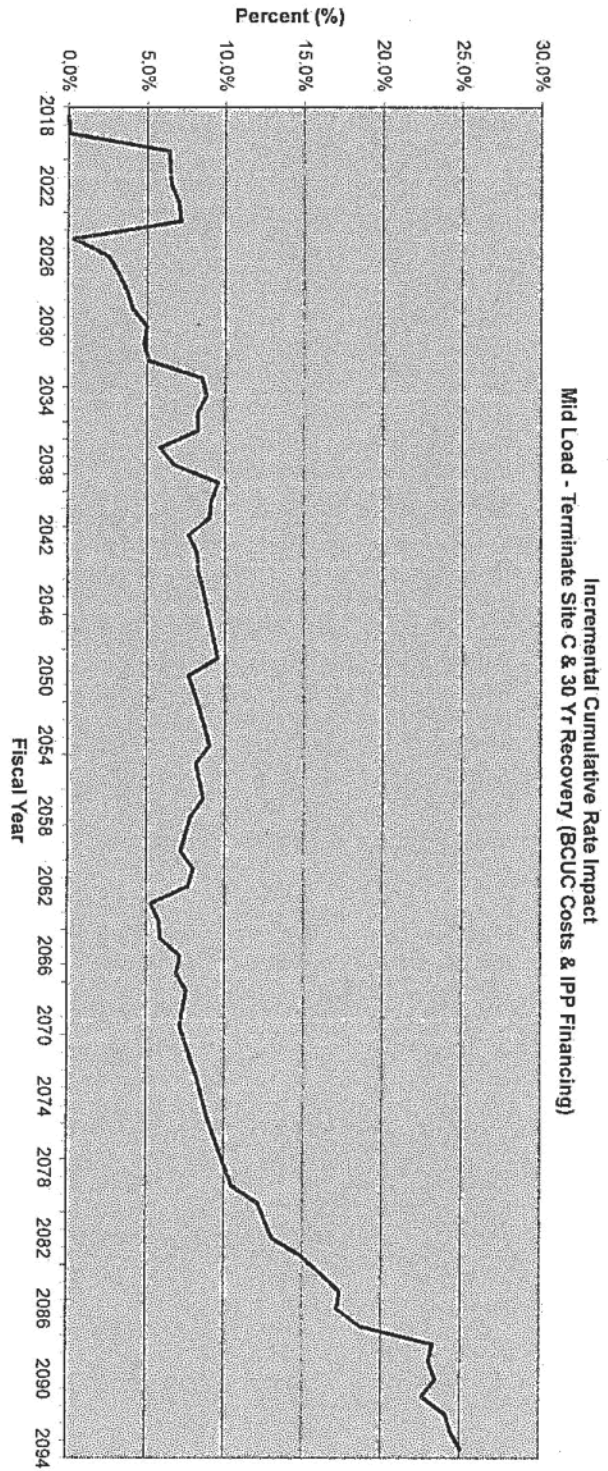
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BC Hydro
Rate Impact Analysis

Revenue Requirement (Ratepayer Costs) Summary

	Ratepayer Costs (millions)	Year																											
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Change in Revenue Requirement (Ratepayer Costs):																													
Domestic Energy Costs	1	372.2	386.8	394.5	402.4	410.4	418.6	427.0	435.5	444.3	453.1	462.2	471.5	480.9	490.5	500.3	510.3	520.5	530.6	541.5	552.4	563.5	574.6	585.7	596.8	607.9	619.0	630.1	641.2
Operating Costs	2	65.4	67.3	69.3	71.3	73.3	75.4	77.4	79.4	81.4	83.4	85.4	87.4	89.4	91.4	93.4	95.4	97.4	99.4	101.4	103.4	105.4	107.4	109.4	111.4	113.4	115.4	117.4	119.4
Amortization	3	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)	(187.0)
Finance Charges	4	(116.3)	(110.7)	(103.1)	(98.0)	(94.5)	(91.5)	(88.7)	(86.1)	(83.7)	(81.3)	(79.0)	(76.7)	(74.4)	(72.1)	(69.8)	(67.5)	(65.2)	(62.9)	(60.6)	(58.3)	(56.0)	(53.7)	(51.4)	(49.1)	(46.8)	(44.5)	(42.2)	(39.9)
Return on Equity	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DSM Account	6	(228.5)	(233.1)	(237.7)	(242.3)	(247.3)	(252.3)	(257.3)	(262.3)	(267.3)	(272.3)	(277.3)	(282.3)	(287.3)	(292.3)	(297.3)	(302.3)	(307.3)	(312.3)	(317.3)	(322.3)	(327.3)	(332.3)	(337.3)	(342.3)	(347.3)	(352.3)	(357.3)	(362.3)
DSM Additions	7	185.7	189.7	203.7	207.7	211.8	216.1	220.4	224.8	229.3	233.8	238.3	242.8	247.3	251.8	256.3	260.8	265.3	269.8	274.3	278.8	283.3	287.8	292.3	296.8	301.3	305.8	310.3	314.8
DSM Recoveries	8	135.9	132.3	138.0	140.5	142.3	144.1	145.9	147.7	149.5	151.3	153.1	154.9	156.7	158.5	160.3	162.1	163.9	165.7	167.5	169.3	171.1	172.9	174.7	176.5	178.3	180.1	181.9	183.7
Estimated Total Change in Revenue Requirement:	9	16.7	17.0	17.4	17.8	18.2	18.6	19.0	19.4	19.8	20.2	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.0	25.4	25.8	26.2	26.6	27.0	27.4
Estimated Revenue Requirement - Base Case	10	16,729	17,002	17,401	17,748	18,101	18,461	18,829	19,204	19,587	19,977	20,375	20,781	21,195	21,617	22,048	22,486	22,932	23,384	23,842	24,306	24,776	25,251	25,731	26,215	26,703	27,195	27,691	28,191
Estimated Revenue Requirement - Scenario	11	15,841	16,268	16,581	16,811	17,046	17,287	17,532	17,781	18,034	18,291	18,551	18,814	19,080	19,349	19,621	19,896	20,173	20,452	20,733	21,017	21,304	21,593	21,884	22,177	22,472	22,769	23,068	23,369
Domestic Revenues	12	524.1	546.2	568.8	591.7	614.9	638.5	662.4	686.6	711.1	735.8	760.8	786.0	811.4	837.1	863.0	889.1	915.4	941.8	968.4	995.1	1,021.9	1,048.8	1,075.8	1,102.9	1,129.9	1,157.0	1,184.1	1,211.2
Revenue Shortfall (Surplus)	13	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Estimated Incremental Impact on Future Rates	14	284.0	286.8	304.7	310.8	317.0	323.3	329.7	336.3	343.0	349.6	356.8	363.9	371.2	378.6	386.1	393.8	401.7	409.7	417.8	426.0	434.3	442.7	451.1	459.6	468.1	476.6	485.1	493.6
Typical Customer Bill (\$2017 = 100)	15	303.9	318.4	322.9	328.3	334.1	340.1	346.2	352.4	358.8	365.3	372.0	378.8	385.7	392.8	399.9	407.1	414.4	421.7	429.1	436.5	444.0	451.5	459.0	466.5	474.0	481.5	489.0	496.5
Base Case	16	193.0%	198.8%	204.3%	210.8%	217.0%	223.3%	229.7%	236.2%	242.8%	249.4%	256.0%	262.6%	269.2%	275.8%	282.4%	289.0%	295.6%	302.2%	308.8%	315.4%	322.0%	328.6%	335.2%	341.8%	348.4%	355.0%	361.6%	368.2%
Scenario	17	209.9%	216.4%	222.2%	228.5%	234.1%	240.1%	246.2%	252.4%	258.6%	264.8%	271.0%	277.2%	283.4%	289.6%	295.8%	302.0%	308.2%	314.4%	320.6%	326.8%	333.0%	339.2%	345.4%	351.6%	357.8%	364.0%	370.2%	376.4%
Estimated Incremental Cumulative Rate Impact	18	17.0%	17.6%	18.2%	18.7%	19.2%	19.8%	20.3%	20.9%	21.4%	21.9%	22.5%	23.0%	23.5%	24.0%	24.6%	25.1%	25.6%	26.1%	26.7%	27.2%	27.7%	28.2%	28.7%	29.2%	29.7%	30.2%	30.7%	31.2%



BC Hydro
Rate Impact Analysis

Revenue Requirement (Ratepayer Costs) Summary
(million)

Rate Impact Model - Mid Load - Terminals 30 Yrs w/ BCUJ Costs & IPP Financing Mix

Attachment 4
Summary
Page 2

Financial Year Description Reference	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Change in Revenue Requirement (Ratepayer Costs):																										
Domestic Energy Costs	0.0	(7.3)	(13.7)	(25.6)	(41.0)	(55.9)	(62.9)	59.7	137.6	146.6	170.4	162.0	236.6	248.8	287.9	493.7	531.7	554.0	577.1	467.0	500.4	747.6	743.8	766.5	715.3	765.5
Operating Costs	0.0	11.5	25.7	126.3	140.9	149.5	133.0	121.7	98.5	60.6	34.7	(69.4)	(60.2)	(60.3)	(79.7)	(98.0)	(140.0)	(168.0)	(165.7)	(132.6)	(116.5)	(93.3)	(78.0)	(61.1)	(63.4)	(56.8)
Amortization	0.0	0.0	133.0	133.0	133.0	133.0	133.0	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)
Finance Charges	0.0	0.2	150.8	144.8	133.4	135.1	134.3	(207.5)	(204.1)	(201.2)	(199.4)	(200.3)	(202.7)	(205.4)	(208.3)	(211.4)	(215.4)	(220.5)	(225.6)	(229.6)	(232.2)	(233.6)	(234.0)	(233.7)	(232.8)	(230.7)
Return on Equity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DSM Account	0.0	(11.5)	(85.7)	(126.3)	(140.9)	(149.5)	(133.0)	(137.1)	(138.5)	(124.5)	(91.5)	11.5	1.1	20.0	18.3	35.3	76.1	102.8	99.1	84.7	47.5	22.7	5.9	7.6	(11.5)	(39.6)
DSM Additions	0.0	0.0	0.6	7.1	18.6	25.0	34.9	43.8	52.9	62.2	70.5	76.6	75.8	75.7	74.4	73.2	70.8	65.0	51.7	36.7	23.0	9.9	(0.5)	(10.1)	(19.8)	(27.3)
DSM Recoveries	0.0	(7.1)	270.6	236.4	243.0	238.1	218.4	(138.2)	(83.3)	(68.0)	(23.2)	(9.4)	40.8	50.0	62.7	283.0	313.3	323.4	336.8	186.4	272.1	443.6	427.5	436.5	377.9	421.2
Estimated Total Change in Revenue Requirement:	4.638	4.851	5.038	5.293	5.505	5.727	5.946	6.166	6.370	6.453	6.563	6.716	6.966	7.178	7.322	7.633	7.865	8.101	8.332	8.526	8.037	9.325	9.646	9.947	10.223	10.561
Estimated Revenue Requirement - Base Case	(4.638)	(4.851)	(5.038)	(5.293)	(5.505)	(5.727)	(5.946)	(6.166)	(6.370)	(6.453)	(6.563)	(6.716)	(6.966)	(7.178)	(7.322)	(7.633)	(7.865)	(8.101)	(8.332)	(8.526)	(8.037)	(9.325)	(9.646)	(9.947)	(10.223)	(10.561)
Estimated Revenue Requirement - Scenario	0.0	4.4	293.3	297.4	308.3	313.3	343.0	17.7	124.7	157.8	187.1	200.8	266.3	290.9	270.2	488.2	473.0	449.9	457.8	326.4	307.4	548.2	550.4	530.2	465.8	486.0
Domestic Revenues	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Revenue Shortfall (Surplus)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Estimated Incremental Impact on Future Rates:	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Typical Customer Bill (F2017 = 100)	100.3	108.3	109.8	113.9	116.4	118.9	121.5	126.8	130.1	131.8	132.4	132.9	135.5	136.2	147.4	144.7	147.8	146.0	148.9	155.4	157.3	160.8	164.0	167.5	170.3	174.4
Base Case	100.3	108.4	109.3	113.0	115.9	118.7	121.7	127.2	131.6	133.0	134.1	137.0	140.4	143.0	146.5	153.2	156.6	154.3	157.2	161.2	164.0	170.4	173.2	176.5	178.0	182.6
Scenario	100.3	108.3	109.8	113.9	116.4	118.9	121.5	126.8	130.1	131.8	132.4	132.9	135.5	136.2	147.4	144.7	147.8	146.0	148.9	155.4	157.3	160.8	164.0	167.5	170.3	174.4
Base Case	100.3	108.4	109.3	113.0	115.9	118.7	121.7	127.2	131.6	133.0	134.1	137.0	140.4	143.0	146.5	153.2	156.6	154.3	157.2	161.2	164.0	170.4	173.2	176.5	178.0	182.6
Scenario	100.3	108.3	109.8	113.9	116.4	118.9	121.5	126.8	130.1	131.8	132.4	132.9	135.5	136.2	147.4	144.7	147.8	146.0	148.9	155.4	157.3	160.8	164.0	167.5	170.3	174.4
Estimated Incremental Cumulative Rate Impact:	0.00%	0.1%	0.1%	0.4%	0.6%	0.8%	7.0%	7.2%	0.4%	2.5%	3.2%	3.7%	4.1%	5.0%	4.8%	4.8%	5.1%	6.8%	6.2%	8.3%	5.6%	6.7%	9.6%	9.1%	8.0%	8.2%

BC Hydro
Rate Impact Analysis
Revenue Requirement (Ratepayer Costs) Summary
(\$ million)

Rate Impact Model - Mid Load - Termware 30 Yrs with BCUC Costs & IPP Financing Mix

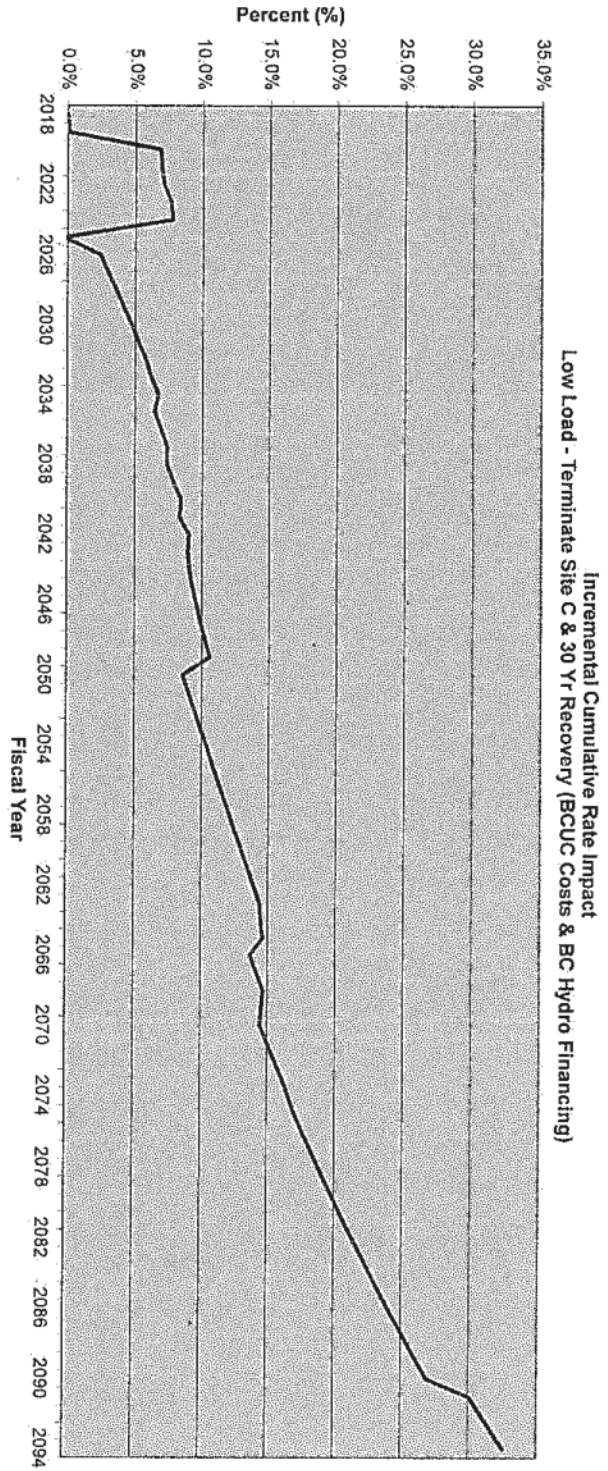
Attachment 4
Summary
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Line	Fiscal Year	2044	2045	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	
Line	Column Reference	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	
Change in Revenue Requirement (Ratepayer Costs):																												
1	Domestic Energy Costs	760.6	756.4	812.4	828.6	845.2	862.1	879.2	896.9	914.9	933.2	951.8	969.3	978.3	993.7	882.2	872.8	853.3	804.0	884.8	735.5	788.0	812.3	835.8	870.0	804.5	922.8	941.0
2	Operating Costs	(21.8)	(36.6)	(42.8)	(50.8)	(75.3)	(80.5)	(84.0)	(87.5)	(93.3)	(97.2)	(101.2)	(99.0)	(98.6)	(100.8)	(102.9)	(104.8)	(107.0)	(109.2)	(111.4)	(113.6)	(115.5)	(119.2)	(120.5)	(122.5)	(125.4)	(127.9)	(130.5)
3	Amortization	(9.5)	(9.8)	(9.8)	(9.8)	(9.8)	(9.9)	(143.0)	(143.0)	(143.0)	(143.0)	(143.0)	(143.0)	(143.0)	(143.0)	(143.0)	(143.0)	(143.0)	(143.0)	(143.0)	(151.6)	(160.2)	(160.2)	(160.2)	(173.8)	(187.6)	(191.5)	
4	Finance Charges	(227.8)	(224.8)	(222.2)	(219.9)	(218.3)	(217.3)	(214.2)	(209.0)	(204.2)	(199.7)	(195.4)	(191.1)	(186.7)	(182.3)	(177.9)	(173.4)	(168.9)	(164.2)	(159.4)	(154.5)	(149.3)	(144.7)	(139.7)	(134.2)	(129.1)	(123.5)	(118.5)
5	Return on Equity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
6	DSM Account	(58.2)	(41.0)	(36.3)	(32.0)	(3.1)	(5.5)	(3.8)	(1.9)	2.0	4.0	6.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
7	DSM Additions	(39.8)	(28.3)	(23.5)	(18.6)	(16.2)	(13.3)	(7.7)	(0.7)	6.0	10.2	13.1	14.2	14.5	15.0	14.2	11.8	7.8	3.1	2.3	0.4	(0.2)	(0.6)	(0.8)	(0.8)	(0.3)	(0.1)	
8	Estimated Total Change in Revenue Requirement:	434.5	456.1	475.7	486.5	516.5	535.5	429.5	454.6	483.3	507.4	531.5	463.4	504.1	525.4	482.6	463.0	444.2	487.7	473.6	325.8	358.1	385.7	442.1	425.3	467.0	453.7	441.3
9	Estimated Revenue Requirement - Base Case	10,939	11,187	11,402	11,541	11,870	12,109	12,342	12,575	12,811	13,060	13,319	13,572	13,831	14,094	14,363	14,646	14,939	15,132	15,433	15,739	16,075	16,291	16,503	16,732	17,148	17,486	17,834
10	Estimated Revenue Requirement - Scenario	11,372	11,623	11,878	12,138	12,387	12,643	12,795	13,050	13,293	13,568	13,851	14,056	14,335	14,620	14,846	15,111	15,383	15,625	15,900	16,095	16,374	16,657	16,945	17,221	17,613	17,940	18,275
11	Domestic Revenues	(10,809)	(11,099)	(11,339)	(11,627)	(11,815)	(12,057)	(12,290)	(12,535)	(12,775)	(13,030)	(13,284)	(13,533)	(13,818)	(14,088)	(14,363)	(14,646)	(14,939)	(15,132)	(15,433)	(15,739)	(16,075)	(16,291)	(16,503)	(16,732)	(17,146)	(17,485)	(17,834)
12	Revenue Shortfall (Surplus)	505.7	522.5	539.3	555.6	571.4	586.0	472.2	489.3	517.9	537.2	558.2	582.3	517.0	533.0	482.8	483.0	444.2	482.7	473.6	325.8	359.1	385.7	442.1	425.3	467.0	453.7	441.3
13	Estimated Incremental Impact on Future Rates	4.65%	4.72%	4.76%	4.80%	4.84%	4.86%	3.95%	4.05%	4.13%	4.18%	3.71%	3.74%	3.75%	3.58%	3.16%	2.87%	3.28%	3.07%	2.07%	2.24%	2.24%	2.68%	2.55%	2.72%	2.58%	2.47%	
14	Typical Customer Bill (\$2017 = 100)	177.8	181.5	185.2	188.6	192.3	196.1	199.9	203.7	207.5	211.5	215.7	219.8	224.0	228.3	232.6	237.3	242.0	245.1	250.0	254.8	259.4	263.9	267.3	272.0	277.7	283.2	288.9
15	Base Case Scenario	186.0	190.1	194.0	197.6	201.6	205.6	207.6	211.7	215.8	220.3	224.8	229.0	232.4	236.9	240.5	244.8	248.2	253.1	257.6	260.2	265.2	268.8	274.5	278.8	285.3	290.6	296.0
16	Base Case Scenario	77.8%	81.5%	85.2%	88.6%	92.3%	96.1%	99.9%	103.7%	107.5%	111.5%	115.7%	119.8%	124.0%	128.3%	132.6%	137.3%	142.0%	145.1%	150.0%	154.9%	159.4%	163.9%	167.3%	172.0%	177.7%	183.2%	188.9%
17	Scenario	86.0%	90.1%	94.0%	97.6%	101.6%	105.6%	107.6%	111.7%	115.8%	120.3%	124.8%	129.0%	132.4%	136.9%	140.5%	144.8%	148.2%	153.1%	157.6%	160.2%	165.2%	168.8%	174.5%	178.8%	185.3%	190.6%	196.0%
18	Estimated Incremental Cumulative Rate Impact	8.3%	8.6%	8.8%	9.0%	9.3%	9.5%	7.7%	8.0%	8.4%	8.7%	9.0%	8.1%	8.4%	8.6%	7.8%	7.5%	7.2%	8.0%	7.7%	5.3%	5.5%	5.5%	7.2%	7.0%	7.6%	7.3%	7.1%

BC Hydro
Rate Impact Analysis

Revenue Requirement (Ratepayer Costs) Summary

	Fiscal Year Column Reference	Rate Impact Model - Mid Load - Terminal 30 Yrs with BCUC Data & IPR Financing Ass																										
		2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094			
Change in Revenue Requirement (Ratepayer Costs):																												
Domestic Energy Costs	1	959.9	979.1	998.9	1,018.6	1,039.0	1,059.8	1,081.0	1,102.6	1,124.6	1,147.1	1,173.6	1,199.8	1,227.0	1,254.9	1,283.8	1,313.6	1,344.4	1,376.1	1,408.8	1,442.5	1,477.3	1,513.2	1,550.3	1,588.5	1,627.8	1,668.2	1,709.7
Operating Costs	2	(133.1)	(135.7)	(138.5)	(141.2)	(144.1)	(146.9)	(149.8)	(152.8)	(155.9)	(159.0)	(162.2)	(165.5)	(168.8)	(172.2)	(175.6)	(179.1)	(182.7)	(186.3)	(190.1)	(193.9)	(197.8)	(201.7)	(205.7)	(209.8)	(213.9)	(218.1)	(222.4)
Amortization	3	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)	(167.6)
Finance Charges	4	(175.0)	(189.6)	(192.2)	(193.1)	(195.5)	(197.3)	(199.3)	(201.5)	(203.8)	(206.2)	(208.6)	(211.0)	(213.4)	(215.8)	(218.2)	(220.6)	(223.0)	(225.4)	(227.8)	(230.2)	(232.6)	(235.0)	(237.4)	(239.8)	(242.2)	(244.6)	(247.0)
Return on Equity	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DSM Account	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DSM Additions	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DSM Recoveries	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Estimated Total Change in Revenue Requirement:	9	464.1	487.1	510.4	528.8	547.3	572.0	596.8	622.0	647.6	673.5	700.4	727.3	754.2	781.1	807.9	834.8	861.7	888.6	915.5	942.4	969.3	996.2	1,023.1	1,050.0	1,076.9	1,103.8	1,130.7
Estimated Revenue Requirement - Base Case	10	18,199	18,551	18,920	19,297	19,684	20,074	20,473	20,881	21,297	21,722	22,155	22,596	23,047	23,506	23,975	24,454	24,943	25,442	25,951	26,470	26,999	27,538	28,086	28,644	29,211	29,787	30,372
Estimated Revenue Requirement - Scenario	11	18,853	19,038	19,431	19,828	20,228	20,646	21,070	21,503	21,945	22,473	22,934	23,404	23,968	24,506	25,046	25,669	26,269	26,891	27,501	28,134	28,858	29,580	30,319	31,074	31,845	32,622	33,405
Domestic Revenues	12	464.1	487.1	510.4	528.8	547.3	572.0	596.8	622.0	647.6	673.5	700.4	727.3	754.2	781.1	807.9	834.8	861.7	888.6	915.5	942.4	969.3	996.2	1,023.1	1,050.0	1,076.9	1,103.8	1,130.7
Revenue Shortfall (Surplus)	13	2.85%	2.83%	2.70%	2.72%	2.78%	2.85%	2.92%	2.98%	3.04%	3.05%	3.07%	3.07%	3.07%	3.07%	3.07%	3.07%	3.07%	3.07%	3.07%	3.07%	3.07%	3.07%	3.07%	3.07%	3.07%	3.07%	3.07%
Typical Customer Bill (P2017 = 100)	14	302.7	308.4	314.7	321.1	327.7	334.4	341.3	348.3	355.3	362.0	368.8	375.6	382.4	389.2	396.0	402.7	409.5	416.3	423.1	429.9	436.7	443.5	450.3	457.1	463.9	470.7	477.5
Base Case	15	302.7	308.4	314.7	321.1	327.7	334.4	341.3	348.3	355.3	362.0	368.8	375.6	382.4	389.2	396.0	402.7	409.5	416.3	423.1	429.9	436.7	443.5	450.3	457.1	463.9	470.7	477.5
Base Case	16	194.5%	200.5%	206.5%	212.6%	218.6%	224.6%	230.6%	236.6%	242.6%	248.6%	254.6%	260.6%	266.6%	272.6%	278.6%	284.6%	290.6%	296.6%	302.6%	308.6%	314.6%	320.6%	326.6%	332.6%	338.6%	344.6%	350.6%
Scenario	17	202.1%	208.4%	214.7%	221.1%	227.7%	234.4%	241.3%	248.3%	255.3%	262.0%	268.8%	275.6%	282.4%	289.2%	296.0%	302.7%	309.5%	316.3%	323.1%	329.9%	336.7%	343.5%	350.3%	357.1%	363.9%	370.7%	377.5%
Estimated Incremental Cumulative Rate Impact	18	7.5%	7.9%	8.3%	8.6%	8.9%	9.3%	9.7%	10.1%	10.5%	10.9%	11.3%	11.7%	12.1%	12.5%	12.9%	13.3%	13.7%	14.1%	14.5%	14.9%	15.3%	15.7%	16.1%	16.5%	16.9%	17.3%	17.7%



BC Hydro
Rate Impact Analysis

Revenue Requirement (Ratepayer Costs) Summary
(million)

Attachment 4
Summary
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Rate Impact Model - Low Load - Termite 30 Yrs with BCUC Costs & BCH Financing Mix

Revenue Requirement (Ratepayer Costs) Summary (Million)																											
	Fixed Year Column Reference	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Change in Revenue Requirement (Ratepayer Costs):																											
Domestic Energy Costs	Line 10 - Line 11	0.0	(6.9)	(12.7)	(23.6)	(36.3)	(51.3)	(78.4)	26.6	122.4	122.6	122.0	120.7	122.5	123.4	124.4	121.9	127.3	119.4	119.3	131.5	136.4	146.9	175.8	164.2	210.1	204.2
Operating Costs	Line 12 - Line 13	0.0	6.1	80.1	96.6	112.6	117.0	121.6	121.6	121.6	123.6	93.3	86.8	52.2	40.2	26.8	14.1	(10.6)	3.5	27.0	28.3	35.0	56.3	47.6	39.4	41.8	44.0
Amortization	Line 14 - Line 15	0.0	0.0	133.0	133.0	133.0	133.0	133.0	(8.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)
Finance Charges	Line 16 - Line 17	0.0	0.1	150.1	143.6	133.3	132.1	130.8	(210.9)	(206.6)	(202.4)	(198.5)	(195.6)	(193.7)	(192.9)	(192.7)	(193.1)	(194.2)	(195.7)	(196.6)	(196.9)	(197.0)	(196.6)	(195.4)	(194.9)	(194.2)	(194.2)
Return on Equity	Line 18 - Line 19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DSM Account	Line 20 - Line 21	0.0	(8.1)	(80.1)	(96.6)	(112.6)	(117.0)	(121.6)	(121.6)	(121.6)	(123.6)	(93.3)	(86.8)	(52.2)	40.2	26.8	14.1	(10.6)	3.5	27.0	28.3	35.0	56.3	47.6	39.4	41.8	44.0
DSM Additions	Line 22 - Line 23	0.0	0.4	5.7	12.2	19.7	27.5	35.6	44.7	55.5	67.5	77.5	87.1	94.5	101.2	107.1	112.2	115.3	116.2	114.4	113.3	112.4	112.0	111.6	109.4	104.2	104.2
DSM Recoveries	Line 24 - Line 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Estimated Total Change in Revenue Requirement:																											
Estimated Revenue Requirement - Base Case	Line 26 - Line 27	4,638	4,768	4,931	5,196	5,390	5,725	5,718	6,065	6,257	6,435	6,432	6,600	6,800	6,992	7,201	7,414	7,599	7,578	7,762	8,012	8,167	8,414	8,658	8,927	9,069	9,484
Estimated Revenue Requirement - Scenario	Line 28 - Line 29	(4,638)	(4,768)	(4,931)	(5,196)	(5,390)	(5,725)	(5,718)	(6,065)	(6,257)	(6,435)	(6,432)	(6,600)	(6,800)	(6,992)	(7,201)	(7,414)	(7,599)	(7,578)	(7,762)	(8,012)	(8,167)	(8,414)	(8,658)	(8,927)	(9,069)	(9,484)
Domestic Revenues	Line 30 - Line 31	0.0	5.2	284.3	298.1	308.3	333.1	342.0	(10.8)	109.9	154.8	162.9	180.5	219.8	246.4	274.4	294.3	322.8	312.6	340.5	367.9	370.5	399.0	426.4	434.7	477.5	480.1
Revenue Shortfall (Surplus)	Line 32 - Line 33	0.00%	0.11%	6.00%	5.83%	5.84%	6.14%	6.12%	-0.18%	1.79%	2.17%	2.83%	2.99%	3.37%	3.69%	3.96%	4.15%	4.45%	4.32%	4.80%	4.83%	4.75%	4.88%	5.23%	5.12%	5.53%	5.32%
Estimated Incremental Impact on Future Rates																											
Typical Customer Bill (72017 = 100)	Line 34 - Line 35	100.7	110.4	112.2	118.2	123.9	128.6	133.0	135.6	137.9	139.3	139.0	140.9	142.9	145.5	148.5	150.7	148.6	150.5	153.2	154.5	158.9	169.4	162.4	183.0	188.0	
Base Case	Line 36 - Line 37	100.7	110.4	112.2	118.2	123.9	128.6	133.0	135.6	137.9	139.3	139.0	140.9	142.9	145.5	148.5	150.7	148.6	150.5	153.2	154.5	158.9	169.4	162.4	183.0	188.0	
Scenario	Line 38 - Line 39	100.7	110.4	112.2	118.2	123.9	128.6	133.0	135.6	137.9	139.3	139.0	140.9	142.9	145.5	148.5	150.7	148.6	150.5	153.2	154.5	158.9	169.4	162.4	183.0	188.0	
Base Case	Line 40 - Line 41	100.7	110.4	112.2	118.2	123.9	128.6	133.0	135.6	137.9	139.3	139.0	140.9	142.9	145.5	148.5	150.7	148.6	150.5	153.2	154.5	158.9	169.4	162.4	183.0	188.0	
Scenario	Line 42 - Line 43	100.7	110.4	112.2	118.2	123.9	128.6	133.0	135.6	137.9	139.3	139.0	140.9	142.9	145.5	148.5	150.7	148.6	150.5	153.2	154.5	158.9	169.4	162.4	183.0	188.0	
Estimated Incremental Cumulative Rate Impact	Line 44 - Line 45	0.0%	0.1%	6.8%	6.8%	7.1%	7.6%	-0.2%	2.4%	3.0%	3.6%	4.2%	4.7%	5.2%	5.5%	6.2%	6.7%	6.4%	6.9%	7.4%	7.3%	7.8%	8.2%	8.3%	9.0%	8.9%	

BC Hydro
Rate Impact Analysis

Revenue Requirement (Ratepayer Costs) Summary

Rate Impact Model - Low Load - Terminate 30 Yrs with BCUC Costs & BCUC Financing Mix

Attachment 4
Summary
Pages 3

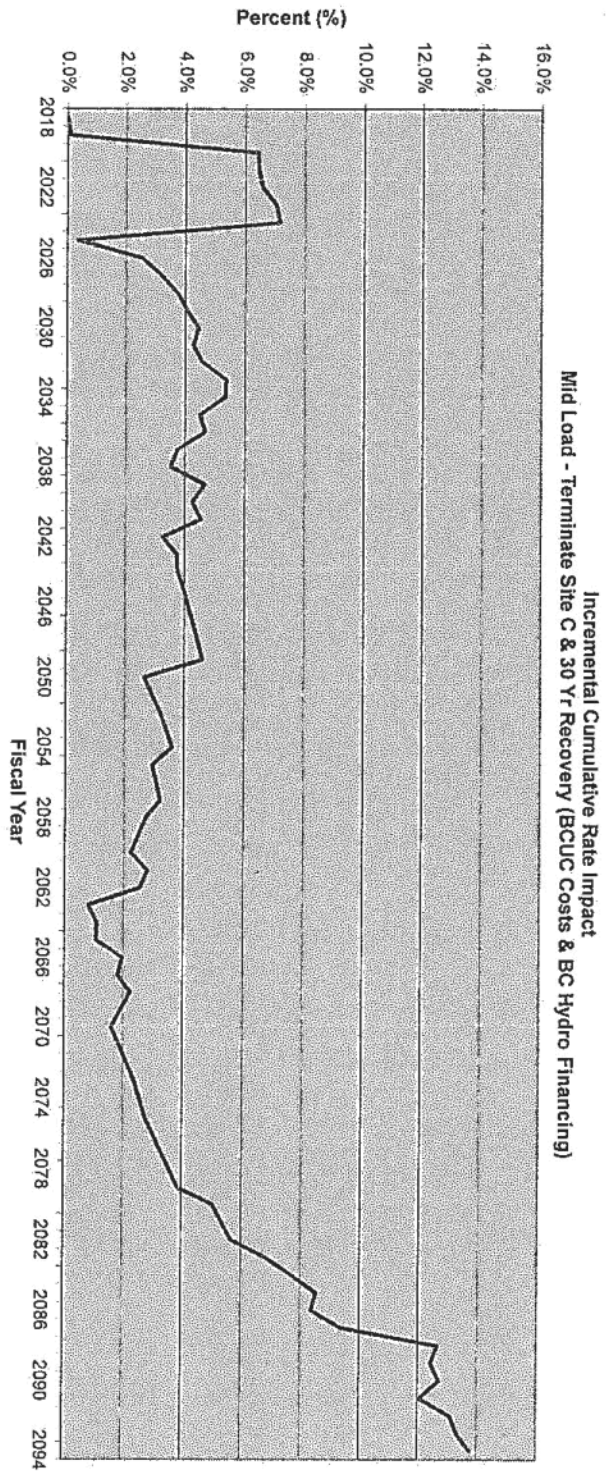
Line		2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070
	Fiscal Year Column Reference	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070
1	Change in Revenue Requirement (Ratepayer Costs):																											
2	Domestic Energy Costs	208.3	212.5	216.7	221.1	225.5	230.0	234.6	239.3	244.1	249.0	253.9	259.0	264.2	269.5	274.9	280.4	286.0	291.7	297.5	303.5	309.6	315.7	321.9	328.4	334.4	340.4	346.4
3	Operating Costs	46.6	64.1	61.9	61.4	62.6	62.8	63.0	64.2	65.5	66.8	68.1	69.5	70.8	72.3	73.8	75.2	76.7	78.3	79.8	81.4	83.1	84.7	86.4	88.2	89.9	91.7	93.6
4	Amortization	(3.8)	(9.8)	(9.8)	(9.8)	(8.8)	(9.8)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)
5	Finance Charges	(193.2)	(181.7)	(180.9)	(180.3)	(180.6)	(185.1)	(191.5)	(175.6)	(169.7)	(163.9)	(158.2)	(152.4)	(146.8)	(140.8)	(135.0)	(129.2)	(123.4)	(117.6)	(111.8)	(106.0)	(100.2)	(94.4)	(88.6)	(82.8)	(77.0)	(71.2)	(65.4)
6	Return on Equity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	DSM Account	(124.5)	(143.7)	(143.1)	(144.1)	(147.0)	(148.8)	(150.8)	(153.5)	(156.9)	(160.0)	(163.2)	(166.5)	(169.8)	(173.2)	(176.6)	(180.2)	(183.8)	(187.5)	(191.2)	(195.0)	(198.8)	(202.9)	(207.0)	(211.1)	(215.3)	(219.6)	(224.0)
8	DSM Additions	102.2	100.9	103.0	103.9	105.9	106.7	120.7	126.2	139.2	134.5	138.0	143.5	147.5	151.9	154.6	158.5	162.1	164.1	167.3	171.8	177.3	180.9	184.5	188.1	191.8	195.4	199.1
9	DSM Recoveries	29.6	32.3	38.8	46.1	54.3	63.2	67.0	67.7	(28.6)	(16.9)	(4.3)	7.1	16.2	32.1	45.0	58.0	71.0	83.9	95.5	108.2	120.8	133.4	146.0	158.6	171.2	183.8	196.4
10	Estimated Total Change in Revenue Requirement:	9.781	9.996	10.213	10.434	10.651	10.875	11.096	11.316	11.542	11.776	12.021	12.265	12.501	12.747	12.988	13.231	13.509	13.774	14.045	14.322	14.605	14.885	15.160	15.432	15.709	15.984	16.264
11	Estimated Revenue Requirement - Base Case	9.810	10.028	10.252	10.480	10.705	10.936	11.093	11.273	11.512	11.761	12.017	12.268	12.520	12.780	13.043	13.309	13.580	13.857	14.140	14.420	14.706	14.989	15.270	15.549	15.826	16.104	16.384
12	Estimated Revenue Requirement - Scenario	(9.319)	(9.524)	(9.731)	(9.942)	(10.149)	(10.363)	(10.573)	(10.785)	(10.998)	(11.213)	(11.455)	(11.691)	(11.912)	(12.147)	(12.385)	(12.627)	(12.873)	(13.128)	(13.385)	(13.647)	(13.917)	(14.193)	(14.474)	(14.760)	(15.051)	(15.346)	(15.644)
13	Domestic Revenues	481.0	504.4	521.1	537.7	550.2	575.9	605.8	640.8	674.0	692.1	684.7	698.2	692.7	697.4	682.4	707.5	722.0	757.2	783.0	799.0	795.8	746.1	771.9	789.0	792.0	785.8	746.1
14	Revenue Shortfall (Surplus)	5.27%	5.30%	5.35%	5.41%	5.48%	5.56%	4.41%	4.55%	4.87%	4.70%	4.97%	5.01%	5.11%	5.21%	5.31%	5.40%	5.50%	5.58%	5.68%	5.74%	5.67%	5.61%	5.15%	5.23%	5.31%	5.16%	5.02%
15	Estimated Incremental Impact on Future Rates																											
16	Typical Customer Bill (2017 = 100)																											
17	Base Case	Line 14 - Line 13	171.5	175.5	179.2	182.7	186.5	190.4	194.3	198.2	202.1	206.3	210.5	214.7	218.9	223.2	227.6	232.1	236.8	241.2	246.0	250.8	255.8	260.8	266.0	271.3	276.7	282.2
18	Scenario	Line 14 - (1 - Line 13)	180.5	184.8	188.8	192.6	196.7	201.0	202.8	207.2	211.6	216.1	220.8	225.4	230.1	234.9	239.7	244.6	249.6	254.7	259.8	264.7	269.5	274.5	279.5	284.5	289.5	294.5
19	Base Case	Line 16 - 100 / 170	71.5%	73.5%	75.5%	76.5%	76.5%	76.4%	76.3%	76.2%	76.1%	76.0%	75.9%	75.8%	75.7%	75.6%	75.5%	75.4%	75.3%	75.2%	75.1%	75.0%	74.9%	74.8%	74.7%	74.6%	74.5%	74.4%
20	Scenario	Line 16 - 100 / 180	80.5%	84.8%	88.8%	92.6%	96.7%	101.0%	102.8%	102.2%	111.6%	116.1%	120.9%	125.4%	130.1%	134.9%	139.7%	144.6%	149.6%	154.7%	159.8%	165.2%	170.3%	175.5%	180.7%	185.9%	191.1%	196.3%
21	Estimated Incremental Cumulative Rate Impact	Line 17 - Line 15	9.0%	9.3%	9.6%	9.8%	9.9%	10.2%	10.6%	8.6%	9.0%	9.4%	9.9%	10.3%	10.7%	11.2%	11.6%	12.1%	12.5%	13.0%	13.5%	13.9%	14.4%	14.8%	15.3%	14.7%	14.6%	14.4%

Venue Requirement (Ratepayer Costs) Summary

Rule Impact Model - Low Load - Terminate 30 Yrs with BCUC Costs & BCH Financing x5%

Attachment 4

		Fiscal Year																								
		2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	
		54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	
		Country Network																								
Change in Revenue Requirement (Ratepayer Costs):																										
Domestic Energy Costs		269.9	274.2	279.7	285.3	291.0	296.9	302.8	308.8	315.0	321.3	327.8	334.3	341.0	347.8	354.8	361.9	369.1	376.5	384.0	391.7	528.4	538.9	549.7	560.7	
Operating Costs		52.4	97.3	99.3	101.3	103.3	105.4	107.5	109.6	111.6	114.0	116.3	118.6	121.0	123.4	125.9	128.4	131.0	133.6	136.3	139.0	141.8	144.6	147.5	150.5	
Amortization		(187.6)	(167.6)	(187.6)	(168.6)	(188.6)	(169.6)	(191.5)	(171.5)	(191.5)	(191.5)	(191.5)	(191.5)	(191.5)	(191.5)	(191.5)	(191.5)	(191.5)	(191.5)	(191.5)	(191.5)	(191.5)	(191.5)	(191.5)	(191.5)	
Finance Charges		(118.3)	(110.7)	(103.1)	(98.8)	(94.5)	(90.7)	(86.3)	(82.0)	(77.8)	(73.6)	(69.3)	(65.1)	(60.9)	(56.7)	(52.5)	(48.3)	(44.1)	(39.9)	(35.7)	(31.5)	0.0	0.0	0.0	0.0	
Return on Equity		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DSM Account		(228.5)	(233.1)	(237.7)	(242.5)	(247.3)	(252.3)	(257.3)	(262.5)	(267.7)	(273.0)	(278.3)	(283.6)	(289.0)	(294.4)	(299.8)	(305.3)	(310.7)	(316.2)	(321.7)	(327.2)	(332.7)	(338.3)	(343.9)	(349.5)	
DSM Additions		158.7	198.7	200.7	201.7	211.8	218.1	218.1	220.4	224.8	229.3	233.8	238.6	243.4	248.2	253.2	258.3	263.4	268.7	274.1	279.6	(855.2)	206.7	302.6	308.7	
DSM Recoveries																										
Estimated Total Change in Revenue Requirement:		24.6	38.8	54.2	60.4	72.9	87.9	103.0	118.3	133.8	149.6	165.3	181.4	197.6	214.0	230.8	247.4	264.5	281.7	299.1	316.8	463.5	444.2	553.2	525.4	
Estimated Revenue Requirement - Base Case		16,761	17,095	17,435	17,782	18,136	18,497	18,866	19,241	19,624	20,015	20,414	20,821	21,236	21,659	22,091	22,531	22,980	23,439	23,909	24,385	24,869	25,361	25,871	26,397	
Estimated Revenue Requirement - Scenario		16,787	17,134	17,489	17,845	18,209	18,585	18,969	19,359	19,756	20,165	20,579	21,002	21,433	21,873	22,321	22,778	23,245	23,720	24,205	24,699	25,202	25,715	26,238	26,773	
Domestic Revenues		(13,671)	(16,280)	(16,631)	(16,984)	(17,341)	(17,620)	(17,873)	(18,135)	(18,400)	(18,670)	(18,942)	(19,218)	(19,498)	(19,782)	(20,071)	(20,365)	(20,664)	(20,968)	(21,277)	(21,591)	(21,910)	(22,234)	(22,563)	(22,897)	
Revenue Shortfall (Surplus)		815.3	865.3	875.6	801.2	927.4	999.4	991.9	1,024.9	1,028.4	1,002.5	1,027.2	1,062.4	1,108.1	1,234.5	1,297.5	1,309.2	1,347.2	1,386.0	1,425.5	1,465.6	1,675.3	1,679.3	1,724.1	1,769.7	
Estimated Incremental Impact on Future Rates		5.15%	5.16%	5.27%	5.22%	5.37%	5.44%	5.52%	5.59%	5.66%	5.73%	5.79%	5.86%	5.92%	5.98%	6.04%	6.10%	6.15%	6.21%	6.26%	6.31%	6.50%	6.50%	6.59%	7.04%	
Typical Customer Bill (\$2017 = 100)		293.5	299.4	305.3	311.4	317.6	323.9	330.4	337.0	343.7	350.5	357.5	364.6	371.9	379.3	386.9	394.6	402.4	410.5	418.6	427.0	435.6	443.7	451.7	459.8	
Base Case		298.5	314.9	321.4	328.0	334.6	341.6	348.6	355.6	362.1	369.1	376.2	383.0	389.9	397.0	404.2	411.6	419.2	426.9	434.8	442.9	451.0	459.2	467.4	475.6	
Scenario		190.5%	189.4%	205.5%	211.4%	217.8%	223.9%	230.4%	237.0%	243.7%	250.6%	257.6%	264.7%	271.9%	279.3%	286.9%	294.6%	302.4%	310.2%	318.0%	327.2%	334.8%	359.9%	385.5%	375.1%	
Base Case		208.5%	214.9%	221.4%	228.0%	234.6%	241.6%	248.6%	255.6%	262.1%	269.1%	276.2%	283.0%	289.9%	296.9%	304.2%	311.6%	319.2%	327.2%	334.8%	359.9%	385.5%	375.1%	394.7%	394.6%	
Scenario		15.05%	15.5%	16.1%	16.6%	17.0%	17.6%	18.2%	18.8%	19.5%	20.1%	20.7%	21.4%	22.0%	22.7%	23.4%	24.1%	24.8%	25.5%	26.2%	26.9%	28.6%	30.9%	31.7%	32.5%	
Estimated Incremental Cumulative Rate Impact																										



BC Hydro
Rate Impact Analysis

Revenue Requirement (Ratepayer Costs) Summary

Attachment 4
Summary
Page 2

Rate Impact Model - Mid Load - Terminals 30 Yrs with BCUC Costs & BCH Financing.xlsx

Revenue Requirement (Ratepayer Costs) Summary (Million)																											
	Field Year Column Reference	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Change in Revenue Requirement (Ratepayer Costs):																											
Domestic Energy Costs																											
		0.0	(7.3)	(13.7)	(25.6)	(41.0)	(55.0)	(62.5)	50.7	137.6	148.6	170.4	182.0	206.8	221.4	226.9	223.3	346.3	350.2	378.7	353.6	379.4	468.9	482.6	505.7	455.4	487.3
Operating Costs																											
		0.0	11.5	95.7	126.3	140.9	148.5	133.0	121.7	94.5	64.8	34.7	(69.4)	(80.2)	(80.3)	(78.7)	(66.0)	(140.0)	(168.0)	(165.7)	(132.6)	(116.9)	(93.3)	(73.0)	(51.1)	(34.4)	(25.6)
Amortization																											
		0.0	0.0	133.0	133.0	133.0	133.0	133.0	(8.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)	(9.8)
Finance Charges																											
		0.0	0.2	150.8	144.6	135.4	135.1	134.3	(207.5)	(204.1)	(201.2)	(199.4)	(200.2)	(202.7)	(205.4)	(208.3)	(211.4)	(215.4)	(220.5)	(225.6)	(229.8)	(233.2)	(236.6)	(239.7)	(242.8)	(245.9)	(249.0)
Return on Equity																											
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DSM Account																											
		0.0	(11.5)	(95.7)	(126.3)	(140.9)	(148.5)	(133.0)	(121.7)	(94.5)	(64.8)	(34.7)	(69.4)	(80.2)	(80.3)	(78.7)	(66.0)	(140.0)	(168.0)	(165.7)	(132.6)	(116.9)	(93.3)	(73.0)	(51.1)	(34.4)	(25.6)
DSM Recoveries																											
		0.0	0.8	7.1	15.6	26.0	34.9	43.8	52.8	62.2	70.5	76.6	75.8	75.7	74.4	73.2	70.8	65.0	51.7	36.7	23.0	9.9	(0.5)	(10.1)	(18.8)	(27.2)	(36.7)
Estimated Total Change in Revenue Requirement:																											
		0.0	(7.1)	210.6	259.4	243.0	238.1	219.4	(138.2)	(63.3)	(56.0)	(23.2)	(9.4)	12.9	21.7	53.7	144.6	126.9	119.8	128.5	83.0	91.1	164.7	146.3	178.2	118.1	153.0
Estimated Revenue Requirement - Base Case																											
		4,638	4,451	5,026	5,293	5,525	5,727	5,646	6,308	6,517	6,719	6,741	6,596	7,178	7,302	7,633	7,865	8,101	8,106	8,345	8,587	8,593	9,165	9,468	9,725	9,963	10,373
Estimated Revenue Requirement - Scenario																											
	Line 6 - Line 9	4,638	4,843	5,339	5,553	5,766	5,786	6,166	6,170	6,453	6,603	6,718	6,546	7,191	7,314	7,687	8,000	8,228	8,225	8,473	8,770	8,584	9,330	9,614	9,894	10,087	10,526
Domestic Revenues																											
	Line 10 - Line 11	0.0	4.4	293.3	297.4	308.3	333.5	343.0	17.7	124.7	157.0	187.1	206.8	228.5	222.6	241.3	268.8	268.6	246.0	256.0	211.0	199.6	297.5	247.3	287.4	194.0	226.1
Revenue Shortfall (Surplus)																											
	Line 12 - Line 17	0.00%	0.09%	5.66%	5.66%	5.62%	5.89%	0.29%	1.97%	2.42%	2.87%	3.09%	3.28%	3.09%	3.24%	3.72%	3.51%	3.08%	3.15%	2.47%	2.27%	2.93%	2.64%	2.78%	1.96%	2.20%	
Estimated Incremental Impact on Future Rates																											
Typical Customer Bill (2017 = 100)																											
	Line 18 - (Line 12)	103.3	106.3	109.8	113.6	116.4	119.9	121.5	126.8	129.1	131.6	133.4	133.9	135.5	138.2	141.4	144.7	147.6	148.0	148.3	152.9	154.8	158.1	161.0	163.7	166.0	170.4
	Line 19 - (Line 13)	103.3	106.4	116.3	120.2	123.0	123.9	128.7	127.2	131.6	135.0	134.1	137.0	139.8	142.4	148.0	150.1	153.1	150.5	150.9	156.6	158.3	162.7	165.2	168.3	169.3	174.1
Scenario																											
	Line 20 - (Line 18)	3.3%	8.3%	9.5%	13.8%	15.4%	18.5%	21.5%	26.8%	29.1%	31.8%	30.4%	32.9%	35.2%	38.2%	41.4%	44.7%	47.6%	48.0%	48.3%	52.5%	54.8%	58.1%	61.0%	63.7%	66.0%	70.4%
	Line 21 - (Line 19)	3.3%	8.6%	16.3%	20.2%	23.0%	25.9%	28.7%	27.2%	31.5%	34.1%	34.1%	37.0%	39.5%	42.4%	46.0%	50.1%	53.1%	50.5%	52.9%	56.8%	58.3%	62.7%	65.2%	68.3%	69.3%	74.1%
Scenario																											
	Line 22 - Line 18	0.0%	0.1%	6.4%	6.4%	6.6%	7.0%	7.2%	0.4%	2.5%	3.2%	3.7%	4.1%	4.4%	4.3%	4.6%	5.4%	5.3%	4.5%	4.7%	3.8%	3.5%	4.7%	4.3%	4.5%	3.3%	3.7%

Requirement (Ratepayer Co

Rate Impact Model - Mid Load - Terminate 30 Yrs with BCUC Costs & BCh Financing.xls

Attachment 4

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Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Period	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031	2031-2032	2032-2033	2033-2034	2034-2035	2035-2036	2036-2037	2037-2038	2038-2039	2039-2040	2040-2041	2041-2042	2042-2043	2043-2044	2044-2045	2045-2046	2046-2047	2047-2048	2048-2049	2049-2050	2050-2051	2051-2052	2052-2053	2053-2054	2054-2055	2055-2056	2056-2057	2057-2058	2058-2059	2059-2060	2060-2061	2061-2062	2062-2063	2063-2064	2064-2065	2065-2066	2066-2067	2067-2068	2068-2069	2069-2070																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Revenue	10000	10500	11000	11500	12000	12500	13000	13500	14000	14500	15000	15500	16000	16500	17000	17500	18000	18500	19000	19500	20000	20500	21000	21500	22000	22500	23000	23500	24000	24500	25000	25500	26000	26500	27000	27500	28000	28500	29000	29500	30000	30500	31000	31500	32000	32500	33000	33500	34000	34500	35000	35500	36000	36500	37000	37500	38000	38500	39000	39500	40000	40500	41000	41500	42000	42500	43000	43500	44000	44500	45000	45500	46000	46500	47000	47500	48000	48500	49000	49500	50000	50500	51000	51500	52000	52500	53000	53500	54000	54500	55000	55500	56000	56500	57000	57500	58000	58500	59000	59500	60000	60500	61000	61500	62000	62500	63000	63500	64000	64500	65000	65500	66000	66500	67000	67500	68000	68500	69000	69500	70000	70500	71000	71500	72000	72500	73000	73500	74000	74500	75000	75500	76000	76500	77000	77500	78000	78500	79000	79500	80000	80500	81000	81500	82000	82500	83000	83500	84000	84500	85000	85500	86000	86500	87000	87500	88000	88500	89000	89500	90000	90500	91000	91500	92000	92500	93000	93500	94000	94500	95000	95500	96000	96500	97000	97500	98000	98500	99000	99500	100000																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Operating Costs	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	3800	3900	4000	4100	4200	4300	4400	4500	4600	4700	4800	4900	5000	5100	5200	5300	5400	5500	5600	5700	5800	5900	6000	6100	6200	6300	6400	6500	6600	6700	6800	6900	7000	7100	7200	7300	7400	7500	7600	7700	7800	7900	8000	8100	8200	8300	8400	8500	8600	8700	8800	8900	9000	9100	9200	9300	9400	9500	9600	9700	9800	9900	10000	10100	10200	10300	10400	10500	10600	10700	10800	10900	11000	11100	11200	11300	11400	11500	11600	11700	11800	11900	12000	12100	12200	12300	12400	12500	12600	12700	12800	12900	13000	13100	13200	13300	13400	13500	13600	13700	13800	13900	14000	14100	14200	14300	14400	14500	14600	14700	14800	14900	15000	15100	15200	15300	15400	15500	15600	15700	15800	15900	16000	16100	16200	16300	16400	16500	16600	16700	16800	16900	17000	17100	17200	17300	17400	17500	17600	17700	17800	17900	18000	18100	18200	18300	18400	18500	18600	18700	18800	18900	19000	19100	19200	19300	19400	19500	19600	19700	19800	19900	20000																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Amortization	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3650	3700	3750	3800	3850	3900	3950	4000	4050	4100	4150	4200	4250	4300	4350	4400	4450	4500	4550	4600	4650	4700	4750	4800	4850	4900	4950	5000	5050	5100	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000	6050	6100	6150	6200	6250	6300	6350	6400	6450	6500	6550	6600	6650	6700	6750	6800	6850	6900	6950	7000	7050	7100	7150	7200	7250	7300	7350	7400	7450	7500	7550	7600	7650	7700	7750	7800	7850	7900	7950	8000	8050	8100	8150	8200	8250	8300	8350	8400	8450	8500	8550	8600	8650	8700	8750	8800	8850	8900	8950	9000	9050	9100	9150	9200	9250	9300	9350	9400	9450	9500	9550	9600	9650	9700	9750	9800	9850	9900	9950	10000																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Finance Charges	227.6	224.8	222.2	219.9	218.3	217.3	216.2	215.0	213.8	212.6	211.4	210.2	209.0	207.8	206.6	205.4	204.2	203.0	201.8	200.6	199.4	198.2	197.0	195.8	194.6	193.4	192.2	191.0	189.8	188.6	187.4	186.2	185.0	183.8	182.6	181.4	180.2	179.0	177.8	176.6	175.4	174.2	173.0	171.8	170.6	169.4	168.2	167.0	165.8	164.6	163.4	162.2	161.0	159.8	158.6	157.4	156.2	155.0	153.8	152.6	151.4	150.2	149.0	147.8	146.6	145.4	144.2	143.0	141.8	140.6	139.4	138.2	137.0	135.8	134.6	133.4	132.2	131.0	129.8	128.6	127.4	126.2	125.0	123.8	122.6	121.4	120.2	119.0	117.8	116.6	115.4	114.2	113.0	111.8	110.6	109.4	108.2	107.0	105.8	104.6	103.4	102.2	101.0	99.8	98.6	97.4	96.2	95.0	93.8	92.6	91.4	90.2	89.0	87.8	86.6	85.4	84.2	83.0	81.8	80.6	79.4	78.2	77.0	75.8	74.6	73.4	72.2	71.0	69.8	68.6	67.4	66.2	65.0	63.8	62.6	61.4	60.2	59.0	57.8	56.6	55.4	54.2	53.0	51.8	50.6	49.4	48.2	47.0	45.8	44.6	43.4	42.2	41.0	39.8	38.6	37.4	36.2	35.0	33.8	32.6	31.4	30.2	29.0	27.8	26.6	25.4	24.2	23.0	21.8	20.6	19.4	18.2	17.0	15.8	14.6	13.4	12.2	11.0	9.8	8.6	7.4	6.2	5.0	3.8	2.6	1.4	0.2	-0.9	-2.1	-3.3	-4.5	-5.7	-6.9	-8.1	-9.3	-10.5	-11.7	-12.9	-14.1	-15.3	-16.5	-17.7	-18.9	-20.1	-21.3	-22.5	-23.7	-24.9	-26.1	-27.3	-28.5	-29.7	-30.9	-32.1	-33.3	-34.5	-35.7	-36.9	-38.1	-39.3	-40.5	-41.7	-42.9	-44.1	-45.3	-46.5	-47.7	-48.9	-50.1	-51.3	-52.5	-53.7	-54.9	-56.1	-57.3	-58.5	-59.7	-60.9	-62.1	-63.3	-64.5	-65.7	-66.9	-68.1	-69.3	-70.5	-71.7	-72.9	-74.1	-75.3	-76.5	-77.7	-78.9	-80.1	-81.3	-82.5	-83.7	-84.9	-86.1	-87.3	-88.5	-89.7	-90.9	-92.1	-93.3	-94.5	-95.7	-96.9	-98.1	-99.3	-100.5	-101.7	-102.9	-104.1	-105.3	-106.5	-107.7	-108.9	-110.1	-111.3	-112.5	-113.7	-114.9	-116.1	-117.3	-118.5	-119.7	-120.9	-122.1	-123.3	-124.5	-125.7	-126.9	-128.1	-129.3	-130.5	-131.7	-132.9	-134.1	-135.3	-136.5	-137.7	-138.9	-140.1	-141.3	-142.5	-143.7	-144.9	-146.1	-147.3	-148.5	-149.7	-150.9	-152.1	-153.3	-154.5	-155.7	-156.9	-158.1	-159.3	-160.5	-161.7	-162.9	-164.1	-165.3	-166.5	-167.7	-168.9	-170.1	-171.3	-172.5	-173.7	-174.9	-176.1	-177.3	-178.5	-179.7	-180.9	-182.1	-183.3	-184.5	-185.7	-186.9	-188.1	-189.3	-190.5	-191.7	-192.9	-194.1	-195.3	-196.5	-197.7	-198.9	-200.1	-201.3	-202.5	-203.7	-204.9	-206.1	-207.3	-208.5	-209.7	-210.9	-212.1	-213.3	-214.5	-215.7	-216.9	-218.1	-219.3	-220.5	-221.7	-222.9	-224.1	-225.3	-226.5	-227.7	-228.9	-230.1	-231.3	-232.5	-233.7	-234.9	-236.1	-237.3	-238.5	-239.7	-240.9	-242.1	-243.3	-244.5	-245.7	-246.9	-248.1	-249.3	-250.5	-251.7	-252.9	-254.1	-255.3	-256.5	-257.7	-258.9	-260.1	-261.3	-262.5	-263.7	-264.9	-266.1	-267.3	-268.5	-269.7	-270.9	-272.1	-273.3	-274.5	-275.7	-276.9	-278.1	-279.3	-280.5	-281.7	-282.9	-284.1	-285.3	-286.5	-287.7	-288.9	-290.1	-291.3	-292.5	-293.7	-294.9	-296.1	-297.3	-298.5	-299.7	-300.9	-302.1	-303.3	-304.5	-305.7	-306.9	-308.1	-309.3	-310.5	-311.7	-312.9	-314.1	-315.3	-316.5	-317.7	-318.9	-320.1	-321.3	-322.5	-323.7	-324.9	-326.1	-327.3	-328.5	-329.7	-330.9	-332.1	-333.3	-334.5	-335.7	-336.9	-338.1	-339.3	-340.5	-341.7	-342.9	-344.1	-345.3	-346.5	-347.7	-348.9	-350.1	-351.3	-352.5	-353.7	-354.9	-356.1	-357.3	-358.5	-359.7	-360.9	-362.1	-363.3	-364.5	-365.7	-366.9	-368.1	-369.3	-370.5	-371.7	-372.9	-374.1	-375.3	-376.5	-377.7	-378.9	-380.1	-381.3	-382.5	-383.7	-384.9	-386.1	-387.3	-388.5	-389.7	-390.9	-392.1	-393.3	-394.5	-395.7	-396.9	-398.1	-399.3	-400.5	-401.7	-402.9	-404.1	-405.3	-406.5	-407.7	-408.9	-410.1	-411.3	-412.5	-413.7	-414.9	-416.1	-417.3	-418.5	-419.7	-420.9	-422.1	-423.3	-424.5	-425.7	-426.9	-428.1	-429.3	-430.5	-431.7	-432.9	-434.1	-435.3	-436.5	-437.7	-438.9	-440.1	-441.3	-442.5	-443.7	-444.9	-446.1	-447.3	-448.5	-449.7	-450.9	-452.1	-453.3	-454.5	-455.7	-456.9	-458.1	-459.3	-460.5	-461.7	-462.9	-464.1	-465.3	-466.5	-467.7	-468.9	-470.1	-471.3	-472.5	-473.7	-474.9	-476.1	-477.3	-478.5	-479.7	-480.9	-482.1	-483.3	-484.5	-485.7	-486.9	-488.1	-489.3	-490.5	-491.7	-492.9	-494.1	-495.3	-496.5	-497.7	-498.9	-500.1	-501.3	-502.5	-503.7	-504.9	-506.1	-507.3	-508.5	-509.7	-510.9	-512.1	-513.3	-514.5	-515.7	-516.9	-518.1	-519.3	-520.5	-521.7	-522.9	-524.1	-525.3	-526.5	-527.

Revenue Requirement (Ratepayer Costs) Summary

Rate Impact Model - Mid Load - Terminals 30 Yrs with BCUC Ocean & BCH Financing rates

Revenue Requirement (Ratepayer Costs) Summary	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Change in Revenue Requirement (Ratepayer Costs):																				
Domestic Energy Costs	610.6	622.8	635.3	648.0	660.9	674.2	687.7	701.4	715.4	729.7	744.3	759.1	774.1	789.1	804.1	819.1	834.1	849.1	864.1	879.1
Operating Costs	(133.1)	(135.7)	(138.5)	(141.2)	(144.1)	(146.9)	(149.9)	(152.8)	(155.9)	(159.0)	(162.2)	(165.5)	(168.8)	(172.2)	(175.6)	(179.1)	(182.7)	(186.3)	(190.1)	(193.9)
Amortization	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)	(187.6)
Finance Charges	(175.0)	(168.6)	(162.2)	(155.1)	(145.3)	(143.3)	(142.8)	(138.2)	(132.0)	(116.5)	(109.5)	(103.3)	(96.8)	(90.2)	(83.6)	(77.1)	(70.5)	(63.9)	(57.4)	(50.8)
Return on Equity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DSM Account	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DSM Subsidies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cost Recoveries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Estimated Total Change in Revenue Requirement:	114.9	130.9	147.0	158.1	169.3	186.4	203.5	220.8	238.4	256.1	273.9	291.7	309.5	327.0	344.7	362.3	380.0	397.6	415.1	432.7
Estimated Revenue Requirement - Base Case	17,950	18,212	18,574	18,944	19,321	19,705	20,099	20,499	20,907	21,324	21,748	22,163	22,582	23,006	23,436	23,871	24,311	24,756	25,206	25,661
Estimated Revenue Requirement - Scenario	17,835	18,042	18,271	18,502	18,737	18,976	19,219	19,466	19,716	19,969	20,225	20,484	20,746	21,011	21,279	21,550	21,824	22,101	22,381	22,664
Domestic Revenues	114.9	130.9	147.0	158.1	169.3	186.4	203.5	220.8	238.4	256.1	273.9	291.7	309.5	327.0	344.7	362.3	380.0	397.6	415.1	432.7
Revenue Shortfall (Surplus)	0.04%	0.72%	0.78%	0.83%	0.88%	0.93%	1.01%	1.05%	1.14%	1.40%	1.52%	1.58%	1.66%	2.06%	2.24%	2.14%	2.30%	2.36%	2.54%	2.86%
Estimated Incremental Impact on Future Rates																				
Typical Customer Bill (\$2017 = 100)																				
Base Case	289.2	289.0	300.9	306.8	313.0	319.2	325.6	332.0	338.6	345.4	352.3	359.3	366.5	373.8	381.2	388.8	396.4	404.0	411.6	419.2
Scenario	289.1	287.1	303.2	308.4	315.7	322.2	328.8	335.8	342.5	350.4	357.6	365.0	372.3	381.5	389.6	398.0	407.5	416.0	425.5	435.0
Base Case	189.2%	185.0%	200.8%	208.4%	213.0%	219.2%	225.6%	232.0%	238.6%	245.4%	252.3%	259.3%	266.5%	273.8%	281.2%	288.8%	296.4%	304.0%	311.6%	319.2%
Scenario	187.1%	187.1%	203.2%	208.4%	215.7%	222.2%	228.8%	235.8%	242.5%	250.4%	257.6%	265.0%	272.3%	281.5%	289.6%	298.0%	307.5%	316.0%	325.5%	335.0%
Estimated Incremental Cumulative Rate Impact	1.8%	2.1%	2.4%	2.6%	2.7%	3.0%	3.3%	3.6%	3.9%	5.0%	5.3%	5.7%	6.0%	7.1%	8.3%	8.4%	9.4%	12.6%	12.4%	13.3%

Site C Inquiry

Results of Analysis of Commission Portfolio

Attachment 1

Summary of Portfolio Modelling Methodology and Assumptions

1 BC Hydro Portfolio Modelling, Corrected For Commission's Methodological and Input Errors

BC Hydro's portfolio modelling corrects for the following errors in the Commission's model, as outlined to the Commission in our letter of November 16, 2017:

- Applying the correct discount rate to Site C surplus.
- Correction of inconsistent inflation factors, financing costs, and discount rates.¹
- Elimination of double-counting of transmission losses on demand-side management.
- Recovery of sunk costs in both the scenario where Site C is completed (over 70 years) and the scenario where Site C is terminated (over 30 years, as used by the Commission for termination costs).
- Applying the correct binary technology to geothermal resources rather than flash technology.

BC Hydro's portfolio analysis methodology also provides a long-term system-wide assessment of the costs of the options available to BC Hydro to meet customer load. The key benefits of this methodology as compared to a more simplified method include:

- Allows for selection of resources in an optimal manner, rather than assuming specific resources come into service. System Optimizer (a third party tool used by BC Hydro to identify the most cost-effective resource options) selects from available resources in order to find the lowest present value cost to ratepayers. Note that, as shown in Attachment 3, BC Hydro's system optimizer makes different resource selections that the Commission's Illustrative Alternative Portfolio. This is because these resources have lower costs to ratepayers than the ones selected by the Commission. Key differences are:
 - ▶ Use of Industrial Load Curtailment (ILC) for a larger number of years than the Illustrative Alternative.
 - ▶ Selection of wind and pumped storage as the preferred generation-side resource rather than geothermal resources. Table 1 below shows an illustrative comparison of the cost of wind and pumped storage in 2040 using the Commission's cost assumptions (i.e. BC Hydro financing) to the cost of geothermal using the cost assumptions appropriate for binary rather than flash technology. As shown, a combination of wind and pumped storage is less expensive than geothermal when the Commission's cost assumptions are used. If we were to force the inclusion of geothermal resources as in the Commission portfolio, alternative portfolio costs would increase.

¹ Note that subsequent to the preparation of our November 16, 2017 letter, BC Hydro discovered that the Commission's model did not take into account higher near-term interest rates. This has also been corrected for in the current analysis.

Table 1 Comparison of Geothermal and Wind + Pumped Storage Unit Energy Costs (\$2018, using BCH financing)

Resource	Units	Commission Illustrative Alternative ²
Wind (new-build @ POI with wind integration)	\$/MWh	44
Pumped Storage (new-build @ POI)	\$/kW-year	53
Cost of equivalent wind + pumped storage block	\$/MWh	48
Geothermal	\$/MWh	80

- ▶ Note that System Optimizer does not have functionality to select demand-side management options other than ILC. As a result we have assumed the same timing for energy-focused DSM as in the Commission Illustrative Alternative.
- A long-term evaluation period that provides analysis representative of the impact to ratepayers of the decision to complete or terminate Site C.
 - ▶ This includes in the evaluation the impact of the decision on Site C to "what comes next" to meet domestic load.
 - ▶ The Commission's analysis used a shorter period for assessing costs and benefits and a fixed amount of energy and capacity. These constraints create a false comparison between resources (such as enhanced DSM) that would be pursued in all cases. Refer to our comments on the Commission's October 11, 2017 portfolio (Exhibit F-1-17) for additional discussion.
- Analysis based upon BC Hydro's planning view of the load resource balance, rather than an operational view as used by the Commission.
 - ▶ BC Hydro's planning view of the Load Resource Balance reflects the capability of resources based on BC Hydro's planning criteria, including the requirement contained in subsection 6(2) of the *Clean Energy Act* to achieve electricity self-sufficiency under prescribed water conditions from its hydroelectric Heritage assets. The planning view is what determines the timing of future resource acquisitions.
 - ▶ An operating view of the Load Resource Balance reflects the forecasted operation of the same resources (as determined by the planning view of the load resource balance) given market conditions, expected system conditions in the near term and average

² Note that the unit energy costs we have utilized in our analysis of the Commission's Illustrative Alternative have been calculated based on the Commission's cost decline assumptions stated in their Final Report. These unit energy costs are approximately 2 to 3 \$/MWh lower than what the Commission seems to be utilizing in their spreadsheet model. We are unclear if this is an error in the stated assumptions, the spreadsheet calculation, or BC Hydro's interpretation of the Commission's intent. We emphasize that our methodology is more conservative and favors the alternative portfolio.

conditions in the long term.³ Use of an operating view incorrectly advances the apparent need for new resources by approximately two years.

- Consideration of transmission impacts of resource options.
 - ▶ In integrating a resource option to BC Hydro's system, there needs to be (i) transmission from the generator to a point of interconnection on the BC Hydro system which is typically at a substation at a lower voltage than 500 kV, (ii) upgrades that are required from the lower voltage sub-station to the 500 kV bulk system, and (iii) upgrades on the bulk transmission system.
 - ▶ BC Hydro's resource option costs include the cost of transmission from the generator to a point of interconnection on the BC Hydro system. BC Hydro's portfolio modelling also includes the costs of network upgrades that are required to accommodate IPP projects on the transmission lines from the IPP point of interconnection to the 500 kV bulk system, which further understates the costs associated with these resources. The costs of network upgrades were estimated based on costs that were identified from the Clean Power Call
 - ▶ The Commission appears to have interpreted network upgrades to be included in the transmission costs from the project to the point of interconnection and have not considered any other transmission costs.
 - ▶ BC Hydro's portfolio modelling includes an assessment of when bulk transmission upgrades will be required to enable incremental resource options to effectively supply domestic demand. These upgrades were explicitly excluded from the Commission's analysis.
- Consideration of the market benefits provided by shaping capability.
 - ▶ BC Hydro's portfolio modelling reflects the daily, monthly and seasonal value to resource shaping, in contrast to the Commission's use of a flat Mid-C export price.
- Consideration of the actual cost of financing resources, through the use of IPP financing for new generation resources other than Site C, upgrades to BC Hydro facilities, and DSM. This is consistent with current practice and policy regarding the development of IPP resources.
 - ▶ We have also included a scenario in which BC Hydro financing is used for IPP resources rather than IPP financing.
- Consideration of the actual cost of demand-side management to ratepayers, through the use of the Total Resource Cost rather than solely the Utility Cost. This is consistent with a ratepayer perspective and how the Commission has considered DSM costs in the past.

³ The most obvious difference between the Planning View and the Operational View is the energy from dispatchable thermal resources. The Planning View reflects the firm energy that dispatchable thermal resources are capable of generating and can be relied upon for planning purpose (Island Generation at 2,170 GWh and Prince Rupert Generating Station at 180 GWh). In contrast, the Operational View shows how much dispatchable thermal resources are expected to run (Island Generation at 140 GWh and Prince Rupert at 0 GWh).

- ▶ The incremental costs in the Total Resource Cost are those paid directly by ratepayers – they are not “societal” costs. As a result, use of the Utility Cost underestimates the cost of DSM to ratepayers.
- ▶ We have also included a scenario where the Commissions assumption of Utility Cost is used over the Total Resource Cost.

2 Rates Modelling of Cumulative Rate Increases Alternative Portfolios as Compared to Site C

For each scenario, BC Hydro estimated the incremental impact on the main components of BC Hydro’s total revenue requirement (amortization, finance charges, operating costs and energy costs), compared with their respective base cases (i.e., continuation of Site C).

For both load scenarios, the incremental impact is measured against hypothetical Base Cases which use the same Commission cost and DSM assumptions described above. In both the Base Cases and the Termination Cases, BC Hydro’s system optimizer selects the most cost-effective resources to meet customer demand based on either the mid or low load forecast.

The incremental changes to BC Hydro’s revenue requirement, as well as changes to revenue from incremental DSM, are used to estimate the incremental cumulative rate increases for each scenario. The estimated incremental cumulative rate increases represents the magnitude (in percentages), in a given future year, that cumulative rate increases (compared with current fiscal 2017 rates) would be higher or lower in the scenario than they would have otherwise been in the base case, in that same year.

BC Hydro considered the following main items in estimating the ratepayer impact under a termination and remediation scenario:

1. Costs spent to-date on advancing the Project and costs directly related to termination and remediation; and
2. Costs for ratepayers of advancing energy and capacity resources in comparison to a portfolio that includes the Project.

These incremental costs are described below:

- Remove:
 - ▶ Site C costs of \$10 billion (total Site C construction costs as estimated by the Commission including the forecast balance of Site C Regulatory Account) are removed at the end of fiscal 2024;
 - ▶ Site C operating costs (comprised of water rental costs, operating costs, and taxes) are removed beginning in fiscal 2025; and
 - ▶ Future sustaining capital expenditures totalling \$2.1 billion are removed from the fiscal 2024 to fiscal 2094 period.

- Replace with:
 - ▶ Site C Regulatory Account costs of \$4.0 billion (sunk, termination and remediation costs) are added at the end of fiscal 2019. These are comprised of the costs of \$3.8 billion recognized as shown below at December 31, 2017 (which would increase by interest to \$4.0 billion by the end of fiscal 2019):
 - Project capital costs to termination date (\$1.6 billion);
 - Costs already in the Site C regulatory account (\$0.5 billion); and
 - Costs directly related to the Project termination and remediation that would be recovered from ratepayers (\$1.7 billion of recognized present value, which will increase to \$1.8 billion, to be recovered from ratepayers); and
 - ▶ Incremental cost of advancing alternative sources of energy and capacity in order to compensate for the removal of Site C. These include advancing both energy and capacity focused DSM measures and generation resources.

Continue Site C, Mid Load Forecast							
Generation				DSM			
Year	Name	Capacity	Annual Energy	Year	Name	Capacity	Annual Energy
2023	Site C	1145	5286	2024	BCUC_CFDSM_2025start	210	0
2025	Revelstoke Unit 6	500	26	2024	BCUC_oTOU_2025start	430	0
2035	Wind_PC18	138	524	2029	Ind Load Curtailment	100	0
2035	Wind_NC09	333	1074	2032	Ind Load Curtailment	150	0
2036	Pumped_Storage_LM	1000	0	2033	Ind Load Curtailment	250	0
2038	Wind_PC14	144	570	2034	Ind Load Curtailment	400	0
2039	Wind_PC28	153	641	2035	Ind Load Curtailment	400	0
2040	Wind_PC10	297	1119	2038	Ind Load Curtailment	100	0
2040	Wind_PC48	150	538	2039	Ind Load Curtailment	300	0
2041	Wind_PC20	156	594	2040	Ind Load Curtailment	400	0
2041	Pumped_Storage_LM	1000	0				
2042	Wind_VI02	147	446				

Terminate Site C, Mid Load Forecast							
Generation				DSM			
Year	Name	Capacity	Annual Energy	Year	Name	Capacity	Annual Energy
2025	Revelstoke Unit 6	500	26	2018	BCUC_oTOU_2018start	430	0
2029	Wind_NC09	333	1074	2018	BCUC_CFDSM_2018start	210	0
2032	Wind_PC14	144	570	2024	Ind Load Curtailment	250	0
2032	Wind_PC18	138	524	2025	Ind Load Curtailment	50	0
2032	Pumped_Storage_LM	1000	0	2026	Ind Load Curtailment	150	0
2033	Wind_PC20	156	594	2027	Ind Load Curtailment	300	0
2034	Wind_VI02	147	446	2028	Ind Load Curtailment	350	0
2035	Wind_PC28	153	641	2029	Ind Load Curtailment	400	0
2035	Wind_PC48	150	538	2030	Ind Load Curtailment	250	0
2036	Wind_PC13	135	577	2031	Ind Load Curtailment	400	0
2037	Wind_PC10	297	1119	2035	Ind Load Curtailment	150	0
2037	Wind_PC17	102	335	2036	Ind Load Curtailment	400	0
2037	Wind_SI15	303	898	2037	Ind Load Curtailment	400	0
2038	Pumped_Storage_LM	1000	0	2040	Ind Load Curtailment	150	0
2039	Wind_PC19	117	482	2041	Ind Load Curtailment	300	0
2040	Wind_PC09	207	774	2042	Ind Load Curtailment	400	0
2041	Wind_PC21	99	405				
2041	Wind_SI12	186	586				
2042	Wind_SI16	660	1814				

Cell in red indicates final DSM volume. DSM capacity ramps up to this value beginning in the year shown

Terminate Site C, Low Load Forecast						
Generation				DSM		
Year	Name	Capacity	Annual Energy	Year	Name	Annual Energy
2025	Revelstoke Unit 6	500	26	2024	BCUC_CFDsm_2025start	210
2040	Wind_PC14	144	570	2024	BCUC_OTOU_2025start	430
2040	Wind_PC18	138	524	2037	Ind Load Curtailment	50
2040	Wind_PC48	150	538	2038	Ind Load Curtailment	200
2041	Pumped_Storage_LM	1000	0	2039	Ind Load Curtailment	350
				2040	Ind Load Curtailment	400

Site C Inquiry

Site C Inquiry

Results of Analysis of Commission Portfolio

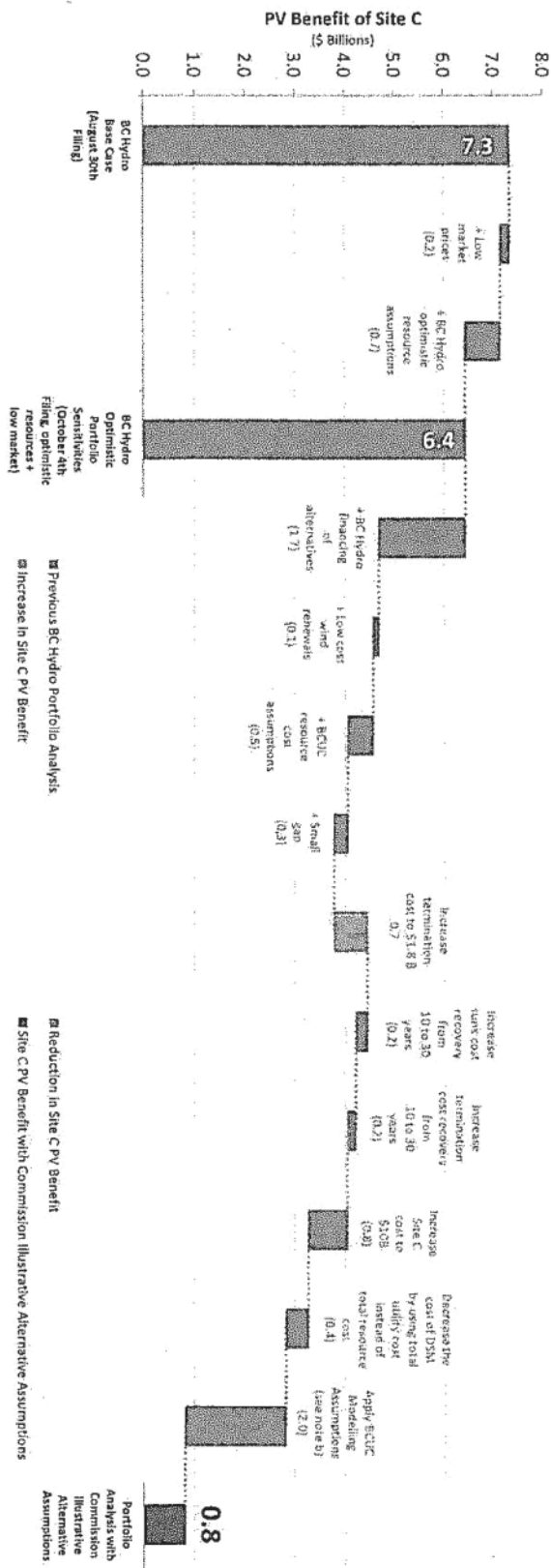
Attachment 2

Comparison of Assumptions and Results to Previous Filings

Assumptions Scenario	August 30 Filing	BC Hydro Optimistic Portfolio Sensitivity	Commission Illustrative Alternative Portfolio Assumptions
MODEL ASSUMPTIONS			
Load Forecast Scenarios	- Low / Mid / High	- Low / Mid / High	- Low / Mid (insufficient time to run high load scenario)
Financing Assumption	- BC Hydro finances Site C, DSM, and Resource Smart - IPPs finance alternative resources	- BC Hydro finances Site C, DSM, and Resource Smart - IPPs finance alternative resources	- BC Hydro finances Site C, DSM, and Resource Smart - IPP financing for alternatives (BCH financing run as sensitivity)
Market Prices	- ABB Mid Forecast	- ABB Mid Forecast	- BCUC Market Price Forecast
Site C Costs	- \$8.335 billion	- \$8.335 billion	- \$10 billion
Termination and Sunk Costs	- \$3.2 billion (\$2.1 sunk costs, \$1.1 termination costs)	- \$3.2 billion (\$2.1 sunk costs, \$1.1 termination costs)	- \$3.9 billion (\$2.1 sunk costs, \$1.8 termination costs)
Sunk & termination cost recovery period	- 10 years	- 10 years	- 30 years
ALTERNATIVE RESOURCE ASSUMPTIONS			
Energy focused demand-side management	- Baseline: RRA DSM plan - Option: 2012 IRP option 2 - Total Resource Cost	- Baseline: RRA DSM plan - Option: 2012 IRP option 2 - Total Resource Cost	- Baseline: 2012 IRP option 2 - Total Resource Cost (Utility Cost run as sensitivity)
Capacity Focused DSM	- Industrial Load Curtailment: 85 MW	- Industrial Load Curtailment: 85 MW - Capacity Focused DSM potential: 450 MW	- Industrial Load Curtailment: 400 MW - Capacity Focused DSM and optional TOU potential: 640 MW

Assumptions Scenario	August 30 Filing	BC Hydro Optimistic Portfolio Sensitivity	Commission Illustrative Alternative Portfolio Assumptions
Resource Smart	- Revelstoke Unit 6 when selected by model	- Revelstoke Unit 6 when selected by model - GMS upgrade when selected by model	- Revelstoke Unit 6 assumed in-place in Fiscal 2026
Wind	BC Hydro Resource Options Update w/ IPP financing.	Lower wind costs w/ IPP financing.	Lower wind costs, with further reductions for refurbishment/renewal.
Pumped Storage	BC Hydro Resource Options Update	BC Hydro Resource Options Update	BC Hydro Resource Options Update
Geothermal	Excluded as not confirmed to be commercially viable	- 200 MW of potential	- 80MW of potential at reduced prices (not selected in portfolio)
Solar	Excluded as not economic	Modeled using NREL mid cost declines (43% by 2040) (not selected in portfolio)	Modeled using Commission-suggested cost declines (60% by 2040) (not selected in portfolio)
Batteries	Excluded as not economic	Modeled using Commission-suggested cost declines (50% by 2040) (not selected in portfolio)	- Screened out due to high cost. Aligns with suggestion in the Commission's final report.

Impact of Changes to Portfolio Assumptions and Methodologies ^a



Notes:

- The value differentials are applied left to right in order. This is important, as there are overlap effects between some changes. As a result, if some changes are applied earlier in the "cascade" they will have a larger impact.
- The BCUC Modeling Assumptions that make up the \$2 billion difference in PV include:
 - Use of 630 MW of Capacity focused DSM + Optional Time of Use rates;
 - Use of 400 MW of industrial load curtailment with no long-term commitments (i.e., can be "switched on and off" year to year);
 - Optimistic assumptions regarding renewal of wind projects;
 - Commission market price assumption instead of ABB market prices; and
 - Reduction in wind integration adder to \$1/MWh.

Site C Inquiry

Results of Analysis of Commission Portfolio

Attachment 4

Incremental Cumulative Rate Impact Analysis

Site C Inquiry

Results of Analysis of Commission Portfolio

Attachment 4

Incremental Cumulative Rate Impact Analysis

Welgush, Lindsey GCPE:EX

From: Gibbs, Robb GCPE:EX
Sent: Monday, November 6, 2017 2:40 PM
To: Meggs, Geoff PREM:EX
Cc: Aaron, Sage PREM:EX; Lloyd, Evan GCPE:EX; Zadravec, Don GCPE:EX
Subject: Re: SC poll revisions

Yep agreed. These are directional. We just need to figure out if we have the right content generally, then hand it off to them.
Tks
Robb

Sent from my iPhone

On Nov 6, 2017, at 1:39 PM, Meggs, Geoff PREM:EX <Geoff.Meggs@gov.bc.ca> wrote:

Thanks, Robb, much better but I fear the end sections are too wordy - shouldn't Insight be writing under your direction?

G

Sent from my iPhone

On Nov 5, 2017, at 6:07 PM, Gibbs, Robb GCPE:EX <Robb.Gibbs@gov.bc.ca> wrote:

Hi all,

Okay, I've taken a crack at reworking the poll. In the end, I kept very little of the original.

I've divided it into three sections as you will see via the Internal Notes in the attached document. My focus was mostly on the fundamental notion that, in the end, everything that has happened to date (including BCUC) is kinda irrelevant. All that matters now is finding out where people are at at this moment in time, why they're there, and what can help us in communications terms moving forward with a Yes or No.

Let the comments begin.

Tks,

Robb

<SiteC-PollingNotes-RGG-V1.docx>

SITE C DECISION ANNOUNCEMENT
Event Proposal/Roll-out Plan
Date TBC

Summary:

Cabinet is anticipated to make a decision regarding Site C in the first few days of the week. The proposal articulates how the decision will be announced and the time and date of the announcement activities. An overview of key stakeholders to be advised prior to and post announcement will be provided.

Key Stakeholders contacted pre-announcement

- Government Caucus
- Green Caucus
- Federal Government
- Local Government
- First Nations

Media Technical Briefing

- Media lock up where an overview of the decision and mitigation actions will be provided by Deputy Ministers of Office of the Premier, Energy, Mines and Petroleum Resources (MEMPR), Finance (MoF) and Environment and Climate Change Strategy (MOE) – TBC, BC Hydro CEO Chris O'Riley.
- Location Grand Pacific Hotel, Victoria
- Timing TBD

Province of BC public announcement

- Press Conference – Premier John Horgan, Minister of Energy, Mines and Petroleum Resources Michelle Mungall, Minister of Finance Carole James, and Minister of Environment and Climate Change Strategy George Heyman (TBC)
- Dial-in capability provided
- Location: Press Theatre, Legislative Building
- News Release/Backgrounders distributed province-wide

Post-announcement

- Specific follow-up media responses by Minister Mungall and others TBC

British Columbia Engagement Plan

- Executive staff/and or Ministers with the Ministry of Energy, Mining and Petroleum Resources (EMPR) and the Ministry of Indigenous Relations and Reconciliation (IRR) will be contacting key stakeholders and First Nations.
- Key Business/Industry, Environmental, Finance, and Regional calls TBD (lists below)

Roll-Out:

Time	Activities & Details
9:00 am	Prime Minister of Canada and the Premier of British Columbia phone call TBC.
10:00 am – 11:15 am	Media Technical Briefing (secured) – Grand Pacific Hotel TBC

11:30 am – 12:15 pm	SITE C ANNOUNCEMENT: Premier, Ministers Mungall, James, Heyman and others TBD – Press Conference in Press Theatre, Legislative Building
	Premier will announce decision followed by QA.
12:30 pm – 1:30 pm	Premier/Ministers – targeted media calls
Mid-day	Provincial executives and/or Ministers conduct calls with key stakeholders, including First Nations (and potentially others as identified below).

EVENT PARTICIPANTS:

Media Technical Briefing:

Deputy Minister to the Premier, Don Wright
 Deputy Minister of Energy, Mines and Petroleum Resources, Dave Nikolejisin
 Deputy Minister of Finance, Lori Wanamaker
 Deputy Minister of Environment and Climate Change Strategy, Mark Zacharias
 BC Hydro CEO, Chris O'Riley (TBD)

Public Announcement:

Premier Horgan
 Minister of Energy, Mines and Petroleum Resources, Michelle Mungall
 Minister of Finance Carole James
 Minister of Environment and Climate Change Strategy George Heyman (TBC)

Collateral materials:

- Media Advisory
- News Release and Backgrounders
- Speaking Notes
- QA
- Key Messages

KEY MESSAGES - TBD:

DRAFT Overarching:

Complete Project:

Review:

- This is a project that the former Liberal government recklessly advanced without adequate review and fiscal oversight.
- As such, we inherited a project that was already two years and \$2 billion into construction that employs over 2,000 people.
- Our government committed to send the Site C project to the BCUC for review, something that any prudent government would have done. We have fulfilled that commitment.
- Government's decision was informed by the BCUC review, including an examination of the costs of and risks associated with termination, the project's budget, demand for electricity, the costs and

risks of Site C compared to a portfolio of alternative generation sources, and other environmental and First Nations considerations.

Decision:

- Given the current state of the project and the situation we inherited our decision to proceed with the project emerged as the only realistic option for government and is a decision which we believe is ultimately in the best interests of British Columbians.
- Our decision is part of our vision for energy in B.C. in which clean, reliable and affordable electricity from Site C and other renewable power projects together with the carbon tax and other measures provide the foundation for our transformation to a low-carbon economy and one of the cleanest, greenest jurisdictions in the world.
- Government is developing targeted actions to help address and mitigate concerns about Site C that were identified by various groups during the review.

Impact on Ratepayers:

- Site C will result in long term affordable rates for British Columbians. As we have seen, the existing hydroelectric system in B.C. has resulted in B.C. having amongst the lowest electricity rates in North America.
- Cancelling the project would also have had a significant rate impact, as sunk, termination and remediation costs of \$4 billion would need to be recovered from ratepayers over a much shorter period than the 70-year amortization period of Site C.
- We will also be doing a comprehensive review of BC Hydro looking for ways to reduce potential rate increases and find savings.

Benefits of Proceeding:

- Cancelling the Site C project would have meant writing off \$4 billion with nothing to show for it and starting from scratch to develop alternative sources of generation to meet demand.
- We can't take a chance on B.C.'s electricity supply and risk not having enough power when we need it on the coldest night of the year. The unknowns associated with pursuing an alternative portfolio of wind, geothermal and conservation made proceeding with Site C the most prudent course of action and is in the best interests of British Columbians.
- Completing Site C will provide, clean, renewable and affordable electricity our residents, businesses and industries can rely upon for the next 100 years, attracting investment in British Columbia.
- Completing Site C will provide the energy and capacity we need for low-carbon electrification – the transition from fossil fuels to electricity to reduce greenhouse gas emissions.
- At the end of the day, if our Province is going to deliver on our climate commitments, we will need Site C and more clean and renewable electricity projects to electrify our transportation, buildings and industrial sectors.

Terminate Project:

Review:

- This is a project that the former Liberal government recklessly advanced without adequate review and fiscal oversight.
- As such, we inherited a project that was already two years and \$2 billion into construction that employs over 2,000 people.

- Our government committed to send the Site C project to the BCUC for review – something that any prudent government would have done. We have fulfilled that commitment.
- Government's decision was informed by the BCUC review, including an examination of the costs and risks of and risks of termination, the project's budget, demand for electricity, the costs and risks of Site C compared to a portfolio of alternative generation sources, and other environmental and First Nations considerations.

Decision:

- Given the current state of the project and the situation we inherited our decision to terminate the project emerged as the only realistic option for government and is a decision which we believe is ultimately in the best interests of British Columbians.
- Our decision is part of our vision for energy in B.C. in which a portfolio of clean, affordable electricity from modern renewable power projects and expanded conservation initiatives together with the carbon tax and other measures provide the foundation for our transformation to a low-carbon economy and one of the cleanest, greenest jurisdictions in the world.
- Government is developing targeted actions to help address and mitigate concerns associated with terminating Site C that were identified by various groups during the review.

Impact on Ratepayers:

- The termination of the Site C will help keep electricity rates affordable for British Columbians by saving BC Hydro between \$6 to \$8 billion (over and above sunk and termination costs) it would cost to complete the project.
- Barely two years into construction the project is already over \$600 million over budget and the schedule is at risk.
- There is a rate impact associated with cancelling the Site C project but one that can be managed by spreading the costs over a longer period of time to be approved by the BCUC.
- We will be conducting a comprehensive review of BC Hydro and looking for ways to further reduce potential rate increases and find savings.

Loss of Jobs:

- We regret the loss of jobs at Site C, however the previous government created this situation by irresponsibly starting the project without proper oversight – we had to make a very difficult decision based on the best interests of all British Columbians, not the workers employed on the project.
- In the short term, we expect that a large number of current construction workers would be kept on for the next few years to work on remediation of the site. In the longer term, thousands of sustainable jobs will be created all over the province as we build an alternative portfolio of renewable energy sources to replace Site C.
- In addition, our government is committed to strengthening traditional industries like forestry and mining while supporting small business, tourism, agriculture, manufacturing, technology and innovation to create jobs, and we're investing a record \$14.6 billion in capital investments to build schools, roads, and transit infrastructure to create even more good jobs.

Benefits of Terminating:

- Terminating Site C will allow for the expansion of modern, renewable sources of generation like wind and geothermal that can be dispersed around the province and brought on line when we actually need the power.
- Cancelling the project means that valuable agricultural land will not be lost to flooding and that valuable habitat for plants and animals can be preserved.

- Cancelling the project means we can avoid the significant impacts of Site C on Indigenous Treaty rights and territories.
- The decision reflects our commitment to transform our relationship with Indigenous peoples and is one way we are bringing the principles of the UN Declaration into action.

KEY STAKEHOLDERS:

s.16,s.22

s.22

Page 246

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s.22

Page 247

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s.16;s.22

Appendix A – Media Plan

Site C Decision

December XX, 2017

MEDIA PLAN

Date TBD (one day in advance of announcement)

- A single EMPPR/PO Media Advisory will be released province-wide at 2 p.m. advising of both the next day's 10 a.m. media technical briefing and 11:30 a.m. news conference.
- Following the release of the Media Advisory, GCPE will also contact select media to offer one-on-one interviews with Minister Mungall.

Date TBD (day of announcement)

- Media technical briefing in Hotel Grand Pacific (Victoria) at 10 a.m. This will be "lock-up" style with no calls from media outside the room.
- News conference with province-wide dial-in media conference call at 11:30 a.m.
- News release to go province-wide at 11:45 a.m. (TBD)

Date TBD (day of announcement) – one-on-one telephone interviews by Minister Mungall following news conference to be arranged in advance by GCPE

- Matt Preprost – Alaska Highway News (Fort St. John) – 250-785-5631 – editor@ahnfsi.ca
- Chris Newton – Energeticcity.com/Moose FM Fort St. John – 250-787-7100 – chris@moosefm.ca
- Kraig Krause – CJDC TV Dawson Creek/Fort St. John – 250-782-6397 – kraig.krause@bellmedia.ca
- Jim Harrison/Angelo Iacobucci – CHNL Radio Kamloops – 250-374-1610 – jharrison@newcap.ca/aiacobucci@newcap.ca
- Claudia Cattaneo, Financial Post/National Post (Calgary) – 403-244-2733 – ccattaneo@postmedia.com
- Nelson Bennett – Business in Vancouver – 604-608-5157 – nbennett@biv.com

If Minister Mungall has time:

- Aiken Lau – Sing Tao Daily – 604-909-7303 – aikenlau@singtao.ca
- Albert Tsui – Fairchild TV – 604-505-8282 – alberttsui@fairchildtv.com

Working Draft
Communications Strategy – Executive Overview
Site C

Executive Summary: This document will serve as the communications strategy guiding the provincial government as it considers, makes and announces its decision regarding the future of Site C.

The communications strategy is based on the premise that there are three separate but interrelated communications phases relating to the Site C decision. It also brings into play related issues outside the scope of Site C.

- Phase 1: Pre-Report: Mid October – November 1 (Completed)
- Phase 2: Review & Consult: November 1 – Decision (In Progress)
- Phase 3: Decision Day – Forward

Each phase will bring its own set of issues and stakeholder outreach, which will need to be proactively managed and require briefings with key decision-makers and influencers in government, including cabinet and non-elected officials and government caucus, while also adhering to the confidence and supply agreement with the Green Caucus.

Phase 1 was completed on Nov. 1 with the delivery of the BCUC's final report.

Phases 2 and 3 are summarized below, with a recommended issues-based strategic approach, communications tactics and collateral products.

Phase 2 Review, Monitor, Evaluate & Consult: November 1- Decision – Proactively communicate the provincial government's information gathering process for a decision on Site C to demonstrate all avenues are being explored to make the best decision in the interests of British Columbians and ratepayers.

Key Events and Critical Path

- November 1: BCUC completes Site C report, forwards to government and posts to BCUC website
- Nov: Government reviews report
- Nov. 8: Minister Mungall delivers announcement on rate freeze
- Nov. 9: Briefing of Green Party by EMPR, CASA officials
- Nov. 15: Letter to BCUC to clarify some of the analysis and findings (joint from EMPR and FIN Deputy Ministers).
- Nov. 10-15: Public opinion polling occurs
- Nov. (TBD): Government website repository for Site C materials and decision-making process goes live.

Confidential Draft Advice

- Nov. 22 (TBD): BCUC responds to questions posed by DMs of MEMPR and FIN.
- Nov. 15-29: FIN conducts due diligence analysis of BCUC report in the context of impact on provincial finances, including debt and credit rating
- Nov. 14: Minister Mungall and Minister Fraser meet with First Nations in Fort St. John
- Nov. 23: Presentation to Priorities and Accountability Committee
- Nov (TBD): FIN completes financial analysis
- Nov. 29: Full briefing of Cabinet
- Nov. 30: Panel of independent experts presents to Cabinet
- Nov. 20-Dec.1: BC Hydro op-ed to Vancouver Sun or Globe and Mail (TBD)
- Nov-Dec: Government lays the ground for a decision
- ^{6, 7}
- Dec. (TBD): Presentation to Caucus
- Dec. (TBD) Briefing of Green Party caucus
- Dec: Outreach to stakeholders
- Dec. (TBD): Technical briefing of media and announcement of decision

Market Research: Insights West conducted an online study from November 10 to November 15, 2017, among 1,009 British Columbian adults.

Key findings included:

Support/Oppose:

- Question: The Site C Dam project is currently under construction in northeast BC. From what you have seen, read or heard about it, do you support or oppose completion of this project?

Support/Oppose	Overall	Male	Female
Strongly support	20%	27%	13%
Moderately support	26%	29%	22%
Moderately oppose	18%	15%	20%
Strongly oppose	17%	16%	17%
Not sure	20%	12%	27%

- Supporting Site C: 21-point gap between male and female; Opposing Site C: 6-point gap. By more than a 2:1 margin, females are unsure.

Confidential Draft Advice

Results by Region:

Support/Oppose	Overall	Metro	Valley	Island	South	North
Strongly support	20%	16%	10%	16%	37%	36%
Moderately support	26%	27%	41%	17%	24%	20%
Moderately oppose	18%	20%	8%	24%	11%	10%
Strongly oppose	17%	16%	18%	19%	17%	19%
Not sure	20%	22%	24%	23%	12%	15%

- Of the five regions, only in one (Vancouver Island) does opposition outweigh support
- Support outside Metro and the Island is above 50%

Results by Satisfaction/Dissatisfaction with the Way Things are Going in B.C:

- Both groups support Site C, though those dissatisfied have a larger support/oppose split

Support/Oppose	Overall	Satisfied	Dissatisfied
Strongly support	20%	15%	31%
Moderately support	26%	29%	20%
Moderately oppose	18%	22%	10%
Strongly oppose	17%	17%	16%
Not sure	20%	17%	23%

- Both groups support Site C, though those dissatisfied have a larger support/oppose split

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Reasons for Support:

- Four arguments were tested:
 - It will generate clean, renewable energy for future generations (79%)
 - It will help create jobs and foster economic development throughout BC (67%)
 - It will keep consumer energy bills reasonable, stable and predictable into the next century (63%)
 - It will help BC meet its climate change goals by reducing greenhouse gas emissions (59%)

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Event/Issue Matrix:

EVENT/ISSUE: Construction continues during the period that government is reviewing BCUC report			
Strategic Approach	Tactics	Collateral products	Key Message
Consistent with the government's approach to allow work to continue while review and decision on future of Site C is made. Also, less construction as winter approaches	As per above, with additional stakeholder outreach as required.	Key Messages Q&As	Construction is slowing down with winter approaching but there are still over 2,000 people working at Site C and we don't think it is fair to those workers and their families to stop construction while we are still deciding whether or not to continue with the project.

EVENT/ISSUE: Announcement of rate freeze			
Strategic Approach	Tactics	Collateral products	Key Message
Consistent with the decision to review Site C, the rate freeze is another commitment government made to make life more affordable for British Columbians.	Minister Mungall announced rate freeze in media stand-up in the halls prior to QP and release of NR province-wide.	NR Q&As /KMs	The British Columbia government is delivering on its promise to freeze BC Hydro rates, putting an end to the years of spiraling electricity costs that have made life less affordable for B.C. homeowners and renters.

EVENT/ISSUE: Letter to BCUC from DMs of FIN and EMPR seeking clarification on BCUC report			
Strategic Approach	Tactics	Collateral products	Key Message
Communicate government's information gathering process for decision to demonstrate all avenues are being explored to make best decision in the interests of British Columbians and ratepayers.	Media avail by Minister Mungall before Cabinet	KMs Copy of letter to BCUC (TBD) News release (TBD)	Our request to the BCUC to clarify some elements of its final report is part of our due diligence as we work towards a final decision on Site C that will keep rates affordable for B.C. families and businesses in the long term.

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EVENT/ISSUE: Ministers Mungall and Fraser meet with First Nations in Fort St. John.			
Strategic Approach	Tactics	Collateral products	Key Message
Aligns with government's commitment to UNDRIP. Communicate Government's information gathering process for decision to demonstrate all avenues are being explored to make best decision in the interests of British Columbians and ratepayers.	Media avail by Minister Mungall before Cabinet. Government, through Ministers Mungall and Fraser, meets with First Nations Nov. 14 in Fort St. John.	Key Messages Q&As Presentation materials for meeting with First Nations	Further engagement with Treaty 8 First Nations impacted by the Site C project reflects our commitment to transform our relationship with Indigenous peoples and is one way we are bringing the principles of the UN Declaration on the Rights of Indigenous Peoples into action.

EVENT/ISSUE: If polling becomes public			
Strategic Approach	Tactics	Collateral products	Key Message
Part of the overall due diligence process and listening to and consulting with British Columbians.	Reactive media relations should the issue of opinion polling become public	Key Messages Issues note	Our Government is listening to British Columbians and making decisions that put people first – polling is part of our due diligence as we work towards a decision on Site C that is in the best interests of British Columbians.

EVENT/ISSUE: FIN conducts due diligence analysis of BCUC report			
Strategic Approach	Tactics	Collateral products	Key Message
Communicate Government's information gathering process for decision to demonstrate all avenues are being explored to make best decision in the interests of British Columbians and ratepayers.	Media avail by Minister Mungall before Cabinet as per above	KMs	s.13

EVENT/ISSUE: Publish Government website repository for Site C materials			
Strategic Approach	Tactics	Collateral products	Key Message
Focus on transparency of government decision-making process on Site C to demonstrate all avenues are being explored to make best decision in the interests of British Columbians and ratepayers.	Publish website which includes a range of previously released documents and materials related to the Site C review and decision-making process.	Website	In an effort to share the information that has been and will be gathered on this important decision, Government has published a website that details actions that are part of the Site C review and hosts much of the information, analysis and answers we need to make the right decision on the project.

EVENT/ISSUE: Laying the groundwork for a decision			
Strategic Approach	Tactics	Collateral products	Key Message
Begin to build support for the decision.	Select media engagement	Key messages	Our Government continues to listen to the public, community leaders, labour leaders, industry and First Nations to seek their opinions as we work towards a decision on Site C that will ultimately keep rates low while ensuring British Columbians have access to clean, renewable, reliable and cost-effective electricity to power their lives and businesses into the future.

EVENT/ISSUE: Panel of independent experts presents to Cabinet			
Strategic Approach	Tactics	Collateral products	Key Message
Part of overall due diligence to clarify/confirm understanding of BCUC's final report and identify/address other issues related to the project.	Cabinet will invite a panel of select experts to provide a briefing.	Senior members of government to issue invitations to select individuals as determined. IB Key Messages QA	Government has invited select experts to provide a briefing to Cabinet on Site C. This is part of our due diligence process as we work towards a fully informed decision on Site C that is in the best interests of British Columbians.

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Phase 3 Decision Day – Onwards

Events:

- Government decides on Site C
- Stakeholder reaction
- Mitigation Policies

EVENT/ISSUE: Regardless of the decision, there will be concerns/complaints raised by those who oppose the decision			
Strategic Approach	Tactics	Collateral products	Key Message
Difficult decision to make on a project we inherited that was already two years into construction thanks to actions of previous government.	Integrated public affairs approach Focused on internal and external stakeholder relations, earned media, technical briefings digital engagement, and 3 rd party validation.	Communications strategy (attached) Key messages News release Backgrounders Q&As Deck Technical Presentation	Our decision on Site C is the best decision for B.C. families, businesses and the sustainability of our environment and economy. Our decision is the only realistic option for government based on the current state of the project and the situation which it inherited.
Decision based on fulsome decision-making process and is the only realistic option for government based on the current state of the project and the situation which it inherited.			
EVENT/ISSUE: Government announces policy actions to mitigate impacts associated with decision			
Strategic Approach	Tactics	Collateral products	Key Message
Policy actions will further mitigate impacts associated with final decision on Site C and address concerns raised by various groups in review.	When announcing the decision, or in the weeks and months following the decision, Government will announce policy actions as they are finalized.	Media releases Key Messages	Government is developing a range of mitigation policies and actions we can undertake to address concerns identified in our review of Site C.

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Appendix A – List of Key Stakeholders:

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Appendix B
Potential Mitigation Actions

Complete Project:

- A reconciliation initiative for small scale Indigenous clean energy/capacity projects subsidised by taxpayers.
- A Peace Valley Trust modelled after the Columbia Basin Trust and the Northern Development Trust could empower Peace Valley residents and First Nations to develop and implement solutions to longer-term environmental, social and economic issues. The Trust could be endowed with funding from Site C water rentals and the Agriculture Mitigation Fund, and post-completion transfer of the worker accommodation facility for use as a small business incubator (including First Nations) and/or apprenticeship training facility.
- Re-design Highway 29 re-alignment at Cache Creek to reduce impact on potential burial sites and sacred places.
- A modified labour agreement with unions for procurements not already under way.
- Expanded oversight by EY and the Site C Project Board, including a revised budget to complete Site C.

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Appendix C
Issues and Messaging Matrix
November 22, 2017

Overarching:

Complete Project:

Review:

- This is a project that the former Liberal government recklessly advanced without adequate review and fiscal oversight.
- As such, we inherited a project that was already two years and \$2 billion into construction that employs over 2,000 people.
- Our government committed to send the Site C project to the BCUC for review; something that any prudent government would have done. We have fulfilled that commitment.
- Government's decision was informed by the BCUC review, including an examination of the costs of and risks associated with termination, the project's budget, demand for electricity, the costs and risks of Site C compared to a portfolio of alternative generation sources, and other environmental and First Nations considerations.

Decision:

- Given the current state of the project and the situation we inherited our decision to proceed with the project emerged as the only realistic option for government and is a decision which we believe is ultimately in the best interests of British Columbians.
- Our decision is part of our vision for energy in B.C. in which clean, reliable and affordable electricity from Site C and other renewable power projects together with the carbon tax and other measures provide the foundation for our transformation to a low-carbon economy and one of the cleanest, greenest jurisdictions in the world.
- Government is developing targeted actions to help address and mitigate concerns about Site C that were identified by various groups during the review.

Impact on Ratepayers:

- Site C will result in long term affordable rates for British Columbians. As we have seen, the existing hydroelectric system in B.C. has resulted in B.C. having amongst the lowest electricity rates in North America.

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- We will also be doing a comprehensive review of BC Hydro looking for ways to reduce potential rate increases and find savings.

Benefits of Proceeding:

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- We can't take a chance on B.C.'s electricity supply and risk not having enough power when we need it on the coldest night of the year. The unknowns associated with pursuing an alternative portfolio of wind, geothermal and conservation made proceeding with Site C the most prudent course of action and is in the best interests of British Columbians.
- Completing Site C will provide, clean, renewable and affordable electricity our residents, businesses and industries can rely upon for the next 100 years, attracting investment in British Columbia.
- Completing Site C will provide the energy and capacity we need for low-carbon electrification – the transition from fossil fuels to electricity to reduce greenhouse gas emissions.
- At the end of the day, if our Province is going to deliver on our climate commitments, we will need Site C and more clean and renewable electricity projects to electrify our transportation, buildings and industrial sectors.

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ISSUE	AUDIENCE	PROCEED - KMs/MITIGATION
Site C will flood valuable farmland	<ul style="list-style-type: none"> • Agricultural Producers • ENGOS • Peace Valley Landowners Assn. • Rural Communities 	<ul style="list-style-type: none"> • KM - While there will be a loss of approximately 3,800 hectares of class 1 to 5 lands (i.e. land capable of crop production) in the Peace Agricultural region, approximately 2.7 million hectares of Class 1 to 5 lands will remain available for agricultural production in the region. In the Peace River valley, more than 16,000 hectares (or more than 80 per cent) of Class 1 to 5 lands will remain available. • Mitigation - The Agricultural Mitigation and Compensation Plan developed for the project

		includes a \$20 million fund to support the Peace Region's agricultural industry and compensate for lost sales of approximately \$200,000 per year, and the implementation of individual farm mitigation plans to support the continued operations for farms directly affected by the project. In addition, a Peace Valley Trust (<u>TBC</u>), similar to the Columbia Basin Trust, will help to address loss of agricultural lands and enhance Peace Valley agricultural production.
Cumulative impact of a third dam on Peace River Valley – loss of habitat.	<ul style="list-style-type: none"> • ENGOS • First Nations • Communities • Recreational users 	<ul style="list-style-type: none"> • KM – As the third dam on the Peace River, Site C can take advantage of the storage capabilities of the WAC Bennet Dam and the Williston Reservoir, minimizing the size of the Site C reservoir and the amount of land that has to be inundated. In fact, Site C will generate about 35% of the energy produced at the WAC Bennett Dam with a reservoir that is only 5% of the area of the Williston reservoir. (Site C reservoir is only 9,330 hectares compared to 177,300 hectares for the Williston reservoir) • Mitigation – Strict enforcement of and compliance with provincial and federal environmental mitigation measures required for the project, and the appointment of an environmental advocate (<u>TBC</u>) will help to ensure increased environmental accountability and mitigate the impacts of the reservoir on the Peace River Valley. In addition, the development of a Peace Region Trust (<u>TBC</u>) will promote regional environmental sustainability, for example

		through partnerships and regional opportunities for habitat and/or wildlife protection.
Climate action goals (GHG emissions)	<ul style="list-style-type: none"> • ENGOs • Green Party • Federal Government (climate action goals). 	<ul style="list-style-type: none"> • KM - An abundant supply of clean, firm, reliable electricity from Site C will help British Columbia, and Canada meet our climate action targets through low-carbon electrification – transitioning from fossil fuels to clean, renewable electricity in vehicles, industries and homes and buildings reduces greenhouse gas emissions. • Mitigation - In the months ahead BC Hydro and Government will introduce low-carbon electrification actions in a variety of sectors to promote the expanded use of electricity in place of fossil fuels to avoid GHG emissions – for example the expansion of charging infrastructure for electric vehicles.
Environmental impact	<ul style="list-style-type: none"> • ENGOs 	<ul style="list-style-type: none"> • KM - Environmental approvals for Site C include 150 legally-binding federal and provincial conditions. The Environmental Assessment Office and Canadian Environmental Assessment Agency are holding BC Hydro and its contractors to account, and BC Hydro will continue to work hard to meet those high standards on the Site C project. • Mitigation - Government and BC Hydro are committed to additional measures to provide increased accountability and oversight at Site C including: <ul style="list-style-type: none"> ○ Government appointment of an independent environmental advocate to follow-up on inquiries and

		<p>complaints. <u>(TBC)</u></p> <p>In addition, the development of a Peace Region Trust <u>(TBC)</u> will promote regional environmental sustainability, for example through partnerships and regional opportunities for habitat and/or wildlife protection.</p>
Potential for cost overruns at Site C	<ul style="list-style-type: none"> Ratepayers 	<ul style="list-style-type: none"> KM - While the BCUC did identify risks that could drive up the Site C budget, we believe that those risks can be mitigated through improved project management and procurement and increased oversight and accountability to independent entities and the public regarding the progress and costs of Site C. Mitigation - Government and BC Hydro are committed to additional measures to provide increased accountability and oversight at Site C including expanded oversight by EY and the Site C Project Board , including a revised budget to complete the project <u>(TBC)</u>, a modified labour agreement with unions for procurements not already underway <u>(TBC)</u> and <u>(TBC)</u> : <ul style="list-style-type: none"> Government appointment of an independent environmental advocate to follow-up on inquiries and complaints. BC Hydro communications will provide an accessible summary of each of its quarterly progress reports to the BCUC, a video or live hit on social media, followed by a Facebook

		<p>town hall to answer questions from the public.</p> <ul style="list-style-type: none"> ○ Accountability sessions hosted twice a year by the BCUC to facilitate a dialogue between BC Hydro and stakeholders.
Hydro Rates	<ul style="list-style-type: none"> • Ratepayers 	<ul style="list-style-type: none"> • KM - Proceeding with Site C will result in long-term affordable and predictable rates and is in the best interests of British Columbia families compared to writing off \$4 billion that would need to be recovered from ratepayers over a shorter period of time than the amortization period for Site C and taking the considerable risks associated with developing a portfolio of alternative resources from scratch to meet demand for power. • Mitigation – Working with BC Hydro we are developing further actions to help British Columbians save money and help us achieve a clean energy future, including: <ul style="list-style-type: none"> ○ The rate freeze currently before the BCUC for a decision. ○ A comprehensive review of BC Hydro to find savings to pass along to ratepayers. ○ A lifeline rate <u>(TBC)</u> ○ Alternatives to two-tiered rates <u>(TBC)</u> <p>We are also reducing risks to ratepayers of budget overruns on the project through expanded oversight by EY and the Site C Project Board, including a revised budget for the project <u>(TBC)</u> and exploring a modified labour agreement with unions for procurements not already</p>

Energy poverty	<ul style="list-style-type: none"> • Low-income families • Organizations representing low-income groups (BCOAPO) 	<p>underway <u>(TBC)</u>.</p> <ul style="list-style-type: none"> • KM – Our priority in reviewing Site C was to keep rates affordable and predictable, especially for low-income families who are the most vulnerable to rising rates and energy poverty. Proceeding with Site C is the best option to keep rates low when compared with writing off \$4 billion that would need to be recovered from ratepayers over a shorter period of time than the amortization period for Site C and taking the risks associated with developing a portfolio of alternative resources from scratch to meet demand for power. • Mitigation – Working with BC Hydro we are developing further actions to help low-income save money and help us achieve a clean energy future, including: <ul style="list-style-type: none"> ○ The rate freeze currently before the BCUC for a decision. ○ A comprehensive review of BC Hydro to find savings to pass along to ratepayers. ○ A lifeline rate <u>(TBC)</u> ○ Alternatives to two-tiered rates <u>(TBC)</u> ○ A customer emergency fund pilot <p>We are also reducing risks to ratepayers of budget overruns on the project through expanded oversight by EY and the Site C Project Board, including a revised budget for the project <u>(TBC)</u> and exploring a modified labour agreement with unions for procurements not already underway <u>(TBC)</u>.</p>
Impact on	<ul style="list-style-type: none"> • Credit rating 	<ul style="list-style-type: none"> • KM – BC Hydro's debt is self-supporting and

provincial debt and credit rating	agencies <ul style="list-style-type: none"> • Taxpayers • Investors 	<p>as such, there is no impact on the Province's debt from proceeding with the project, nor is there any impact anticipated to the province's triple-A credit rating. The costs of Site C will be recovered from ratepayers over a 70-year amortization period once the project comes into operation.</p> <ul style="list-style-type: none"> • Mitigation – Government will conduct a comprehensive review of BC Hydro to find savings and additional revenue to improve BC Hydro's debt situation, and Government remains committed to reducing the dividend BC Hydro pays to government to zero over the next three years, and keeping the dividend at zero until BC Hydro's debt to equity ratio improves. We are also reducing risks to ratepayers of budget overruns on the project through expanded oversight by EY and the Site C Project Board, including a revised budget for the project <i>(TBC)</i> and exploring a modified labour agreement with unions for procurements not already underway <i>(TBC)</i>.
Industry – major power consumers	<ul style="list-style-type: none"> • Association of Major Power Customers of BC (AMPC) • Mining, forestry and gas companies • Mining Association of BC • Pulp and Paper 	<ul style="list-style-type: none"> • KM – Site C is the best option to provide affordable, stable rates for major industrial power customers who use a lot of electricity, and will ensure that major power customers can rely upon a firm, dependable, affordable and clean supply of electricity to run and expand their operations. • Mitigation – Site C costs will be recovered from ratepayers over 70 years starting in 2024, avoiding significant rate increases to pay for the project, and BC Hydro will:

	<ul style="list-style-type: none"> Coalition Canadian Association of Petroleum Producers (CAPP) 	<ul style="list-style-type: none"> Continue to work with major power consumers to help them find energy efficiencies and implement conservation measures that can reduce consumption and cut power costs. Develop further actions to assist large customers including a proposed load retention rate to assist customers in resource-intensive industries that are experiencing hardship. <u>(TBC)</u> <p>We are also reducing risks to ratepayers of budget overruns on the project through expanded oversight by EY and the Site C Project Board, including a revised budget for the project <u>(TBC)</u> and exploring a modified labour agreement with unions for procurements not already underway <u>(TBC)</u>.</p>
Commercial power consumers	<ul style="list-style-type: none"> Commercial Energy Consumers Association of B.C. (CEC) Small business owners Restaurants Clean tech companies 	<ul style="list-style-type: none"> KM - Site C is the best option to provide affordable, stable rates for commercial customers and will ensure that businesses can rely upon a firm, dependable, affordable and clean supply of electricity to run and expand their operations into the future. Mitigation – We're cutting taxes for small business from 2.5% to 2.0% and establishing the Small Business Task Force, which will help us understand the needs of small businesses so we can create the best policies and priorities help them thrive. BC Hydro will: <ul style="list-style-type: none"> Continue to work with businesses to help them find energy efficiencies and implement conservation measures

		<p>that can reduce consumption and cut power costs.</p> <ul style="list-style-type: none"> ○ Explore the idea of introducing incentive rates that would attract new clean technology businesses to B.C such as renewable energy, information technology and green transportation. <u>(TBC)</u> <p>We are also reducing risks to ratepayers of budget overruns on the project through expanded oversight by EY and the Site C Project Board, including a revised budget for the project <u>(TBC)</u> and exploring a modified labour agreement with unions for procurements not already underway <u>(TBC)</u>.</p>
Jobs	<ul style="list-style-type: none"> • Allied Hydro Council of British Columbia (AHC) including Independent Contractors and Businesses Association 	<ul style="list-style-type: none"> • KM - People need good paying jobs and the chance to get ahead and Government's decision to complete the Site C means that over 2,000 workers currently on the project will keep their jobs, supporting families and communities, and that many thousands more workers will get jobs on the project over the remaining years of construction. • Mitigation – The electricity generated by Site

	<ul style="list-style-type: none"> • Christian Labour Assn of Canada (CLAC) • Communities in the Peace Region 	<p>C will support future growth of economic sectors across the province like forestry, mining and manufacturing, and support B.C. as a preferred location for new tech opportunities such as data centres. For example, with power assured from Site C, BC Hydro will explore the idea of introducing incentive rates that would attract new clean technology businesses to B.C such as renewable energy, information technology and green transportation <u>(TBC)</u>. In addition, we will explore the use of a modified labour agreement with unions for procurements not already underway <u>(TBC)</u>.</p>
Labour	<ul style="list-style-type: none"> • AHC • CLAC • Trade Unions 	<ul style="list-style-type: none"> • KM – Going forward with Site C we want to improve procurement and project management processes to ensure that the project is progressing on time and within-budget and maximizing apprenticeship opportunities. • Mitigation - We will explore the use of a modified labour agreement with unions for procurements not already underway <u>(TBC)</u>.

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Demand for power (BCUC low-load forecast)	<ul style="list-style-type: none"> • Site C opponents • Energy consultants (Robert McCullough) • Ratepayers • Peace Valley Landowners Assn. • IPPs 	<ul style="list-style-type: none"> • KM – The BCUC’s low-load forecast is based on a pessimistic view of British Columbia’s economy and potential that we, respectfully, do not accept. Our vision for B.C. is one in which our province’s economy is growing, businesses and industry are expanding and moving to B.C. and we’re building a low-carbon economy to achieve our climate action goals – all of which require firm, reliable, clean and affordable electricity from Site C. • Mitigation – To ensure British Columbia maintains an abundant supply of clean power to fuel economic growth BC Hydro will continue to pursue demand side management measures to conserve energy, renew existing contracts with IPPs at competitive prices, and work with the First Nations and the private power industry to bring renewable energy projects on-line as required. BC Hydro and Government will introduce low-carbon electrification actions in a variety of sectors to promote the expanded use of electricity in place of fossil fuels to avoid GHG emissions – for example the expansion of charging infrastructure for electric vehicles.
Electricity surplus – market prices	<ul style="list-style-type: none"> • Ratepayers • Export markets • Other jurisdictions (Alberta, Alaska, California) 	<ul style="list-style-type: none"> • KM – Clean, renewable energy and capacity from Site C that is surplus to domestic needs can be sold on the export market, providing additional revenues to BC Hydro and taking pressure off rates. We are confident that as other jurisdictions take action to transition away from coal-and oil-fired generation, market prices will increase for clean, firm and flexible capacity from Site C to back up

		<p>intermittent resources like wind and solar.</p> <ul style="list-style-type: none"> • Mitigation – BC Hydro and its subsidiary Powerex will continue to develop markets for the sale of surplus power, and the B.C. government will continue to work with the federal and western provincial governments to expand and upgrade transmission infrastructure (intertie) to enable increased export of power. To build demand and reduce energy surpluses BC Hydro and Government will introduce low-carbon electrification actions in a variety of sectors to promote the expanded use of electricity in place of fossil fuels to avoid GHG emissions – for example the expansion of charging infrastructure for electric vehicles.
First Nations	<ul style="list-style-type: none"> • Treaty 8 First Nations • Non-Treaty B.C. First Nations • Other Aboriginal groups consulted by BC Hydro • Indigenous associations • Amnesty International – Alex Neve, Secretary General of Amnesty International 	<ul style="list-style-type: none"> • KM – Our decision to proceed with Site is based on the best interests of all British Columbians, and was made after extensive consultation with First Nations, including face-to-face meetings with Treaty 8 First Nations most impacted by the project that both support and oppose the project, • Mitigation - The Province and BC Hydro will continue to work hard to ensure Site C provides lasting economic and social benefits for First Nations, through offers of land protection, land transfers, financial payments and other economic benefits. We will continue recent direct government engagement with First Nations to seek to establish a collective Treaty 8 project advisory committee with BC Hydro (<i>TBC</i>). In addition we are exploring the development of a Peace

	<p>Canada</p> <ul style="list-style-type: none"> • Métis Nation British Columbia 	<p>Region Trust (<i>TBC</i>). Similar to the Columbia Basin Trust, the Peace Region Trust would create an ongoing legacy of economic, environmental and social benefit communities and First Nations in the region, including supporting economic and skills training opportunities for Treaty 8 First Nations and other Indigenous people. We will continue recent direct government engagement with First Nations to seek to address main outstanding concerns and interests in the design and implementation of the proposed Trust. We are also committed to working with the Ministry of Transportation and Infrastructure and BC Hydro to re-design Highway 29 re-alignment at Cache Creek to reduce impact on potential burial sites and sacred places. We are also exploring with BC Hydro the creation of a small volume-based, Indigenous-focused clean energy and/or clean capacity call for power. (<i>TBC</i>)</p>
UNDRIP	As above	<ul style="list-style-type: none"> • KM –Our government is focused on a new relationship with First Nations built on partnership and respect with UNDRIP as a foundation, however it is our view that UNDRIP does not give individual First Nations a veto over projects. • Mitigation – The Province and BC Hydro will continue to work hard to ensure Site C provides lasting economic and social benefits for First Nations, through offers of land protection, land transfers, financial payments and other economic benefits. In addition we are exploring the development of a Peace

		<p>Region Trust. (TBC) Similar to the Columbia Basin Trust, the Peace Region Trust would create an ongoing legacy of economic, environmental and social benefit communities and First Nations in the region. This organization would seek the views of residents, First Nations and communities to develop programs and distribute funds to help mitigate the impact of the three dams on the Peace Region.</p>
Impact Benefit Agreements already signed with First Nations	<ul style="list-style-type: none"> • Doig River • Halfway River • Saulteau • McLeod Lake • Dene Tha' • Duncan's First Nations 	<ul style="list-style-type: none"> • KM - While Site C will have significant impacts on First Nations near the project, it is important to note that BC Hydro has already reached benefit agreements with six Treaty 8 First Nations which include lump sum payments, annual inflation-adjusted payments streams over a period of up to 70 years, procurement opportunities, and the transfer of provincial Crown lands and implementation of land protection measures to preserve values and areas of importance to the First Nations. • Mitigation - The Province will engage local governments, stakeholders and other interested members of the public on all potential land transfers or potential land management measures. Our engagement

		<p>with stakeholders, local governments and the public will inform whether individual parcels will be transferred to First Nations. Negotiations with other Aboriginal groups affected by the project have been on-going and will continue.</p>
Benefits agreements already signed with communities	<ul style="list-style-type: none"> • District of Chetwynd • District of Taylor • District of Hudson's Hope • Peace River Regional District 	<ul style="list-style-type: none"> • KM - While Site C will have significant impacts on the people living near the project, it is important to note that BC Hydro has already reached impact benefit agreements with surrounding communities that include payments as well as benefits such as rental housing, funding for police resources and various community funds. • Mitigation – BC Hydro will continue to work with communities to implement benefit agreements to ensure communities are benefitting from the project. In addition we are exploring the development of a Peace Region Trust (<i>TBC</i>) similar to the Columbia Basin Trust. The Peace Valley Trust could be governed by First Nations and local governments, and endowed with a share of Site C water rentals, the \$20 million Agricultural Mitigation Fund and other sources. The Trust would promote economic and social well-being for Peace Valley residents through a range of initiatives including affordable housing, early education

		and childhood development programs and skills training.
BCUC alternative portfolio	<ul style="list-style-type: none"> • IPPs • ENGOS • Energy consultants (Robert McCullough) • BC Hydro • Ratepayers • First Nations 	<ul style="list-style-type: none"> • KM - While the BCUC concluded that it was possible to develop an alternative portfolio that could supply the energy and capacity B.C. needs at similar costs to Site C, the alternative portfolio was based on a low-load forecast that we do not accept, and it came with too many risks, especially considering the \$4 billion we would need to write off to terminate the project. • Mitigation - We are creating a roadmap for the future of BC energy that will drive innovation, expand energy efficiency and conservation programs, generate new energy responsibly and sustainably, and create lasting jobs throughout the province - we look forward to bringing a new approach to create good clean jobs in B.C. and working with the renewable power industry and First Nations on this process.
IPPs (clean energy industry)	<ul style="list-style-type: none"> • Clean Energy BC • IPPs • First Nations 	<ul style="list-style-type: none"> • KM - Smaller, renewable power projects will continue to make up a significant part of BC Hydro's supply – we anticipate that increased demand to serve low-carbon electrification and reduce GHG emissions will require additional generation resources even beyond Site C.

		<ul style="list-style-type: none"> • Mitigation - We are creating a roadmap for the future of BC energy that will drive innovation, expand energy efficiency and conservation programs, generate new energy responsibly and sustainably, and create lasting jobs throughout the province - we look forward to bringing a new approach to create good clean jobs in B.C. and working with the renewable power industry and First Nations on this process. We are also exploring with BC Hydro the creation of a small volume-based, Indigenous-focused clean energy and/or clean capacity call for power.
Demand side management (conservation)	<ul style="list-style-type: none"> • Ratepayers • ENGOS 	<ul style="list-style-type: none"> • KM – Even with Site C we will need more energy and capacity to serve low-carbon electrification and achieve our GHG targets, and the most cost-effective way to get that added power is to reduce consumption through demand-side-management or conservation measures. • Mitigation – Energy efficiency programs to help customers reduce their power consumption and costs will continue to be a priority for BC Hydro, and BC Hydro will explore new demand-side management measures in its 2018 Integrated Resource Plan, including: <ul style="list-style-type: none"> ○ Optional time of use rates <i>(TBC)</i> ○ Industrial load curtailment <i>(TBC)</i>
Credibility of the BCUC report	<ul style="list-style-type: none"> • BCUC • Ratepayers 	<ul style="list-style-type: none"> • KM – The BCUC fulfilled the terms of reference for the Site C review and produced a comprehensive report on the economic viability of the project that informed

		<p>Government's decision to proceed with the project.</p> <ul style="list-style-type: none"> • Mitigation – Unlike the previous government, our government values and respects the BCUC as the province's independent energy regulator and we will continue to ensure the Commission is able to fulfil its role and protect the interests of ratepayers.
High level of opposition to the project voiced in public input sessions.	<ul style="list-style-type: none"> • The public • Review participants • First Nations 	<ul style="list-style-type: none"> • KM – We are aware that the majority of people who participated in the review were opposed to proceeding with project, but as the BCUC noted in commenting on the public input: "the Panel is not persuaded the number of people for or against Site C has any statistical reliability. Events of this nature are more likely to attract those with strongly defined views on the subject." Government polling on the project indicates that more British Columbians support proceeding with the project than terminating it. • Mitigation - Government and BC Hydro are committed to additional measures to provide increased accountability and oversight at Site C including: <ul style="list-style-type: none"> ○ Government appointment of an independent environmental advocate to follow-up on inquiries and complaints. <i>(TBC)</i> ○ BC Hydro communications will provide an accessible summary of each of its quarterly progress reports to the BCUC, a video or live hit on social media, followed by a Facebook town hall to answer questions from

		<ul style="list-style-type: none">the public. <u>[TBC]</u>o Accountability sessions hosted twice a year by the BCUC to facilitate a dialogue between BC Hydro and stakeholders. <u>[TBC]</u>	
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Welgush, Lindsey GCPE:EX

From: Meggs, Geoff PREM:EX
Sent: Sunday, November 12, 2017 12:32 PM
To: Lloyd, Evan GCPE:EX
Subject: Re: Rollout Site C Nov 12.docx

Evan is the letter complete?

G

Sent from my iPhone

On Nov 12, 2017, at 12:24 PM, Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca> wrote:

Having (hopefully) resolved some travel and logistical uncertainty please note latest (revised) SiteC roll-out covering the next few days. Note uncertainty about when precisely BCUC might post the EMPR/FIN letter. Timing of IB and letter release on our part TBD - in consideration of a) unencumbered FSJ meetings Tuesday and b) maximizing BCUC time to respond to key Qs

Evan

<CONFIDENTIAL DRAFT Site C Nov 12.docx>

Sent from my iPad

Welgush, Lindsey GCPE:EX

From: Zadavec, Don GCPE:EX
Sent: Friday, November 24, 2017 11:41 AM
To: Lloyd, Evan GCPE:EX
Subject: FW: Site C Status Update

Website latest

From: Albert, Steve GCPE:EX
Sent: Thursday, November 23, 2017 12:36 PM
To: Zadavec, Don GCPE:EX; Moser, Walter GCPE:EX; Haslam, David GCPE:EX
Cc: Pratt, Andrew GCPE:EX
Subject: Site C Status Update

Hi folks. Here's where we're at.

Complete:

- Site C QA page: <https://www2.qa.gov.bc.ca/gov/content/industry/electricity-alternative-energy/electricity/site-c>
- Site C 'Popular Topics' feature has been added to <https://www2.qa.gov.bc.ca/gov/content/industry>
- Site C link has been added to 'How may we help you?' under 'Farming, Natural Resources & Industry' on home page <https://www2.qa.gov.bc.ca/gov/content/home>
- Site C mosaic: <https://www2.qa.gov.bc.ca/gov/search?id=2E4C7D6BCAA4470AAAD2DCADF662E6A0&q=site+c> (note that the mosaic link points to production, so won't work until we go live)
- The Site C short URL, gov.bc.ca/sitec has been secured and will work once we go live

s.13

Please let me know if there are any questions or concerns with above, otherwise we can go to production at any time.

Cheers,

Steve Albert

Director, Online Service Solutions
C: 250-508-1481

From: Zadravec, Don GCPE:EX
Sent: Wednesday, November 22, 2017 2:02 PM
To: Moser, Walter GCPE:EX; Haslam, David GCPE:EX
Cc: Albert, Steve GCPE:EX; Pratt, Andrew GCPE:EX
Subject: RE: Site C graphic

We have a meeting at 2:15. This is one of the items for discussion. If there is follow up, we will connect with Steve and you.

From: Moser, Walter GCPE:EX
Sent: Wednesday, November 22, 2017 1:57 PM
To: Haslam, David GCPE:EX
Cc: Albert, Steve GCPE:EX; Zadravec, Don GCPE:EX; Pratt, Andrew GCPE:EX
Subject: Re: Site C graphic

I think I see the image updated on the way site. David and Don - are you taking the DM through the site / page? Do you want us to join...

On Nov 22, 2017, at 11:14 AM, Haslam, David GCPE:EX <David.Haslam@gov.bc.ca> wrote:

Thanks Steve/Andrew. I like it. The QA you sent around yesterday looks pretty good too. I suggest adding the graphic and then we can send to our superiors for feedback. Cheers - d

From: Albert, Steve GCPE:EX
Sent: Wednesday, November 22, 2017 10:44 AM
To: Haslam, David GCPE:EX; Zadravec, Don GCPE:EX; Moser, Walter GCPE:EX
Cc: Pratt, Andrew GCPE:EX
Subject: FW: Site C graphic
Importance: High

Attached is the proposed Site C graphic from Andrew. (thanks for the lightning-fast turnaround, Andrew!)

Cheers,

Steve Albert

Director, Online Service Solutions
C: 250-508-1481

From: Pratt, Andrew GCPE:EX
Sent: Wednesday, November 22, 2017 10:21 AM
To: Albert, Steve GCPE:EX
Subject: Site C graphic
Importance: High

Andrew Pratt

Director, Graphic Communications
Government Communications and Public Engagement
4th floor, 617 Government Street, Victoria, BC V8W 9V1
T: 250 356-8120
F: 250 387-6070

[Graphic Design Requests](#)

[BCID Website](#)

[Graphics 411 Information and Resources](#)

Welgush, Lindsey GCPE:EX

From: Zadravec, Don GCPE:EX
Sent: Wednesday, November 22, 2017 6:53 AM
To: Lloyd, Evan GCPE:EX; Kristianson, Eric GCPE:EX
Subject: Fwd: Media Advisory: Public Release of McCullough Report and Video on Pending Site C Decision

Fyi

Don Zadravec
Executive Director
GCPE
778-584-1252
Sent from my iPhone

Begin forwarded message:

From: "Haslam, David GCPE:EX" <David.Haslam@gov.bc.ca>
Date: November 22, 2017 at 6:26:44 AM PST
To: "Zadravec, Don GCPE:EX" <Don.Zadravec@gov.bc.ca>, "Howlett, Tim GCPE:EX" <Tim.Howlett@gov.bc.ca>, "Sanderson, Melissa EMPR:EX" <Melissa.Sanderson@gov.bc.ca>, "McNish, James EMPR:EX" <James.McNish@gov.bc.ca>, "Beaupre, Darren GCPE:EX" <Darren.Beaupre@gov.bc.ca>, "Grewar, Colin GCPE:EX" <Colin.Grewar@gov.bc.ca>
Subject: Fwd: Media Advisory: Public Release of McCullough Report and Video on Pending Site C Decision

FYI below.

Begin forwarded message:

From: Ken Boon <pvla@xplornet.com>
Date: November 21, 2017 at 8:23:02 PM PST
To: <dave.nikolejsin@gov.bc.ca>
Subject: Media Advisory: Public Release of McCullough Report and Video on Pending Site C Decision
Reply-To: Ken Boon <pvla@xplornet.com>

November 21, 2017

[View this email in your browser](#)



MEDIA ADVISORY

Public Release of McCullough Report and Video on Pending Site C Decision

What: The Peace Valley Landowner Association (PVL A) and the Peace Valley Environment Association (PVEA) will hold a press conference to release the new McCullough Report and video on the pending Site C Decision. The report is entitled:

Would you still build Site C?

Impact of the Site C decision on present and future ratepayers

When: Wednesday, November 22, 2017
11:00am

Where: Aspen Room (Third floor)

Four Seasons Hotel Vancouver,
791 W. Georgia St., Vancouver, BC

Who:

Robert McCullough, International Energy Expert
Harold Steves, Richmond City Councillor, Former NDP MLA,
Founder, Agricultural Land Reserve

Everyone with an interest in the pending decision on the future of Site C, the largest capital expenditure in the history of BC, is welcome to attend.

Robert McCullough and Harold Steves will be available for interviews following the press conference (in-person or via telephone).

Additional Information:

- Biographies for Robert McCullough and Harold Steves can be found below.
- For all past McCullough Research Reports, visit peacevalleyland.com/sitecinquiry.

Media Contacts:

Amanda Munro: amanda@munrothompson.com / 604-360-3994
Emily Marroquin: emily@munrothompson.com / 604-928-6299

Expert Biographies

Robert McCullough is Principal of McCullough Research in Portland, OR, and for over thirty-seven years has advised governments, utilities, and aboriginal groups on energy, metals, paper, and chemical issues. He has testified repeatedly in state, federal, and provincial courts as well as before Congress and regulatory bodies. His testimony in front of the Senate Energy Committee is credited with initiating the Enron trading investigations during which he worked for the U.S. Department of Justice and three western attorneys general. He has consulted for U.S. and Canadian clients on hydroelectric issues in many states and provinces, including on many occasions, presenting on issues before Canadian regulators.

Harold Steves is a long time Richmond City Councillor, Former NDP MLA, and is one of the founders of the Agricultural Land Reserve. A former Richmond school teacher, Harold operates the family farm in Steveston with his wife Kathy, raising pure bred Belted Galloway cattle. Harold also assists his son Jerry operate a ranch in Cache Creek, B.C. Descended from a pioneer

Richmond farming family, he is very active in community life in the Steveston area, and is particularly interested in the preservation of farmland, heritage preservation, and environmental issues. Harold represents Richmond as second Director on the Board of Directors of Metro Vancouver.

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You are receiving this email because you gave us your address or asked to join.

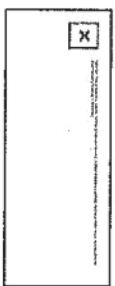
Our mailing address is:

Peace Valley Landowner Association
ss2, site 12 comp 19
FORT ST JOHN, British Columbia V1J 4M7
Canada

Add us to your address book

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You can update your preferences or unsubscribe from this list



Welgush, Lindsey GCPE:EX

From: Gibbs, Robb GCPE:EX
Sent: Wednesday, November 8, 2017 9:20 PM
To: Meggs, Geoff PREM:EX; Aaron, Sage PREM:EX; Lloyd, Evan GCPE:EX
Subject: SC poll instrument
Attachments: Q_InsightsWest_SiteC_07Nov2017.docx

Hi folks,

I have Mario's version back and am attaching here. He seems quite juiced about this and is ready to go. Some updates:

- They can get in the field within 24 hours. ie, if we signed off tomorrow, they'd start it up Friday and would probably be done early next week.
- I've bumped up the n to 1000 to get better results in the northeast and interior.
- He's not heard of any other polls in the field on SC but will keep his ears open.

Tks,

Robb

Questionnaire: Site C
FIELD: NOVEMBER 2017

SAMPLE QUOTAS:
General Population (B.C.)

Apply weighting by region x age x gender in data analysis

Cross Tabulations: Age, Gender,
Income, Education, Ethnicity

Questions SC1 and SC2 are used to help determine participant values.
Questions SC3 and SC4+ are used to gauge current awareness and attitudes on Site C.
Questions SC5 and SC6 used to gauge argument persuasiveness.

PARTICIPANT VALUES

SC1. Looking at BC's energy policy, what should the provincial government's priority be when it comes to new energy development projects. Please rank these priorities from 1 to 5, with 1 being the most important to you and 5 being the least important to you.

[RANDOMIZE, RANK ORDER – 1 TO 5]

Keeping consumer energy bills low

Defending BC's natural environment and agricultural lands from permanent flooding

Supporting new economic opportunities and jobs

Helping fight climate change by shifting more of our economy to clean power

Developing new, renewable sources of energy

SC2. Do you agree or disagree with the following statements?

[ROWS – RANDOMIZE]

BC's government has a responsibility to balance energy development and environmental protection.

Hydroelectric projects require significant public investment, but they are worth it if BC is going to replace fossil fuels that pollute our air.

We need to proceed with major energy projects to keep our economy strong, even if they impact our environment or Indigenous relations.

BC needs to shift to other renewable energy alternatives like solar and wind power to meet our climate goals, even if they may not provide a reliable energy supply for the province.

[COLUMNS]

Strongly agree

Moderately agree

Moderately disagree

Strongly disagree

Not sure

AWARENESS AND ATTITUDES

SC3. Can you name any hydroelectric dam projects currently under construction in BC?

Please type your response in the box below.

[PROVIDE BOX]

Button – I can't recall any

SC4. The Site C Dam project is currently under construction in northeast BC. From what you have seen, read or heard about it, do you support or oppose completion of this project? Choose one.

[SINGLE CHOICE]

Strongly support

Moderately support

Moderately oppose

Strongly oppose

Not sure

If "Support", ask SC4a.

If "Oppose", ask SC4b.

SC4a. Why do you support completing the Site C Dam project? Choose *all that apply*.

[MULTIPLE CHOICE, RANDOMIZE, WITH "None of these" ALWAYS LAST]

It will help BC meet its climate change goals by reducing greenhouse gas emissions

It will generate clean, renewable energy for future generations

It will keep consumer energy bills reasonable, stable and predictable into the next century

It will help create jobs and foster economic development throughout BC

None of these [EXCLUSIVE]

SC4b. Why do you oppose completing the Site C Dam project? Choose *all that apply*.

[MULTIPLE CHOICE, RANDOMIZE, WITH "None of these" ALWAYS LAST]

It will flood valuable farmland and wildlife habitat

It will cost too much money to complete

We don't need it to meet BC's future demand for energy

It has not been fully approved by all the Indigenous people in the area

BC needs to focus on alternative energy sources like solar and wind power

None of these [EXCLUSIVE]

ARGUMENT PERSUASIVENESS

SC5. Below are statements that support **completing** the Site C project. Please rank these statements from 1 to 5, with 1 being the most persuasive to you and 5 being the least persuasive to you.

[RANDOMIZE, RANK ORDER – 1 TO 5]

Construction of Site C is already well underway. While it may take \$X billion to finish construction, we should complete the project so we don't throw away the \$X billion that have already been invested.

When Site C is finished, it will play a big role in moving BC and our customers—like Alberta and California—towards cleaner hydroelectric energy and away from burning coal and other fossil fuels that pollute our air.

It has been estimated that stopping Site C now could cost \$3.8 billion and increase consumers' BC Hydro bills by 10% a year for 10 years. To protect ratepayers, we need to move forward with the project.

Completing the Site C project is in the best interests of British Columbians. It will mean affordable and predictable hydro bills, good jobs for workers, and green energy for generations to come.

BC should move ahead with alternative energy sources like wind and solar power, but we will need a reliable source of energy to back-up those new power sources. That is a good reason to move ahead with Site C.

SC6. Below are statements that support **stopping** the Site C project. Please rank these statements from 1 to 5, with 1 being the most persuasive to you and 5 being the least persuasive to you.

[RANDOMIZE, RANK ORDER – 1 TO 5]

Site C should be stopped because it would flood hundreds of acres of valuable farmland, wildlife habitat and Indigenous lands.

The BC Utilities Commission recently concluded that Site C is unlikely to be finished either on time or on budget. This project is just too great a risk for taxpayers.

For BC to achieve the economic benefits of being a climate action leader, we must seize the opportunity now to develop renewable energy technologies such as wind and solar.

Let's take the money we would need to complete Site C and use it to lead the world in new energy alternatives.

In just the past few months, there have been stress cracks in the construction of the Site C dam, adding \$600 million to the project already. If we can't guarantee costs won't rise even more, Site C is just too big a risk—so we should cut our losses and stop the project now.

[DEMOGRAPHICS]

==30==

Welgush, Lindsey GCPE:EX

From: Lowe, Mike GCPE:EX
Sent: Monday, December 11, 2017 2:15 PM
To: Sidhu, Ajaib GCPE:EX; Dan, Cindy GCPE:EX
Cc: Ryckman, Scott GCPE:EX
Subject: Thank you!

Cindy and Ajaib,
I just wanted to drop a quick line to thank you both for coming in early to get today's news release translated so that we could ensure this important announcement was received as widely as possible.

Your work on this today was much appreciated!

Mike

Mike Lowe | ADM, Communications Operations
Government Communications and Public Engagement
Desk: 778-698-7411 Cell: 778-584-1247

Welgush, Lindsey GCPE:EX

From: Meggs, Geoff PREM:EX
Sent: Monday, November 6, 2017 1:40 PM
To: Gibbs, Robb GCPE:EX
Cc: Aaron, Sage PREM:EX; Lloyd, Evan GCPE:EX; Zadravec, Don GCPE:EX
Subject: Re: SC poll revisions

Thanks, Robb, much better but I fear the end sections are too wordy - shouldn't Insight be writing under your direction?

G

Sent from my iPhone

On Nov 5, 2017, at 6:07 PM, Gibbs, Robb GCPE:EX <Robb.Gibbs@gov.bc.ca> wrote:

Hi all,

Okay, I've taken a crack at reworking the poll. In the end, I kept very little of the original.

I've divided it into three sections as you will see via the Internal Notes in the attached document. My focus was mostly on the fundamental notion that, in the end, everything that has happened to date (including BCUC) is kinda irrelevant. All that matters now is finding out where people are at at this moment in time, why they're there, and what can help us in communications terms moving forward with a Yes or No.

Let the comments begin.

Tks,

Robb

<SiteC-PollingNotes-RGG-V1.docx>

Page 305 to/à Page 315

Withheld pursuant to/removed as

s.13

Page 316 to/à Page 338

Withheld pursuant to/removed as

s.12;s.13;s.17

Page 339 to/à Page 428

Withheld pursuant to/removed as

s.12;s.13

Page 01 to/à Page 53

Withheld pursuant to/removed as

s.12;s.13

**Site C Report Critical Path
(Dec 1- Dec 11 Announcement Day)**

Timing	Event	Notes
Dec 1	Finalize content and materials for microsite	Completed. Deliberation documents “Show your work” Launch Dec. 11
Dec 4	MOF financial analysis	Completed
Dec 1	Determine venue announcement	GCPE with PO
Dec 4-5	Finalize draft of communications materials for announcement, Option 1 and 2	Draft Communications plan (GCPE HQ and MEM Comms) Options narratives (GCPE HQ) Key messages (PO, GCPE HQ) News Release (MEM Comms) 2 or 3 Backgrounders: Rate impact, “how we got here”, and mitigation (GCPE and MEM Comms) Media advisory (MEM Comms) Speaking Notes (GCPQ HQ) Q&As (MEM Comms) Issues matrix (GCPE HQ, MEM Comms) Presentation deck for caucus (MEM) Event plan (GCPE HQ and PO) Media plan (GCPE HQ and MEMs Comms) Social media plan (GCPE Digital) Draft Op-ed for Premier (GCPE HQ) Video for Facebook (GCPE Digital) Stakeholder plans (PO, MO, GCPE HQ MEMs Comms and BCH Comms) Materials for caucus, News release, backgrounders, key messages, FAQs, email response points (MO and Caucus Comms)
Dec 5	Presentation to caucus	Completed
Dec 6	Cabinet Site C decision	
Dec 7	Outreach to Minister of State George Chow and PS Ravi Kahlon	Serve as ethnic media spokespeople Vancouver, Dec 11 Completed

Dec 8, afternoon	Email to caucus regarding Sunday briefing	Email from Executive Director Completed
Dec 8, 1:30 p.m.	Dry run of technical presentation	Don Wright, Dave Nikolejsin, (EMPR), Doug Foster (MOF), others TBD Completed
Dec 6-10	Finalize all communications materials	Ongoing
Dec 10, 11:00 a.m.	2 nd Dry run of technical presentation	Don Wright, Dave Nikolejsin, (EMPR), Doug Foster (MOF), others TBD
Dec 10, 12:30 p.m.	Briefing of Minister of State George Chow and PS Ravi Kahlon	Preparation post for announcement ethnic media outreach (GCPE HQ to provide briefing)
Dec 10, 12:30 p.m.	Prep time with MMM and MGH	CDs from EMPR and Enviro to lead prep
Dec 10, 2:00 p.m.	video of PJH for Facebook	TBC
Dec 10, 2:00 p.m. – onwards	Prep Time with PJH	TBC
Dec 10, 2:30 p.m.	Email to caucus advising of time and date of announcement	Email from Executive Director
Dec 10, 3:00 p.m.	Media Advisory re Dec 11 announcement	Timing TBC
Dec 10, Evening	Briefing of MAs of MOs involved in stakeholder outreach	Exact time to TBC
Dec 10, 5:00 p.m.	Presentation to government caucus re decision	Conference Call led by Premier with communications support from Evan Lloyd and Sage Aaron
Dec 11, 9:30 a.m.	Briefing of Green caucus re decision	MGH, Doug Foster (MOF) and, Confidence and Supply Agreement Secretariat (TBC)
Dec 11, 9:00 a.m.	Presentation to MAs and EAs re decision	Chief of Staff
Dec 11, 10:00 a.	Presentation to CAs re decision	Chief of Staff and Government Caucus Executive Director

Dec 11, 10:30 a.m.	Workshop for those making post announcement stakeholder calls	Mira Oreck
Dec 11, 10:30 a.m. TBC	Technical briefing for media, including audio feed for Vancouver media for Metro Vancouver, ethnic and regional media	Presentation deck by DM Don Wright, DM MEM and Doug Foster (MOF) (TBD) GCPE HQ to intro participants
Dec 11, 11:30 a.m.	Announcement of decision	Key messages News release Backgrounders
Dec 11, 11:30 a.m.	Outreach to stakeholders begins	Based on stakeholder list
Dec 11, post announcement	Technical backgrounding by MEM and MOF staff	As required basis with select media
Dec 11	Post announcement monitoring and debrief	Noon TBC 4 th Floor Board room, 617 Government
Dec 11, 1:00 p.m. - onwards	Stakeholder calls	Assigned Ministers to make calls

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Draft Agenda
Site C Communications Planning Meeting
November 8, 2017

1. Research
2. Media monitoring/analysis
 - a. Key trends & Issues
3. Comms Strategy update
4. Messaging update
5. BCH liaison
6. Policy update
7. BCUC letter

McGregor, Cara GCPE:EX

From: Della Mattia, Marie PREM:EX
Sent: Sunday, December 10, 2017 5:32 PM
To: Aaron, Sage PREM:EX; McGregor, Cara GCPE:EX
Subject: Fwd: site c speaking notes draft 7
Attachments: 20171211 SN Statement_draft7.docx; ATT00001.htm

Revisions per Premiers edits this afternoon,

I think I got them all :)

Thanks
Marie

Site C Decision

Dec. 11, 2017

I: Intro

- The Site C decision affects:
 - Local people, Treaty 8 First Nations, Site C workers
 - Every British Columbian, for generations
- Any decision must fit with our values, and our commitments:
 - Affordability & fixing services
 - BC Hydro that works for people
 - Environmental commitments
 - Indigenous Peoples

2: History of Site C

- We've been critical of Site C from the start
 - No business case, no referral to BCUC
 - \$2 billion spent: no plan, no apprenticeships
 - Their priority: the so-called Point of No Return

3: BCUC Review

- We committed to review Site C, and we followed through
- BCUC confirmed our concerns
 - Cost overruns
 - Green power could meet BC's needs
 - We need more green power to meet climate commitments
- They left us with two options: continue or cancel

4: The Decision

- To those opposed: I respect your conviction and passion
- But there was only one decision we could make:
 - Site C is not the project we favoured
 - It is not the project we would have built
 - But we must build it
- This decision will be a disappointment to many, but we must think of the needs of all British Columbians
 - Who would not have schools, hospitals, roads, homes they need if we wrote off \$4 billion to end Site C
 - Our government could not make that choice

5: Going Forward

- We must overcome the legacy of mismanagement of BC Hydro, and turn Site C into a positive for BC's future:
 - Project oversight to keep control of project costs
 - Community benefit agreements, sub-contracting for biz
 - Agricultural land enhancements
 - Indigenous partnerships - BC Hydro renewable energy

6: Closing

- While not the project we favoured, Site C is the only choice to:
 - Deliver on our commitments to British Columbians
 - Work for British Columbians

SPEAKING NOTES BEGIN NEXT PAGE

What is most important to me, and to our government, is making life better for people.

That means tackling problems head-on, and making the decisions in the best interests of people, our province, and our future.

The future of Site C is one such question, and today we announce the way forward.

The decision whether or not to proceed with Site C is one of the most difficult our government will make.

I've sat across the kitchen table from families, whose farms and homes overlook the Peace River.

I've met with Treaty 8 First Nations.

I've met with workers, whose livelihoods depend on Site C.

The decision whether or not to proceed affects all of these people.

Our decision today will have profound and lasting impact for every person in this province, for generations.

We have not made this decision lightly.

Our priority as a government was to make sure any decision on Site C was consistent with our values, and our commitments to British Columbians:

To make life more affordable,

To fix the services people count on

To make BC Hydro work for people,

Protect the environment, and embrace reconciliation with Indigenous peoples.

For many years, we have been critical of the previous government's decision to build Site C.

We questioned their motivations

We didn't believe their business case or their budget.

We demanded the project be referred to the BC Utilities Commission to protect the interests of the people of BC.

The BC Liberals ignored public concerns and recklessly charged ahead.

All they cared about was getting Site C to the so-called “point of no return” before the election.

What’s worse was their gross mismanagement of BC Hydro.

They raided Hydro’s accounts to balance their budgets, while making regular people pay more.

Hydro rates are up 24% in four years, 70% since 2001.

For these reasons and more, we promised, if elected, to send the Site C

project to review by the BC Utilities Commission.

We delivered on that commitment.

The BCUC review validated many of our concerns.

There are serious cost overruns on Site C in excess of \$1 billion dollars.

They made it clear B.C. needs more renewable energy to meet the challenges of climate change.

The BCUC ruled out the option of delaying or suspending the project.

Leaving our government with a clear choice:

Complete Site C at a cost of \$10.7 billion.

Or cancel Site C and absorb \$4 billion in construction and remediation costs.

I want to speak directly to those who demanded that we cancel Site C.

I respect the strength of your conviction, and your concern for our future.

I share your determination to protect B.C.'s farmland and reduce the impact of

energy development on wildlife and wetlands.

We agree that decisions of this magnitude must embrace the principles of reconciliation with Indigenous peoples.

The challenge of government is to deal with issues as they are, not as we wish they were.

We listened, we deliberated, we debated.

But at the end of the day there was only one decision our government could make.

Site C is not the project we favoured.

It is not the project we would have started.

But we must complete it.

Although Site C will cost over \$10 billion, those costs can be recovered over time by sale of the dam's energy.

Not so with cancelling the project.

To cancel today would put British Columbians on the hook for an unavoidable \$4 billion dollar bill – with *nothing* in return.

Worse yet, we cannot pay that bill without increasing hydro rates or making cuts to services people count on.

I know this decision will be a profound disappointment to many, including many I count as friends.

But we must think of the needs of all British Columbians. We must think of all the people who have been waiting for our government to make much needed

improvements to schools and hospitals and roads and homes. Those people wouldn't have solutions to those problems if we wrote-off the \$4 billion dollars it would cost to end Site C.

Our government could not make that choice. We couldn't do that to people.

We must also overcome the previous government's legacy of mismanagement of BC Hydro.

Today I am announcing a series of initiatives to minimize the costs and consequences, and improve the benefits of Site C.

We are launching a new project oversight team, to ensure the revised Site C budget is achieved.

We will use community benefit agreements, to make sure Site C creates training opportunities for British Columbians, and sub-contracting opportunities for local business.

We will enhance food security with new funding to boost the productivity of our agricultural lands.

We will introduce new measures to support reconciliation with Indigenous

peoples by re-opening BC Hydro's standing offer program to trigger new partnerships with First Nations for renewable energy.

What is most important to me, and our government, is making life better for people.

Site C is not the project we favoured.

It is not the project we would have started.

But it is the only choice to make sure we deliver on our commitments to British

Columbians, and make sure that government works for people.

Gotto, Sarah F GCPE:EX

From: Haslam, David GCPE:EX
Sent: Monday, December 11, 2017 7:59 AM
To: GCPE Editors
Cc: Zadavec, Don GCPE:EX; Plummer, Glen GCPE:EX; Grewar, Colin GCPE:EX; Sovka, David GCPE:EX; Giles, Alison GCPE:EX; Dalal, Suntanu GCPE:EX
Subject: Site C NR and backgrounders for V5ing
Attachments: Backgrounder 3 Site C Termination Implications for BC Hydro Customers and BC Taxpayers - Dec10V1.docx; Backgrounder 2 Site C -From Private Power to Site C Dec10-V1.docx; Backgrounder 1_Site C Mitigation Elements - Dec10V2.docx; SiteC-NR-Dec10V2.docx

Editors. Please V5 the attached NR and backgrounders. The announcement is at 1130 am. We'll need time to assemble packages so please complete by 900 am. Glen Plummer is the point of contact for EMPR GCPE and will marshal the materials for my office and distribute to Ministry CDs. Thanks - David

NEWS RELEASE

For Immediate Release

Office of the Premier

[release number]

Dec. 11, 2017

Government will complete Site C construction Will not burden taxpayers or Hydro customers with previous government's debt

VICTORIA – The B.C. government will complete construction of the Site C hydroelectric dam, saying that to do otherwise would put British Columbians on the hook for an immediate and unavoidable \$4-billion bill – with nothing in return – resulting in rate hikes or reduced funds for schools, hospitals, and important infrastructure.

“Megaproject mismanagement by the old government has left B.C. in a terrible situation,” said Premier John Horgan in making today’s announcement. “But we cannot punish British Columbians for those mistakes and we can’t change the past, we can only make the best decision for the future.”

“It’s clear that Site C should never have been started. But to cancel it would add billions to the province’s debt – putting at risk our ability to deliver housing, child care, schools and hospitals for families across B.C. And that’s a price we’re not willing to pay,” said Horgan.

Had government decided to cancel Site C, it would have taken on the project’s \$3.9 billion in debt, made up of \$2.1 billion already spent and another \$1.8 billion in remediation costs. As public debt, it would become the responsibility of BC Hydro customers or taxpayers.

“We will not ask British Columbians to take on \$4 billion in debt with nothing in return for the people of this province and, even worse, with massive cuts to the services they count on.”

“The old government recklessly pushed Site C past the point of no return, committing billions of dollars to this project without appropriate planning and oversight. Our job now is to make the best of a bad deal and do everything possible to turn Site C into a positive contributor to our energy future.”

The premier says that in moving forward with the project, his government will launch a Site C turnaround plan to contain project costs while adding tangible benefits. The plan will include:

- A new Project Assurance Board that will provide enhanced oversight to future contract procurement and management, project deliverables, environmental integrity, and quality assurance – all within the mandate of delivering the project on time and budget. Based on current projections, BC Hydro has revised the budget to \$10.7 billion.
- Establishing new Community Benefits Programs, mandated with making sure that project benefits assist local communities, and increasing the number of apprentices and First Nations workers hired onto the project.
- A new BC Food Security Fund – based on Site C revenues – dedicated to supporting farming and enhancing agricultural innovation and productivity across BC.

In addition to funding for provincewide food security initiatives, the turnaround plan will:

- Ensure the Peace River Legacy Fund implements solutions to longer-term environmental, social and economic issues.
- Activate the \$20-million agricultural compensation fund to offsets lost sales and stimulate long-term productivity enhancements in Peace Valley agriculture.

"We're taking the steps the previous government showed no interest in: a solid budget, enhanced review and oversight, community benefits, and an eye to the future," said Horgan.

"We're putting an end to the years of energy policy that put politics ahead of people – where government forced BC Hydro into costly contracts, hiking rates for homeowners and renters, and delivering dividends to government it simply couldn't afford."

Horgan adds his government will also be pursuing an alternative energy strategy to put B.C more firmly on the path to green, renewable power that helps the province exceed its climate goals.

"I respect and honour the commitment of people who oppose Site C, and share their determination to move B.C. to a clean, renewable energy future and to embrace the principles of reconciliation with Indigenous communities," said Horgan, who acknowledged that Site C does not have the support of all Treaty 8 First Nations. "We know this decision is not what some First Nations wanted. Their voices were heard and their perspectives were an important part of the deliberations on a very challenging decision."

"As we move forward, I welcome ideas from across our province as we define an energy strategy that protects our environment, delivers on our climate responsibilities, powers future generations, and creates jobs and opportunities for all British Columbians."

- 30 -

Media contact:

Jen Holmwood

etc

BACKGROUND

For Immediate Release
Dec. 11, 2017

Site C Termination Implications for BC Hydro Customers and BC Taxpayers

The decision to proceed with construction of Site C was primarily driven by a determination that British Columbians should not have to take on \$4 billion in debt with nothing in return for the people of this province and, even worse, with massive cuts to the services they count on.

Analysis conducted by the Ministry of Finance, Ministry of Energy, Mines and Petroleum Resources, and external experts on the BC Utilities Commission (BCUC) report concluded that completing Site C will be significantly less costly to British Columbians than cancelling the project.

In its report, the BCUC estimated that BC Hydro would need to spend an additional \$1.8 billion for termination and site remediation costs if it were to cancel the project. This is in addition to the \$2.1 billion of sunk construction and planning costs that will have been spent by the end of December 2017.

Faced with an immediate and unavoidable \$4-billion debt, the Province would have to recover these costs from either BC Hydro customers or taxpayers. As a regulated utility, BC Hydro is obligated to file a plan with the independent BCUC who would ultimately determine which course of action it deemed most appropriate.

The BCUC did not take a position with respect to the options for debt recovery, however, government conducted extensive analysis of the fiscal and rate implications of likely debt recovery options.

If the BCUC determined that BC Hydro could recover the nearly \$4 billion in Site C costs from its customers, the Commission would then have to decide what the repayment period should be:

- Under a 10-year recovery period, BC Hydro customers could face a one-time 12.1% rate increase that would last for the next decade. This would be in addition to any other rate increases required to cover BC Hydro's ongoing debt servicing and other operating costs, including recovery of its rate deferral accounts.
- Under a longer recovery period of 70 years, customers would not face short-term rate impacts. Such a move would, however, force future generations to pay for a valueless asset from which they never receive benefits. This course of action would also increase the risk that provincial bond rating agencies would bring into question BC Hydro's financial sustainability, thus increasing the risk that BC Hydro's entire debt load becomes viewed as non-commercial. This would place significant pressure against the Province's AAA credit rating and annual borrowing costs.

If the BCUC decided that BC Hydro should not recover the \$4 billion of Site C debt from its customers, the corporation and the Minister of Finance would face two options that would significantly impact BC taxpayers.

If BC Hydro retained the \$4 billion debt:

- It would first be obligated to write off the Site C costs as unrecoverable thus causing BC Hydro and the Province to slip into significant deficits. The corporation would then face an even higher risk of no longer being viewed by rating agencies as self-supporting and having its entire debt reclassified as non-commercial.
- Such a move would significantly risk the Province losing its AAA rating with a resultant increase in borrowing costs, thus reducing the annual budget available for key priority spending areas.

If government itself chose to assume the nearly \$4 billion of Site C debt – thus safeguarding BC Hydro:

- It would immediately increase B.C.'s level of taxpayer-supported debt from about \$44.6 billion to \$48.6 billion.
- This increase would also erode the Province's key fiscal sustainability debt-to-revenue ratio by 7-8 percentage points – a measure critically assessed by provincial bond-rating agencies and ultimately determines the Province's borrowing and debt-servicing costs.
- Taking on the Site C debt into government taxpayer-supported debt would likely eliminate planned increases in provincial capital spending over the next two years. For context, \$4 billion in assumed Site C debt could pay for the equivalent of:
 - 66 secondary schools (\$60 million each); or,
 - 11 hospital projects similar to the North Island Hospitals (Province's share \$365 million); or,
 - 12 highway projects similar to the Okanagan Valley Corridor Project (Province's share \$330 million); or,
 - 3 Pattullo Bridges (\$1.3 billion each).
- This additional taxpayer-supported debt load would also increase operating costs in the provincial budget by \$120 million to \$150 million annually – putting at risk the services British Columbians count on.

Contact:

Suntanu Dalal

Media Relations

Ministry of Energy, Mines and Petroleum Resources 250 952-0628

BACKGROUND

For Immediate Release
Dec. 11, 2017

From Private Power to Site C: Bad Decisions that Shaped B.C.'s Electricity Policy

Government's decision to proceed with the completion of Site C was driven, in large part, by a series of bad energy policy decisions made over the past decade and a half that put politics ahead of people. These decisions significantly increased the Province's intermittent electricity energy supply and forced upward pressure on electricity rates.

In 2002, the previous government introduced the Energy Plan that mandated that all new power generation opportunities were reserved for private power producers. Through the extensive use of electricity purchase agreements, the board of BC Hydro made long-term commitments to purchase a large supply of new intermittent power, primarily through run-of-river power projects, at prices considerably higher than produced by BC Hydro's heritage hydroelectric assets.

The board of BC Hydro committed to more than 135 contracts with an average term of 28 years. And while power generated by BC Hydro's heritage assets cost \$32 per MWh, power from IPPs cost \$100 per MWh. Today these contracts represent future financial commitments of over \$50 billion.

The Energy Plan also changed the structure of BC Hydro and established a standalone BC Transmission Corporation to allow private power producers to access the transmission system and to sell directly to large consumers.

At the same time that BC Hydro was directed to accommodate this new supply of intermittent power, the previous government also instructed BC Hydro to decommission its Burrard Generating Station in Metro Vancouver to address growing concerns about local air pollution and greenhouse gas emissions.

As BC Hydro lost needed electrical capacity to backstop its new intermittent power supply, it was forced to seek new capacity or "firm" power, the type traditionally provided by hydroelectric facilities like Site C.

In 2010, the old government introduced the Clean Energy Act, which exempted a number of BC Hydro projects and power procurement activities from independent review by the BC Utilities Commission including Site C, the Clean Power Call, the Smart Metering Program and the Northwest Transmission Line.

The former government then compounded the financial problems at BC Hydro by directing the corporation to pay dividends to the province from funds BC Hydro had to borrow. The cost of this debt is a direct cost to BC Hydro ratepayers.

Between 2001 and 2017, the old government directed BC Hydro to increase its liabilities held in regulatory accounts from \$116 million to \$5.597 billion. These costs will have to be recovered from ratepayers in the future.

As a result of these earlier policy decisions, the old government saddled BC Hydro with a new supply of long-term expensive intermittent power, without the electrical capacity to maintain reliable service to its customers.

Faced with challenges of its own making, the old government decided to push ahead with Site C without allowing review by B.C.'s independent regulator, the BC Utilities Commission.

Contact:

Suntanu Dalal

Media Relations

Ministry of Energy, Mines and Petroleum Resources

250 952-0628

BACKGROUND

For Immediate Release
Dec. 11, 2017

Site C Quick Facts & Mitigation Elements

Quick Facts:

- The Site C project is already two years into construction.
- To date, \$2.1 billion has already been spent; it's estimated that another \$1.8 billion would be needed for site remediation (which, even then, would not restore the site to its previous condition).
- The \$4 billion in Site C termination costs is equivalent to \$860 for every British Columbian, or eliminating taxpayer-supported capital projects:
 - 66 secondary schools (\$60 million each); or,
 - 11 hospital projects similar to the North Island Hospitals (Province's share \$365 million); or,
 - 12 highway projects similar to the Okanagan Valley Corridor Project (Province's share \$330 million); or,
 - 3 Pattullo Bridges (\$1.3 billion each).
- 99 per cent of Class 1-5 agricultural lands (capable of crop production) in the Peace Agricultural Region will not be affected by Site C. Permanent loss of approximately 3,800 hectares of class 1-5 agricultural lands leaves approximately 2.7 million hectares of Class 1 to 5 lands available for agricultural production in the Peace Agricultural Region.

New Management Direction

- A new Project Assurance Board – made up of BC Hydro, independent experts and government representatives – will provide enhanced oversight to future contract procurement and management, project deliverables, environmental integrity, and quality assurance – all within the mandate of delivering the project on time and budget. Based on current projections, BC Hydro has revised the budget to \$10.7 billion.
- *EY Canada* has been retained by BC Hydro to provide dedicated budget oversight, timeline evaluation and risk assessment analysis for the duration of the project.

Agriculture

- Activate the \$20 million agricultural compensation fund established to offset lost sales and stimulate agriculture enhancements in the Peace region.
- Government will establish a new dedicated BC Food Security Fund – based on Site C revenues – dedicated to supporting farming and enhancing agricultural innovation and productivity across BC.

Community Benefits

- New Community Benefits Programs will be established with a mandate to ensure that project benefits flow to local communities, and increase the number of apprentices and First Nations workers hired onto the project.

- The Peace River Legacy Fund will be used to implement solutions to longer-term environmental, social and economic issues.
- Government will explore options for relocating Site C worker accommodations, post completion, to a local skills-training institution.

First Nations

- As a component of the comprehensive review of BC Hydro, the Province and BC Hydro will consider the development of a new procurement stream for smaller scale renewable electricity projects where Indigenous Nations are proponents or partners to create local employment and commercial opportunities throughout B.C. as well as environmental benefits with the replacement of diesel or fossil fuel-based energy installations. The Ministry of Energy, Mines and Petroleum Resources and the Ministry of Finance will bring these proposals to government by fall 2018.
- BC Hydro and the Ministry of Transportation and Infrastructure will work with Treaty 8 First Nations and others to redesign the Highway 29 realignment at Cache Creek to reduce impact on potential burial sites and sacred places. BC Hydro will invite proposals from Treaty 8 First Nations for this roadbuilding work.
- The Ministry of Indigenous Relations and Reconciliation and BC Hydro will continue to engage Treaty 8 First Nations to seek additional solutions to mitigate the adverse impacts of Site C, and to advance reconciliation.
- The Province will continue recent direct government engagement with First Nations to seek input into the design of a Peace River Legacy Fund and establish a collective Treaty 8 project advisory committee.
- Work will continue in addressing cultural concerns, enhancing business opportunities, and retaining funding/land transfers and contract opportunities.

Contact:

Suntanu Dalal

Media Relations

Ministry of Energy, Mines and Petroleum Resources

250 952-0628

Hi, it's Premier John Horgan.

We made an important decision about Site C today, and I wanted you to hear it directly from me.

This has been a very difficult decision, one of the toughest our government will make.

We took this choice -- whether to go forward with Site C, or to cancel it -- very seriously.

We listened to all sides.

We consulted energy experts

reviewed financial impacts

met with affected First Nations

and considered how it would affect the people who count on BC Hydro to heat and power their homes.

I want to speak directly to those who demanded we cancel Site C.

I respect the strength of your conviction, and your concern for our future.

I share your determination to protect B.C.'s farmland, and reduce the impact of energy development on wildlife and wetlands.

We listened, we deliberated, we debated.

But at the end of the day there was only one decision our government could make.

Site C is not the project we favoured.

It is not the project we would have built.

But we must complete it.

To cancel today would put British Columbians on the hook for a \$4 billion dollar bill with *nothing* to show for it.

Worse yet, we cannot pay that bill without increasing hydro rates or making cuts to services people count on.

I know this decision will be a disappointment to some.

But we must think of the needs of all British Columbians who would not have the schools, hospitals, roads and homes they need if we wrote-off \$4 billion to end Site C.

Our government could not make that choice.

Not when families have needed relief for so long.

It falls to us to turn Site C into a positive part of BC's future.

My commitment to you, is that our government will do everything in its power to:

Keep a tight rein on project costs

Make sure jobs and apprenticeships flow to British Columbians

We will extend benefits to communities and Indigenous Peoples

Enhance food security and protect agricultural land

And use Site C to de-carbonize our economy and fight climate change.

What is most important to me, and our government, is making life better for people.

Site C is not the project we favoured.

It is not the project we would have built.

But it is the best choice to deliver on our commitments to British Columbians, and chart a course to a sustainable future.

Thanks for listening.

Making the best decision on Site C for people and the future of B.C.

As Premier, my priority is to deliver on our commitments we made to British Columbians: to make life more affordable, fix the services people count on, create jobs, protect the environment, and make reconciliation with Indigenous peoples a reality.

For many years, we have been critical of the B.C. Liberal government's decision to build Site C. We questioned their motivations, their business case and their budget. Worse, they raided BC Hydro's accounts to balance their budgets, while making people pay more. Hydro rates are up 24 per cent in four years, 70 per cent since 2001.

For these reasons and more, we sent the Site C project to an independent review by the BC Utilities Commission. The BCUC review validated many of our concerns, and left us with two clear options: Complete Site C at a cost of \$10.7 billion, or cancel Site C and absorb \$4 billion in construction and remediation costs.

Our government listened, deliberated, and debated. But at the end of the day there was only one decision our government could make.

Site C is not the project our government favoured, and it is not the project we would have started, but we must complete it.

I know this decision will be a profound disappointment to some. However, cancelling Site C would mean asking British Columbians to take on \$4 billion in debt with nothing to show for it in return, and worse yet, the province could not pay that bill without hydro rates increasing or making cuts to services people count on.

We will not ask the people of B.C. to take on this debt, and we will not put at risk our ability to deliver the housing, child care, schools, hospitals and other infrastructure people desperately need.

We have not made this decision lightly. I sat across the kitchen table from families, whose farms and homes overlook the Peace River. I met with Treaty 8 First Nations. I met with workers, whose livelihoods depend on Site C. The decision affects all of these people, and will have profound and lasting impacts for everyone in this province.

To those who demanded that we cancel Site C, I respect the strength of your convictions, and your concern for our future. We share your determination to protect B.C.'s farmland, to move B.C. to a clean, renewable energy future and to move forward with reconciliation with Indigenous peoples.

We can't change the past, we can only make the best decision for B.C.'s future.

The old government committed billions to Site C without appropriate planning and oversight. Our job now is to do everything possible to turn Site C into a positive contributor to our energy future.

We are launching a new project oversight team to ensure the revised Site C budget remains on target.

We will use community benefit agreements to make sure Site C creates training opportunities for British Columbians, and sub-contracting opportunities for local business.

We will enhance food security with new funding to boost the productivity of our agricultural lands, and we will introduce new measures to support reconciliation with Indigenous peoples, including re-opening BC Hydro's standing offer program to trigger new partnerships with First Nations for renewable energy.

We know this decision is not what some First Nations wanted. Your voices were heard and your perspectives were an important part of the deliberations on a very challenging decision. Your voices will be heard as we move forward.

We're putting an end to the years of energy policy that put politics ahead of people – where government forced BC Hydro into costly contracts, hiking rates for homeowners and renters, and delivering dividends to government it simply couldn't afford.

As we move forward, we will define an energy strategy that protects our environment, delivers on our climate responsibilities, powers future generations, and creates jobs and opportunities for all British Columbians and helps the province exceed its climate goals.

Mismanagement by the old government left B.C. in a terrible situation, but we cannot punish British Columbians for those mistakes.

Our decision on Site C was incredibly difficult, but we made the best choice we could for the future and for the people of B.C.

You can count on us to keep working hard to deliver on our commitments and make life better for people.