

Frankl, Dave MEM:EX

From: Wallace-Deering, Eric MEM:EX
Sent: Wednesday, March 16, 2016 8:02 AM
To: 'Paul Kariya'
Subject: RE: Letter to Paul Kariya

Hi Paul,

s.22 Just wanted to chat as a check in to see how things were going – it can wait s.22
s.22

Eric

From: Paul Kariya [mailto:Paul.Kariya@cleanenergybc.org]
Sent: Tuesday, March 15, 2016 6:29 PM
To: Wallace-Deering, Eric MEM:EX
Cc: Paul Kariya
Subject: Re: Letter to Paul Kariya

Eric

s.22

Will review and be back to you

Tx. Paul

Paul Kariya
Clean Energy BC
paul.kariya@cleanenergybc.org
604-568-4778

On Mar 16, 2016, at 1:18 AM, Wallace-Deering, Eric MEM:EX <Eric.WallaceDeering@gov.bc.ca> wrote:

Hi Paul,

Below is the transcript from the Minister's interview. I will give you a call.

Eric

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Page 002 to/à Page 004

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From: Paul Kariya [<mailto:Paul.Kariya@cleanenergybc.org>]
Sent: Friday, March 11, 2016 6:47 AM
To: Wallace-Deering, Eric MEM:EX
Subject: RE: Letter to Paul Kariya

Eric

Minister's response is now out to members.

Could I receive a copy of the transcript of interview with Hunter– Minister had indicated I could get a copy.

Also, did the Minister respond to Globe and Mail to set the record straight – could I get a copy of any rebuttal sent.

Thanks again

Paul

From: Paul Kariya
Sent: Thursday, March 10, 2016 11:16 AM
To: Wallace-Deering, Eric MEM:EX <Eric.WallaceDeering@gov.bc.ca>
Cc: Paul Kariya <Paul.Kariya@cleanenergybc.org>
Subject: Re: Letter to Paul Kariya

Eric

Please thank the minister for all his efforts. It's appreciated

Paul

Paul Kariya
Clean Energy BC
paul.kariya@cleanenergybc.org
604-568-4778

On Mar 10, 2016, at 9:24 AM, Wallace-Deering, Eric MEM:EX
<Eric.WallaceDeering@gov.bc.ca> wrote:

Apologies for the delay – here it is on letter head.

Eric

Frankl, Dave MEM:EX

From: Wallace-Deering, Eric MEM:EX
Sent: Monday, March 7, 2016 7:02 AM
To: Denniston, Tristan M MEM:EX
Subject: FW: MNGD & MEM Media Watch - AM - Monday, March 07, 2016

s.3

Page 008 to/à Page 070

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s.3

Frankl, Dave MEM:EX

From: Wallace-Deering, Eric MEM:EX
Sent: Tuesday, March 1, 2016 7:23 AM
To: Bennett, Bill MEM:EX
Cc: Petrie, Cynthia; Lewis, Ted R
Subject: Justine Hunter - Minister says clean power projects aren't the priority

Hi Minister,

Below is the article from Justine on your interview. For your reference I've included the transcript of your interview for your reference.

Eric

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Frankl, Dave MEM:EX

From: Wallace-Deering, Eric MEM:EX
Sent: Thursday, February 18, 2016 11:45 AM
To: Dalal, Suntanu GCPE:EX; Petrie, Cynthia
Cc: Haslam, David GCPE:EX; Gilmore, Dan GCPE:EX; Grewar, Colin GCPE:EX; Costa, Sarina MEM:EX; Rioux, Luke MEM:EX; Lewis, Ted R
Subject: Re: Media Request: Gene Lavery on selling hydro to Alberta...

Hi,

Please hold 2:15 to 2:30 for a call with Mike Smyth re resource development in bc.

Eric

Sent from my BlackBerry 10 smartphone on the TELUS network.

From: Dalal, Suntanu GCPE:EX
Sent: Thursday, February 18, 2016 11:37 AM
To: Petrie, Cynthia MEM:EX
Cc: Haslam, David GCPE:EX; Gilmore, Dan GCPE:EX; Grewar, Colin GCPE:EX; Costa, Sarina MEM:EX; Rioux, Luke MEM:EX; Lewis, Ted MEM:EX; Wallace-Deering, Eric MEM:EX
Subject: RE: Media Request: Gene Lavery on selling hydro to Alberta...

Just want to verify – you want me to send the bullets to the reporter and set-up a call time for today?

From: Petrie, Cynthia MEM:EX
Sent: Thursday, February 18, 2016 11:35 AM
To: Dalal, Suntanu GCPE:EX; Lewis, Ted MEM:EX; Wallace-Deering, Eric MEM:EX
Cc: Haslam, David GCPE:EX; Gilmore, Dan GCPE:EX; Grewar, Colin GCPE:EX; Costa, Sarina MEM:EX; Rioux, Luke MEM:EX
Subject: RE: Media Request: Gene Lavery on selling hydro to Alberta...

Hi Suntanu,

Can you set this and work with Luke and Sarina on a suitable time for a call.

Thank you,

Cynthia Petrie

Chief of Staff to the Hon. Bill Bennett

Minister of Energy and Mines

Office: 250-356-9944 | Cell: 250-882-4289 | E-mail: cynthia.petrie@gov.bc.ca

From: Dalal, Suntanu GCPE:EX
Sent: Thursday, February 18, 2016 9:37 AM
To: Petrie, Cynthia MEM:EX; Lewis, Ted MEM:EX; Wallace-Deering, Eric MEM:EX
Cc: Haslam, David GCPE:EX; Gilmore, Dan GCPE:EX; Grewar, Colin GCPE:EX
Subject: Media Request: Gene Lavery on selling hydro to Alberta...
Just a reminder about this request...

From: Dalal, Suntanu GCPE:EX
Sent: Wednesday, February 17, 2016 4:05 PM
To: Petrie, Cynthia MEM:EX; Lewis, Ted MEM:EX; Wallace-Deering, Eric MEM:EX
Cc: Haslam, David GCPE:EX; Gilmore, Dan GCPE:EX; Grewar, Colin GCPE:EX
Subject: Media Request: Gene Lavery on selling hydro to Alberta...

Reporter: Gene Laverty - Canada Energy, S&P Global Market Intelligence - 434-951-7643 - glaverty@snl.com

Deadline: Noon Thursday.

Request: Just following up on the Sun story regarding the possibility of a B.C.-Alberta power tie in the Peace district. Looks like they caught the minister in a scrum or something but if you guys have a statement I could get with some live comments that would be great.

Recommendation: Have GCPE provide bullets by email.

Response:

- Alberta is already a key trading partner for B.C. so there is definitely potential for B.C. to help Alberta meet its clean energy targets.
- Over the past five years (F2011 – F2015), Powerex has exported between about 500 and 2,500 gigawatt hours per year to Alberta.
- There are currently some constraints on the transmission connections between B.C. and Alberta.
 - o Most of the electricity is exported through the interconnection in the Crowsnest Pass.
 - o We have a second much smaller interconnection between our Fort Nelson generation and Alberta.
 - o In total, we have 1,200 megawatts of transfer capacity. However, at this time, it's limited to about 450 megawatts due to constraints on the Alberta side.
- B.C. is working to provide ideas and options to help Alberta.

Background for the MO: Vancouver Sun story referenced in the reporter's request + recent scrums where

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Frankl, Dave MEM:EX

From: Wallace-Deering, Eric MEM:EX
Sent: Thursday, April 14, 2016 10:16 AM
To: Bennett, Bill MEM:EX
Cc: MacLaren, Les MEM:EX; Haslam, David GCPE:EX; Lewis, Ted R; Denniston, Tristan M MEM:EX
Subject: Alberta Intertie Report Statement Draft

Hi Minister,

Here is a draft statement BC Hydro plans to send along with the intertie report.

Please let me know if you have any edits.

CC'ing Les as well for his input.

Eric

The study was completed in 2009 and considered options for a new transmission intertie between BC and Alberta. The study concluded that at the time there “may not be a compelling economic case for the additional intertie” based on the direct benefits. However, the study also acknowledged there could be several “very significant” overall system benefits for the two provinces: “system reliability, generation adequacy, market efficiency and system access”. The study did not include these benefits in its analysis and the study is quoted as saying “their inclusion in the analysis would likely significantly improve the economics of a new intertie”.

Most significantly, a lot has changed in the 7 years since the completion of the study:

- Alberta has taken a policy decision to phase out coal-fired power generation by 2030, replacing it with gas and renewable power with renewable generation accounting for at least 50% of the new power. This means that by 2030, renewable power would account for 30% of generation in Alberta.
- In order to achieve this target, Alberta needs about 4,500 MW of new wind or other renewable power (they have 1,500 MW of wind today).
- Adding more wind presents a system operations challenge for Alberta. They will need to back up intermittent renewable resources like wind with a source of firm, dependable capacity and that's where BC Hydro comes in with our dependable, flexible capacity resources that are provided by hydropower. In fact, an additional intertie may be more cost effective and be available sooner than Alberta building new natural gas generation facilities to back up their wind resources.
- Since 2009, Alberta has been reinforcing its transmission system with a new high-voltage DC transmission corridor and other transmission projects, and additional reinforcements are planned on the transmission system in Southern Alberta. These reinforcements are expected to facilitate the exchange of power between BC and Alberta.

Frankl, Dave MEM:EX

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To: 'Paul Kariya'
Subject: RE: Letter to Paul Kariya

Hi Paul,

Below is the transcript from the Minister's interview. I will give you a call.

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From: Paul Kariya [mailto:Paul.Kariya@cleanenergybc.org]
Sent: Friday, March 11, 2016 6:47 AM
To: Wallace-Deering, Eric MEM:EX
Subject: RE: Letter to Paul Kariya

Eric

Minister's response is now out to members.

Could I receive a copy of the transcript of interview with Hunter– Minister had indicated I could get a copy.

Also, did the Minister respond to Globe and Mail to set the record straight – could I get a copy of any rebuttal sent.

Thanks again

Paul

From: Paul Kariya
Sent: Thursday, March 10, 2016 11:16 AM
To: Wallace-Deering, Eric MEM:EX <Eric.WallaceDeering@gov.bc.ca>
Cc: Paul Kariya <Paul.Kariya@cleanenergybc.org>
Subject: Re: Letter to Paul Kariya

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Please thank the minister for all his efforts. It's appreciated

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604-568-4778

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Apologies for the delay – here it is on letter head.

Eric

Frankl, Dave MEM:EX

From: Wallace-Deering, Eric MEM:EX
Sent: Monday, March 7, 2016 5:57 AM
To: Bennett, Bill MEM:EX
Cc: Lewis, Ted R; Denniston, Tristan M MEM:EX
Subject: Article

No power from B.C. without pipeline to west coast, says
Notley March 4, 2016 8:39 PM MST

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Sent from my BlackBerry 10 smartphone on the TELUS network.

From: Wallace-Deering, Eric MEM:EX
Sent: Tuesday, March 1, 2016 7:21 AM
To: Mills, Shane LASS:EX; Gordon, Matt GCPE:EX
Cc: Koolsbergen, Nick GCPE:EX; Merrifield, Katy PREM:EX; Lewis, Ted R; Petrie, Cynthia; Haslam, David GCPE:EX; Kapac de Frias, Martina E ENV:EX; Knudsen, Mark ENV:EX
Subject: Justine Hunter - Minister says clean power projects aren't the priority

Hello,

Further to Justine Hunter's story today, below are our key messages on IPP's. For reference, I've included the transcript of Minister Bennett's interview below story.

- B.C. has enormous untapped clean energy resource potential, including wind, tidal, solar, geothermal, run of river and biomass.
- *Clean Energy Act* requires that at least 93 per cent of British Columbia's electricity be generated from clean or renewable resources – as of this year 97.9% clean from clean or renewable resources.
- IPPs providing power **since the late 1980's**. Supply over 25% of domestic energy needs today compared to 4% in 2001. Would have **significant electricity supply shortage without IPPs**.
- **In addition to Site C**, BC Hydro is **maintaining** and **growing** its IPP portfolio with **contract renewals** and **new clean energy supply** contracts.
- Contract renewals are often negotiated at **lower prices**.
- **Strong focus on First Nations participation in power acquisition processes**.
- The Province is committed to working with the private renewable power industry to ensure there is a continued role for private sector energy development in 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.
- According to CEBC, Projects currently under construction represent **2,850 construction jobs** across BC, including **700 jobs held by First Nations** people, in many small, remote communities.^[1]

Minister says clean power projects aren't the priority

Globe and Mail

Tuesday, March 01, 2016

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By Justine Hunter

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Frankl, Dave MEM:EX

From: Wallace-Deering, Eric MEM:EX
Sent: Wednesday, February 10, 2016 2:29 PM
To: Vanagas, Steve
Cc: Heer, Simi; Petrie, Cynthia; Haslam, David GCPE:EX; Lewis, Ted R; Sandve, Chris
Subject: Bennett audio and summary
Attachments: Bennett.m4a; ATT00001.txt

Steve,

Please find attached the audio from this afternoons scrum with Andrew Macleod.

Q 1 and 2 are about the letter from MLA Dix.

Then it transitions into wider questions from gallery on Alberta intertie.

Eric

Sent from my BlackBerry 10 smartphone on the TELUS network.

Frankl, Dave MEM:EX

From: Wallace-Deering, Eric MEM:EX
Sent: Tuesday, March 15, 2016 8:45 AM
To: Haslam, David GCPE:EX
Cc: Lewis, Ted R; Denniston, Tristan M MEM:EX
Subject: RE: MEM Communications Outlook_March 15

What do you think of the edited for CRT?

From: Haslam, David GCPE:EX
Sent: Tuesday, March 15, 2016 8:36 AM
To: Wallace-Deering, Eric MEM:EX; Lewis, Ted MEM:EX; Bennett, Bill MEM:EX; Denniston, Tristan M MEM:EX
Cc: McKnight, Elaine L MEM:EX; MacLaren, Les MEM:EX; Robb, Peter L. MEM:EX; Marshall, Fraser MEM:EX; McCann, Meghan MEM:EX; Wieringa, Paul MEM:EX; Green, Dan L MEM:EX; Chace, Julie MEM:EX; Amann-Blake, Nathaniel MEM:EX; Hynes, Michelle MEM:EX; Bose, Sara MEM:EX; 'Vanagas, Steve'; 'Heer, Simi'; 'Elliott, Caroline'; 'Fitzsimmons, Craig'; 'Conway, David'; 'Sandve, Chris'; 'Iseli, Elizabeth'; De Champlain, Rhonda MEM:EX; Cochrane, Marlene MEM:EX; GCPE Communications - Energy and Mines
Subject: RE: MEM Communications Outlook_March 15

Good morning. QP is approximately 10:30 am. The Globe and Mail is reporting that HD Mining's Murray River project is being put into "care and maintenance" until it receives required federal environmental approvals, provincial mine permits, and market conditions improve. All foreign workers on the project have returned home. The Murray River project came under a spotlight over the proponent's plans to hire up to 201 workers from China to carry out a bulk sample at the site. British Columbia gave its approval last October for the Murray River project when it issued an environmental assessment certificate. This is a likely hall question. KMs below. MEM staff are investigating.

CBC Daybreak South is reporting that Minister Bill Bennett confirms B.C. is waiting to hear from the Americans on renegotiating the Columbia River Treaty. Minister Bennett notes there are some environmental issues the province wants to improve on without starting from scratch on the treaty. Vaughn Palmer and Justine Hunter may be interested and will likely approach the Minister in the halls. KMs below on status of negotiations and Canadian Entitlement being used instead of Site C.

Vancouver media continue to report on the Site C protest in front of BC Hydro's downtown offices. KMs below.

Murray River KMs:

- HD Mining has completed a bulk sample program and the extracted coal sample is now being tested for coal quality and marketability.
- Given the challenging market conditions for coal it's no surprise HD Mining is slowing down its plans for this mine. Low coal prices have put operations at a number of British Columbia mines at risk and some have already been forced to reduce production and employee levels.
- As long as there is a need for steel, there will be a need for British Columbian coking coal.
- We really just need the markets to rebound and have the rest of the world to start building again.
- When that happens, I think that British Columbia's coal industry will be back in good shape.

On TFWs

- I know some opponents to this mine will be pleased by this development because HD Mining was using temporary foreign workers from China.

- I'm hopeful it will move forward because Murray River would be the first underground coal mine to open in British Columbia in many years.
- Right now all our coal mines are open-pit mines and the longwall mining technique used at Murray River is not a common mining technique used here and differs from the open-pit mines on which most Canadian miners are trained and employed.
- If this mine proves to be viable – the plan is to train and transition British Columbians into longwall mining jobs and potentially begin a new era of underground coal mining in British Columbia.
- The Murray River mine would have a significant positive impact on the province in terms of increased tax revenue and the future employment for British Columbians.

Columbia River Treaty Negotiations KMs

- Our government wants to continue the Columbia River Treaty and seek improvements within its existing framework.
- British Columbia has been working closely with Canada in preparing for potential negotiations to ensure our common interests are represented and benefits to both British Columbians and Canadians are maintained.
- British Columbia believes the Columbia River Treaty continues to benefit both Canada and the United States, but the benefits to the United States are significantly undervalued and extend across a much broader range of interests - such as fisheries, navigation and water supply - than the original Treaty focus of flood control and power production.
- Our position was based on an extensive First Nations, local government and public consultation process, and more than two years of hydrologic, social, economic and legal studies.
- BC is still waiting for the US State Department to come out with its position on the Columbia River treaty -- whether or not it wishes to keep the treaty and try to improve it, or whether they would like to completely reopen and renegotiate.
- The United States have not yet completed their federal interest review to determine their position and there is no timeline for that.
- BC is certainly prepared to sit down with Canada and the US and discuss what could be improved in the current treaty without starting from scratch.
- There are some environmental issues that we'd like to discuss, issues relating to the management of water and how that water management impacts our citizens on the BC side of the border, as well as fish that that we'd like to discuss.
- The Province will continue to refine studies on potential improvements to Columbia River Treaty operations in British Columbia and the valuation of Treaty benefits to the United States, and will continue to engage with First Nations, local governments and citizens in the Basin.

Columbia River Treaty – Canadian Entitlement KMs:

- I think Mr. Swain is unfamiliar with the terms of the Columbia River Treaty.
- British Columbia could choose not to sell the power back to the United States, but the Province does not view it as a reliable source because the United States also can cancel the treaty with 10 years' notice. Cancellation would deprive B.C. of its share of the power, meaning it could neither sell nor keep it.
- One of BC Hydro's guiding requirements is to ensure our province is electricity self-sufficient.
- This means that, although we may trade to manage flexibility and keep our rates low, we are not reliant on energy from other jurisdictions to meet our base domestic needs.
- This is why our long-term planning does not build-in energy generated in the United States Pacific Northwest, known as the "Canadian Entitlement" under the Columbia River Treaty.

- Either party can now terminate the Treaty as of 2014 and, if neither does, the terms of the Treaty will ultimately be re-opened which means that the Canadian Entitlement may not be available as a source of energy ten years into the future.
- Very importantly, the BC Utilities Commission has also previously stated that the Canadian Entitlement is not a suitable source of dependable capacity in the long term.

Joint Review Panel Conclusions:

- The joint review panel concluded Site C will provide a source of clean, renewable energy in B.C. for more than 100 years.
- Site C will have the lowest greenhouse gas emissions compared to other forms of electricity generation.

Site C protester KMs:

- We respect the right of all individuals to express their opinions about Site C in a safe and lawful manner.
- It is worth noting that overall, the Site C project enjoys a high level of public support both province-wide and in the region. For example, public opinion research in 2015 found that there is a high level of public support for the project. Overall, 81% of those surveyed either support or can accept building the Site C project, while 17% are opposed.

On Rocky Mountain Fort Injunction

- As you may know, BC Hydro applied for an injunction in January because it was unsafe to carry on with our clearing work with people in the construction area. The Court agreed with us and granted the injunction.
- The individuals on the construction site have respected the decision of the Court and have left the area so that work can proceed safely. Our clearing work is now underway.
- We understand there are some individuals who had hoped for a different outcome from the Court, and that they are expressing that view by setting up a protest.
- We respect the right of all individuals to express their opinions about Site C in a safe and lawful manner

On construction proceeding prior to Court decisions

- Of the four cases challenging Site C that have been heard so far, all have been dismissed by the Courts.
- While there have been three appeals filed, and one decision has yet to be issued, we have an obligation to customers to keep Site C on-schedule and on-budget.
- Workers on the project have peaked at approximately 650 so far, about 450 of which are from B.C., and approximately 50 of which are First Nation. These workers may be out of work for potentially a year or more if construction activities were to stop while waiting for the court cases – and appeals – to run their course.
- In August 2015, the West Moberly and Prophet River First Nations applied to the B.C. Supreme Court for an injunction stopping work under the provincial permits issued in the summer 2015 until the court hearing took place in November 2015. The Court dismissed that application in part because of the harm to BC Hydro and its contractors caused by a delay in the construction work.
- Most recently, the BC Supreme Court granted an injunction to stop a small number of individuals from preventing our clearing work from taking place, and that clearing work is now underway.

On Agriculture

- More than 99 per cent of Class 1 to 5 agricultural land (land capable of crop production) in the Peace Agricultural Region will not be affected by Site C.
- While there will be a permanent loss of about 3,800 hectares of Class 1 to 5 land, about 2.7 million hectares of Class 1 to 5 land will remain available in the Peace Agricultural Region.
- The independent Joint Review Panel concluded that “the permanent loss of the agricultural production of the Peace River valley bottomlands... is not, by itself and in the context of B.C. or western Canadian agricultural production, significant.”

- Overall agricultural production in the region is expected to benefit from proposed mitigation measures, including a \$20 million agricultural compensation fund that will support agricultural programs and projects such as irrigation and drainage improvements.
- On the \$20 million agricultural compensation fund, the Panel stated: “The current annual value of crops from the portion of the valley that would be inundated is but \$220,000.... The proposed \$20 million agricultural investment fund, to be spent on improvements outside the inundation zone, is generous by comparison.”

On feeding a million people:

- Even with Site C, there will be enough farmland remaining in the Peace River valley to provide 100% of locally-suitable vegetable crops for more than a million people. This is because over 6,600 hectares of Class 1 and 2 land will remain available in the B.C. Peace River valley.

On First Nations

- BC Hydro has been consulting and engaging with Aboriginal groups since 2007 and is continuing to have many positive discussions.
- BC Hydro’s consultation work was acknowledged in a federal/provincial Consultation and Accommodation Report, which concluded: “There has been meaningful consultation with the potentially affected Aboriginal groups...” and “... consultation has been carried out in good faith and that the process was appropriate and reasonable in the circumstances.”
- Offers of accommodation have been made to all of the First Nations significantly affected by the project and we continue to work very hard to build positive long-term relationships with First Nations.
- BC Hydro is committed to working hard with Aboriginal groups to address their concerns and identify opportunities for them to benefit from the project.
- We’re pleased to see eight First Nations companies and more than 50 First Nations employees working on the project.

Job Fair KMs:

- The Site C project will create approximately 10,000 jobs during construction.
- BC Hydro and its contractors have completed the latest round of Site C job fairs and business networking sessions in northern B.C.
- More than 5,000 job seekers and over 700 businesses attended the events in Chetwynd, Dawson Creek, Fort Nelson, Fort St. John, Mackenzie, Prince George, Quesnel and Tumbler Ridge.
- The construction of Site C is providing an important opportunity for British Columbians to find work and business opportunities, particularly during some difficult times in the natural resource sector.
- Our government believes in Site C; it’s an important long-term asset for our province and its construction will provide much needed jobs.
- BC Hydro was joined at the job fairs and business sessions by some of the contractors working on the Site C project, including Peace River Hydro Partners (main civil works), ATCO Two Rivers Lodging (construction and operation of Site C worker lodge), along with companies providing site preparation and security services.
- The purpose of the job fairs and business sessions is to facilitate local employment and contract opportunities on Site C construction.
- We want to make sure that local and Aboriginal businesses and workers have every opportunity to benefit from Site C.
- Site C will contribute \$3.2 billion to provincial GDP during construction.
- Construction of Site C will result in increased government revenues at the regional, provincial and federal levels, including a total of \$40 million in tax revenues to local governments.
- As the third project on one river system, Site C will use water already stored behind the existing W.A.C. Bennett Dam in the Williston Reservoir to generate about 35 per cent of the Bennett Dam’s energy, with only five per cent of the reservoir area.

- Site C will have among the lowest greenhouse gas emissions, per gigawatt hour, compared to other electricity-generation options.
- Site C will be a source of affordable power to meet B.C.'s future electricity needs. Over the first 50 years of Site C's project life, ratepayers will save an average of \$650 to \$900 million each year, compared to alternatives.

Alberta Intertie KMs:

Overall:

- B.C. is working to provide ideas and options for clean electricity to help Alberta transition away from coal-fired generation.
- Clean electricity from BC can help Alberta meet its emissions reductions targets (including powering Alberta's oil extraction with clean energy)
- BC can help our trading partners reduce emissions, whether it's with clean tech, LNG, or our 98% clean electricity.

On Site C:

Site C's business case is solid – it's required for BC's long-term needs as our province and economy grows

On Kinder Morgan:

- We understand Alberta's need to talk about support for heavy-oil pipelines.
- B.C. has a pathway to yes through our five conditions to ensure any heavy oil pipeline is safe, responsible and fair.

Background:

- Alberta is already a key trading partner for B.C. so there is definitely potential for B.C. to help Alberta meet its clean energy targets.
- Over the past five years (F2011 – F2015), Powerex has exported between about 500 and 2,500 gigawatt hours per year to Alberta.
- There are currently some constraints on the transmission connections between B.C. and Alberta.
 - Most of the electricity is exported through the interconnection in the Crowsnest Pass.
 - We have a second much smaller interconnection between our Fort Nelson generation and Alberta.
 - In total, we have 1,200 megawatts of transfer capacity into Alberta. However, at this time, it's limited to about 450 megawatts due to constraints on the Alberta side.
- A connection in the north would go from Fort St. John or Hudson's Hope to either Edmonton or Fort McMurray. The distance is in the 600-700 km range.
- Government would need to consult like any other project: a 500-kV line would trigger an environmental assessment in B.C., and an intertie would trigger the Canadian Environmental Assessment Act federally.
- BC Hydro has recently constructed the Dawson Creek-Chetwynd Area Transmission Project (DCAT) and worked with Treaty 8 to deliver that project.
- The ministry has been consulting with Treaty 8 on potential exemption of the next two transmission lines to electrify upstream gas processing, BC Hydro's Peace Region Electricity Supply (PRES) and ATCO's North Montney Power Supply.
- There are First Nations consultation obligations on all major projects impacting the land base.

On Costs and benefits of new transmission capacity:

- The issue of further interconnecting the British Columbia and Alberta power grid has been studied a number of times over the years.
- The most recent study undertaken by BC Hydro (actually was BC Transmission Corp. which was merged back into BC Hydro in 2010) and the Alberta Electric System Operator was in 2009.

- At that time, they studied two alternatives for a second high-voltage transmission line – one in the south through the Crowsnest Pass, or one in the north from B.C.’s Peace River generation – with costs in the range of \$700 million to \$850 million.
- Just with inflation, those costs would be in the range of \$1 billion today, and we will need to go back and review those studies in detail and update them.
- If we were to add a second intertie, and depending how much of B.C.’s clean electricity we supplied and what it displaced – coal or gas-fired power generation, or oil sands extraction or processing – we think that we could avoid between three million and six million tonnes of greenhouse gas emissions annually.

Hydro Rates for Low Income KMs:

- We are helping low-income British Columbians by keeping residential hydro rates the 3rd lowest in North America.
- In addition, both BC Hydro and FortisBC also offer programs that can help low-income families find energy savings and reduce their electricity and gas bills.
- For example, BC Hydro’s Energy Conservation Assistance Program offers free energy assessments and energy saving products to customers on low incomes.
- The Energy Saving Kit program provides customers on low incomes with a number of simple, easy-to-install, energy savings products like compact fluorescent light bulbs, weather stripping and high-efficiency showerheads.
- A low income family paying \$84 a month can save up to \$38 a month using BC Hydro’s energy saving program for low income families.
- In 2014 government announced updates to existing low-income programs that make it easier for customers to apply and nearly double the number of eligible customers.
- These programs have delivered nearly half a million dollars in electricity cost savings to BC Hydro low-income customers.

On Hydro Rate Deferral for Mines

- There appears to be a misunderstanding of government’s actions to help keep thousands of B.C.’s metal and coal mines workers on the job by allowing mining companies to temporarily defer a portion of their hydro bills – supporting families and communities during the current slowdown in the sector due to low commodity prices.
- We are doing this to protect the numerous communities that rely on or are supported by the economic activity these mines generate.
- Low copper and coal prices have put operations at a number of British Columbia mines at risk and some have already been forced to reduce production and employee levels. There are currently eight metal mines and five coal mines operating in the province, employing approximately 7,500 workers.
- We’re not just talking about the direct jobs that support thousands of families. We have to consider the numerous other businesses that could be impacted – everything from coffee shops, pubs and restaurants to car dealerships, home builders and plumbers.
- Similar programs have been used in British Columbia before. The Economic Development Electricity Rate Discount Act and the Critical Industries Act were implemented during the 1980s as a response to BC Hydro having surplus power and to support industry as it emerged from a recession.
- And, in 1997, the government of the day implemented the Power for Jobs Development Act to provide specific industries with a preferential development power rate based on available surplus power.

Powerex – Carbon Credit Sale KMs:

- Powerex will bring BC Hydro’s credits under the BC Renewable and Low Carbon Fuel Standard to market.

- BC Hydro receives credits under the Act due to its delivery of electricity to transportation customers, notably, SkyTrain, trolley buses, and electric vehicles. Powerex is a regulated part 3 fuel supplier as a result of the electricity imported by Powerex into BC which is ultimately sold for transportation use.
- Powerex has been careful to engage industry in a manner that is equitable to all potential buyers, based on a public list of regulated entities, and with a standard enabling agreement that creates a level playing field regardless of bidder size or credit quality.
- The income earned by Powerex from the sale of the credits will flow back to BC Hydro and its ratepayers via the existing mechanism for transferring Powerex's income to BC Hydro.
- The RPF is on Thursday, March 10 and Powerex expects to have results by the following day.
- Powerex expects that multiple buyers will go through the pre-qualification process to bid in the RFP, however, the final number of buyers will only be clear on the date of the RFP.

BC Hydro – Housing Study KMs:

- BC Hydro's load analysis team in Customer Care provided electricity use data to a company called Ecotagious.
- Ecotagious then analyzed the data and created the report.
- The information BC Hydro provided was reviewed by their privacy officer.

IPP KMs:

IPP Contract Obligations

- IPPs have been providing power to BC Hydro since 1980, and are now capable of supplying about 25% of B.C.'s energy needs.
- We would face a significant electricity supply shortage without them.
- Just like anything else, building new power projects costs more today than it did decades ago, whether BC Hydro or the private sector builds them.
- The private sector is better suited to develop many small projects across BC and assume some development and cost risks that can help BC Hydro ratepayers.

IPP Benefits

- Our government believes in a balanced approach to securing a clean energy future while growing our economy.
- B.C. has enormous untapped clean energy resource potential, including wind, tidal, solar, geothermal, run of river and biomass.
- Clean Energy Act requires that at least 93 per cent of British Columbia's electricity be generated from clean or renewable resources – as of this year 97.9% clean from clean or renewable resources.
- IPPs providing power since the late 1980's. Supply over 25% of domestic energy needs today. Would have significant electricity supply shortage without IPPs.
- In addition to Site C, BC Hydro is maintaining and growing its IPP portfolio with contract renewals and new clean energy supply contracts.
- Strong focus on First Nations participation in power acquisition processes.
- The Province is committed to working with the private renewable power industry to ensure there is a continued role for private sector energy development in 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.
- According to CEBC, Projects currently under construction represent 2,850 construction jobs across BC, including 700 jobs held by First Nations people, in communities across the Province.

FLNRO Access to the Land Base KMs:

- We're committed to sustainable natural resource development and policies that are conducive to investment. At the same time we need to protect the environment to ensure future generations can also benefit from the natural resources our province offers. 90 per cent of the province is covered by regional land use plans which clearly delineate areas for protection and areas suitable for resource development.
- We continue to streamline the process for the authorizations needed to allow resource development to occur – significantly reducing permitting processing times.
- We're also implementing a cumulative effects framework which allows us to take a more integrated approach to managing and regulating resource development, and look at projects from a regional – as opposed to sector-by-sector – perspective.

Mining Competitiveness and Land Access KMs:

- Despite the slowdown in Chinese growth and the strengthening U.S. dollar driving commodity prices down, mineral exploration has grown exponentially—\$29.1 million (NRCan statistics) in 2001 versus \$272 million in 2015.
- Spending on advanced mine development projects remains strong, which is a positive sign that investors remain confident in the long-term potential of mining in B.C.
- Our government has also ensured B.C. remains a competitive place to do business, by extending the B.C. Mining Flow-Through Share Tax Credit and the New Mine Allowance.
- The Province's tax incentives, balanced budget, rich mineral deposits, world-class infrastructure and abundant source of clean and affordable energy continue to make B.C. an attractive jurisdiction for mine investors.

Mining Industry Facts KMs:

- British Columbia is internationally recognized as a centre of expertise in mining, metallurgy, environmental engineering, mine safety, and geoscience.
- BC has the largest number of exploration companies and mining experts in the world. In total, more than 800 mining and mineral firms and 400 service suppliers to the mining sector are headquartered in Vancouver.
- Thirty-five countries around the world have adapted BC's mineral exploration code.
- Sixty per cent of Canadian exploration companies are based in British Columbia.
- Sixty-nine per cent of companies based in BC and listed on the TSX and TSX-V stock exchanges are involved in the mineral exploration and mining sector.
- There are more than 26,200 people working in British Columbia's mining industry, in more than 50 communities across the province.
- British Columbia mining companies spent \$272 million on exploration in 2015. Much of this exploration expenditure is carried out by small and medium sized companies in regions throughout British Columbia.
- British Columbia's service company expertise is accessed by exploration, development, and production companies in BC and around the world. With efficient supply chains and superior transportation links, BC's small and medium sized businesses supply services to the mining sector including:
 - Mine Operations – engineering; power and communications; construction and maintenance
 - Exploration and Development – geological and geotechnical; equipment and supply; legal and financial
 - Processing and Handling – vehicles; production and machinery; distribution (trucking; rail; ports)
- The Mining Suppliers Association of British Columbia has over 180 suppliers, contractors and consultants, most of whom are small and medium sized businesses.
- Large mining operations like Taseko, Imperial Metals and Copper Mountain mining use MSABC members as their first choice for procurement.

On Land Claims:

- The Province has made significant steps to support the participation of First Nations in resource development, including becoming the first province in Canada to share mineral tax revenue on new mines and major mine expansions with First Nations communities.

- Our government is committed to collaborating with First Nations to reach long-term reconciliation of Aboriginal rights and title in ways that work for First Nations and benefit all British Columbians.
- We're working in partnership with First Nations and industry to strengthen the tools we use to help reconcile First Nations title, rights and interests.

Site C losing bids KMs:

- A rigorous evaluation process concluded that Peace River Hydro Partners has a strong delivery record for projects of a similar size and nature and best met BC Hydro's requirements for the Site C main civil works contract.
- We looked at project management — including key personnel and experience, safety, quality and environment — construction management (including construction schedule, means and methods and plans for specific the scope of work), and financial capacity, among other considerations.
- The procurement was overseen by independent fairness and due diligence advisors who concluded they were satisfied with the fairness of the process and the bid evaluations.
- We are not going to release detailed information on the bids received for commercial reasons.
- As you may know, the Freedom of Information and Protection of Privacy Act (FOIPPA) allows information to be withheld if its release would affect the business interests of a third party.
- While we disclosed the contract value of the successful bid, it is common practice in procurement processes to withhold detailed information about unsuccessful bids.

Teck Fines KMs:

- Environmental protection is something we take very seriously in B.C., as the penalty levied against Teck Metals Ltd. shows.
- We operate on a polluter pay principle, to ensure those responsible for spills are also responsible for cleaning them up.
- The COS, which is an independent law enforcement agency, along with its federal counterparts, conducted thorough investigations, and the courts ultimately sent a strong message to the company.
-

Background:

- In late December 2013, Teck Metals Ltd. in Trail, B.C., experienced a zinc discharge, into the Columbia River, in excess of its permitted limits.
- The incident was due to a dewatering cone becoming plugged with zinc dust, which overflowed the cone and bypassed a sand filter.
- A sample indicated 251 kilograms of zinc had been discharged into the river, exceeding Teck's authorized limit of 175 kilograms per day.
- In early January 2014, a caustic containment area was drained in order for staff to repair a damaged fill line. Teck staff discovered the containment drain line was connected to the facility's sanitary sewer system.
- As a result of the discharge, caustic solution entered the Regional District of Kootenay Boundary Sewage Treatment Plant and into the Columbia River.
- On February 29, 2016, Teck Metals Ltd. was convicted on one count of introducing waste and one count of failing to comply with permit requirements under the Environmental Management Act, and sentenced to pay \$10,000.
- The court also ordered Teck Metals Ltd. to pay \$390, 000 to the Habitat Conservation Trust Foundation. Teck also pleaded guilty to three federal Fisheries Act charges related to separate Environment Canada investigations at the same facility, and was fined \$3 million.

Site C Water Permits KMs:

- This is another important milestone and demonstrates the Site C project is progressing on-time and on-budget.
- Site C will provide approximately 10,000 direct jobs during construction.
- Upon completion, Site C will provide a century of affordable, reliable and clean power that will keep rates low and support British Columbia's growing economy.

Background

- The main water licences were issued to BC Hydro's Site C project by the deputy comptroller of water rights.
- Two conditional water licences allow BC Hydro to store up to 165 million cubic metres of water and divert from 390 cubic metres of water per second to 2,700 cubic metres of water per second from the Peace River for the purposes of power generation. One permit allows for the creation of a reservoir to cover approximately 9,580 hectares of Crown land along the Peace River.
- All three authorizations are for a period of 40 years and require construction to be completed before Dec. 31, 2025. Prior to construction of the dam and spillways, BC Hydro must have approved engineering plans, an emergency response plan and an environmental management plan in place.
- Conditions in the water licences are consistent with environmental assessment certificate conditions. The provincial and federal governments granted approval for Site C in October 2014.
- The Site C project will require several hundred separate authorizations over the life of construction. More than 30 different authorizations have already been issued for dam site clearing and construction activities.
- The Province continues to consult with First Nations on all authorizations that will be required for the project.
- Consultation with Treaty 8 First Nations was concluded in January 2016.

IPP KMs:

IPP Contract Obligations

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- IPPs providing power since the late 1980's. Supply over 25% of domestic energy needs today. Would have significant electricity supply shortage without IPPs.
- In addition to Site C, BC Hydro is maintaining and growing its IPP portfolio with contract renewals and new clean energy supply contracts.
- Strong focus on First Nations participation in power acquisition processes.
- The Province is committed to working with the private renewable power industry to ensure there is a continued role for private sector energy development in 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.
- According to CEBC, Projects currently under construction represent 2,850 construction jobs across BC, including 700 jobs held by First Nations people, in communities across the Province.

BC Hydro 4 percent Rate Increase KMs:

- BC Hydro filed an application with the British Columbia Utilities Commission for a 4% rate increase effective April 1.
- The increase is part of BC Hydro's 10-year rates plan that was announced in November 2013, so the increase has been known for more than two years, however it is required to go through the BCUC process.
- While no one likes to see rates go up, the increase is required while BC Hydro invests \$2.4 billion per year in aging assets and new infrastructure to support British Columbia's growing population and economy.
- B.C. has the third lowest residential electricity rates in North America, and the 10-year rates plan will keep rates as low as possible while BC Hydro makes these investments its dams, power stations and transmission system.
- BC Hydro is doing a lot of things to take pressure off rates by reducing operating costs, eliminating jobs, and becoming a more effective and efficient organization.
- In fact, over the past five years, BC Hydro has found more than \$400 million in operating cost savings and eliminated over 1,100 jobs.

Rates by the Numbers:

- F17: 4% increase; avg. impact: \$4/month residential
- F18: 3.5% increase; avg. impact: \$4/month residential
- F19: 3% increase; avg. impact: \$3/month residential
- 3rd lowest residential rates in North America; 4th lowest com / 5th lowest industry

Conservation Target KMs:

- The Clean Energy Act was passed in 2010 with a target of 66 percent of all incremental demand for electricity must be met by conservation.
- B.C. Hydro is in the process of filing a revenue requirements application with the BCUC.
- In that filing, they will show that in fact they're going to meet over 70 percent of all incremental new electricity.
- BC Hydro's powersmart programs were adjusted to focus on more efficient conservation outcomes. There were a few programs that were inefficient and BC Hydro dropped them from the menu to focus on more cost effective programs.
- Since 2003, BC Hydro has invested \$1.3 billion in conservation – an average of \$100 million per year.
- Over the next three years, BC Hydro will invest \$375 million in conservation – an average of \$125 million per year.

Site C – Auditor General KMs:

- Government and BC Hydro are committed to moving forward with the Site C project.
- The Office of the Auditor General will be provided with government's and BC Hydro's due diligence information.
- BC Hydro has all environmental approvals, provincial permits and federal authorizations in place for the work it is currently doing.
- Approval of the Site C Project followed a rigorous three-year federal-provincial environmental assessment process, which included two months of public hearings in Peace region communities under an independent joint review panel.
- Approval of the project came with 77 provincial conditions and 80 federal conditions that BC Hydro is committed to meeting. Approval of the project also followed years of consultation with communities and First Nations.
- In addition, BC Hydro's load forecasting methodology has been the subject of independent review in a number of BCUC regulatory proceedings, and the BCUC has accepted BC Hydro's load forecasting methodology.
- It is worth noting that the Site C cost estimate has been independently reviewed by KPMG and an independent panel of contractors with decades of experience in the management and construction of major projects.

- To provide additional transparency on the project's capital costs, BC Hydro is providing regular reports to the BCUC.
- In addition, the BCUC will have an important role to play in reviewing Site C in determining how costs are recovered from rates.
- BC Hydro has been consulting and engaging with Aboriginal groups since 2007 and are continuing to have many positive discussions with the majority of the First Nations they are engaged with.
- BC Hydro conducted analysis on potential project delay and found that delaying Site C would result higher costs to ratepayers. These higher costs would be due to the cost of replacing the project's energy and capacity with other higher-cost alternative resources – such as electricity market purchases and IPPs.
- It is also worth noting that the current economic conditions are ideal for building a large infrastructure project like Site C. As a result of a slowdown in some industrial sectors, there are workers available for work on Site C.
- In addition to attractive labour conditions, current interest rates are low which reduces the construction financing costs of Site C.

TFW KMs on Site C:

- There are no Temporary Foreign Workers on site.
- We have been very clear with all of our contractors that local hiring is the top priority for BC Hydro on the Site C project. That's why job fairs have been taking place in the north. The next round of job fairs starts this month and will be taking place in Tumbler Ridge, Fort St. John, Dawson Creek, Chetwynd, Prince George, Quesnel, Mackenzie and Fort Nelson.
- When we announced the main civil works contract, Peace River Hydro Partners committed to local hiring for Site C construction. In fact, partners ACCIONA and Petrowest have a proven track record of hiring local workers and contractors on the Fort St. John Hospital project.
- We have spoken with Peace River Hydro Partners about their ad and they confirmed their commitment to local hiring. The ad they place has been revised to reflect this.
- Employment to date on Site C construction has peaked at 600 workers, of which three-quarters have been from B.C. — and there have been no temporary foreign workers. Employment at the construction site will be ramping up this year as the main civil works contractor starts.
- The main civil works will require approximately 1,500 workers at peak construction. We will need approximately 600 workers in early summer.
- The following is a list of the positions that Peace River Hydro Partners will be recruiting for locally:

○ Account receivable & Account payables	○ Heavy equipment operators & mechanics
○ Administration/support staff	○ Industrial electricians
○ Batch plant operators	○ Labourers
○ Blasters	○ Machine operators
○ CAD operators	○ Mechanics
○ Carpenters	○ Pipefitters
○ Communications personnel	○ Planners
○ Concrete workers	○ Quality control
○ Construction supervisors	○ Safety advisors & officers
○ Crane operators	○ Scaffolders
○ Crusher operators	○ Surveyors
○ Driller	○ Tunnelers
○ Engineers	○ Warehouse personnel
○ Environmental coordinators	○ Welders & Fabricators
○ Form setters	
- Peace River Hydro Partners has also committed to providing training opportunities, including apprenticeships, to local residents in order to build a skilled labour force and long-term capacity for future projects in the region.

Load Resource Balance KMs:

- Demand for power in BC is continuing to grow. This Load-Resource Balance study shows that demand for power will grow by 38% over the next 20 years before conservation. And that does not take into account potential demand from new LNG plants.
- A big part of this growth comes from the fact that there will be more people living in BC 20 years from now. According to BC Stats (May 2015), BC's population will grow by 1.15 million people over 20 years, from our current population of 4.6 million. This is 25% growth which is like adding another city the size of Vancouver AND a city the size of Surrey.
- There are short-term fluctuations in demand from year-to-year due to weather or changes in industry.
- As extensive as BC Hydro's electricity supply is, it will not be enough to meet B.C.'s future electricity needs if demand continues to grow as projected. To meet B.C.'s future electricity needs, BC Hydro is encouraging conservation, upgrading its facilities, building new transmission and distribution infrastructure, and investing in new supplies of clean energy.
- Site C is being built to meet the long-term energy and capacity needs of the BC Hydro's customers. The construction of Site C will take almost a decade to complete and will be operational by 2024. The Load-Resource Balance continues to show that we will need Site C's capacity beginning in 2024.
- The Load-Resource Balance also shows that in addition to building Site C, we need to continue advancing Revelstoke Unit 6. Currently, we plan to have Revelstoke Unit 6 in place by 2026; but it could be ready as early as 2022 if required.
- There is also the potential for a LNG sector which could significantly increase the demand for electricity from our system. However, we will need the energy and capacity from Site C regardless of demand from LNG.

Budget 2016 KMs:

Y/B.C. released its fourth consecutive balanced budget, which is the product of sticking to our plan and the hard work of British Columbians.

Y/As a result of fiscal discipline, we are in a position to invest \$1.6 billion in new spending towards initiatives that make a real difference in people's lives. We are:

- Helping B.C. families with some of the challenges they are facing;
- Offering greater support to the most vulnerable among us; and
- Partnering with communities, First Nations and the private sector to create province-wide jobs and opportunities

Y/We are not in this position by accident. Balanced budgets are the foundation, together with a relentless focus to building a strong, diverse and growing economy.

Y/As Canada's strongest economy:

- We are leading in economic growth and predicted to stay as leader;
- We created 50,000 jobs last year – the most of any province;
- We are the only province rated AAA stable, which is the highest possible rating

Y/British Columbians should be proud of what we've achieved together. But today's success is no reason to take our eye off the ball for even a minute. In a global economy, contagion can spread quickly.

Y/So we will not lose our focus. We will stick with our plan. And with our collective hard work and determination, we can build an incredible future.

Key Facts:

Within the three year fiscal plan, new and increased investments in government programs and services include:

Y/Annual 3% increases to the Ministry of Health totalling \$3.2 billion

Y/\$673 million in additional support for children, families and individuals in need

Y/\$143 million to enhance key areas of the BC economy that support jobs in communities and diversify local economies, increase support for youth trades training, build our BC wood brand in India, and increase BC Transit funding

Y/\$20 billion in capital infrastructure, including BC Hydro, which will create over 71,000 jobs over three years

Y/Exempting children from MSP premiums and enhancing premium assistance to help lower-income families, individuals and seniors with the cost of living

Y/Introducing a new full exemption from the property transfer tax on new homes valued at up to \$750,000

Y/Expanding eligibility for the BC Training and Education Savings Grant from 2007 to 2006

Y/An inaugural investment of \$100 million to establish the BC Prosperity Fund, focused on eliminating the debt, preserving a share for future generations and investing in vital services today.

MEM Budget KMs:

- The Ministry of Energy and Mines operating budget has been increased by \$386,000 for 2016/17.
- This increase strengthens support for important work my ministry is doing the area of permitting work with First Nations.
- As is the case for all ministries, my ministry continues to follow corporate direction regarding spending restraint through the managed hiring process, restrictions on travel, and other cost savings approaches to effectively allocate resources to support government priorities.

Frankl, Dave MEM:EX

From: Wallace-Deering, Eric MEM:EX
Sent: Friday, March 4, 2016 3:02 PM
To: Lewis, Ted R
Subject: Fw: Justine Hunter_Alberta Intertie

Plz add to hb section

Sent from my BlackBerry 10 smartphone on the TELUS network.

Original Message

From: Chin, Ben PREM:EX <Ben.Chin@gov.bc.ca>
Sent: Friday, March 4, 2016 5:23 PM
To: Haslam, David GCPE:EX; Mills, Shane LASS:EX
Cc: Petrie, Cynthia MEM:EX; Lewis, Ted MEM:EX; Koolsbergen, Nick GCPE:EX; Crebo, David GCPE:EX; Wallace-Deering, Eric MEM:EX; Leslie, Lisa GCPE:EX; Smart, Stephen PREM:EX
Subject: Re: Justine Hunter_Alberta Intertie

This is really good work, thank you David

Ben Chin
Executive Director
Communications and Issues Mgmt
Office of Premier Christy Clark
250-588-3113

Sent from my BlackBerry 10 smartphone on the Rogers network.

Original Message

From: Haslam, David GCPE:EX
Sent: Friday, March 4, 2016 2:17 PM
To: Chin, Ben PREM:EX; Mills, Shane LASS:EX
Cc: Petrie, Cynthia MEM:EX; Lewis, Ted MEM:EX; Koolsbergen, Nick GCPE:EX; Crebo, David GCPE:EX; Wallace-Deering, Eric MEM:EX; Leslie, Lisa GCPE:EX
Subject: Justine Hunter_Alberta Intertie

Ben/Shane - provided below to Justine on the Alberta Intertie and walked her through it. She has a call into Treaty 8 seeking comment so provided info below on obligations to consult like any infrastructure project that impacts the land base.

- Alberta is already a key trading partner for B.C. so there is definitely potential for B.C. to help Alberta meet its clean energy targets.
- Over the past five years (F2011 – F2015), Powerex has exported between about 500 and 2,500 gigawatt hours per year to Alberta.
- There are currently some constraints on the transmission connections between B.C. and Alberta.
 - o Most of the electricity is exported through the interconnection in the Crowsnest Pass.
 - o We have a second much smaller interconnection between our Fort Nelson generation and Alberta.

- o In total, we have 1,200 megawatts of transfer capacity into Alberta. However, at this time, it's limited to about 450 megawatts due to constraints on the Alberta side.
- B.C. is working to provide ideas and options to help Alberta.

Costs and benefits of new transmission capacity:

- The issue of further interconnecting the British Columbia and Alberta power grid has been studied a number of times over the years.
- The most recent study undertaken by BC Hydro and the Alberta Electric System Operator was in 2009.
- At that time, they studied two alternatives for a second high-voltage transmission line – one in the south through the Crowsnest Pass, or one in the north from B.C.'s Peace River generation – with costs in the range of \$700 million to \$850 million.
- Just with inflation, those costs would be in the range of \$1 billion today, and we will need to go back and review those studies in detail and update them.
- If we were to add a second intertie, and depending how much of B.C.'s clean electricity we supplied and what it displaced – coal or gas-fired power generation, or oil sands extraction or processing – we think that we could avoid between three million and six million tonnes of greenhouse gas emissions annually.
- A connection in the north would go from Fort St. John or Hudson's Hope to either Edmonton or Fort McMurray. The distance is in the 600-700 km range.
- Government would need to consult like any other project: a 500-kV line would trigger an environmental assessment in B.C., and an intertie would trigger the Canadian Environmental Assessment Act federally.
- BC Hydro has recently constructed the Dawson Creek-Chetwynd Area Transmission Project (DCAT) and worked with Treaty 8 to deliver that project.
- The ministry has been consulting with Treaty 8 on potential exemption of the next two transmission lines to electrify upstream gas processing, BC Hydro's Peace Region Electricity Supply (PRES) and ATCO's North Montney Power Supply.
- There are First Nations consultation obligations on all major projects impacting the land base.

Background from Framework Agreement:

Excerpt regarding "clean electricity transmission" from yesterday's (March 3, 2016) joint communique for the Vancouver Declaration:

"For its part, the Government of Canada committed to the following:

- support climate change mitigation and adaptation through investments in green infrastructure, public transit infrastructure and energy efficient social infrastructure;
- work together with the provinces and territories on how best to lever federal investments in the Low Carbon Economy Fund to realize incremental emission reductions;
- advance the electrification of vehicle transportation, in collaboration with provinces and territories;
- foster dialogue and the development of regional plans for clean electricity transmission to reduce emissions;
- advance efforts to eliminate the dependence on diesel in Indigenous, remote, and Northern communities – and use renewable, clean energy as a replacement; and
- as part of Canada's participation in Mission Innovation, double investments in clean energy, research and development over five years, and work with global partners to promote cleaner energy and better environmental outcomes.

Frankl, Dave MEM:EX

From: Wallace-Deering, Eric MEM:EX
Sent: Monday, February 29, 2016 2:55 PM
To: Mills, Shane LASS:EX; Gordon, Matt GCPE:EX; Myers, Tobie A MNGD:EX; Kapac de Frias, Martina E ENV:EX; Bell, Jordan TRAN:EX; Merrifield, Katy PREM:EX
Cc: Koolsbergen, Nick GCPE:EX; Lewis, Ted R; Petrie, Cynthia; Haslam, David GCPE:EX; Knudsen, Mark ENV:EX
Subject: Minister Bennett interview with Justine Hunter

Hello,

Minister Bennett did an interview with Justine Hunter today on renewable energy in B.C. She followed up near the end with some broader questions about GLOBE/FPT Conference outcomes, carbon tax, national price on carbon and federal infrastructure funding.

Flagging as FYI given ministerial cross over and intergovernmental relations.

Please let me know if there are any questions.

Eric

Copyright

Eric Wallace-Deering

Ministerial Assistant to the Hon. Bill Bennett
Minister of Energy and Mines
250-361-5723

Frankl, Dave MEM:EX

From: Denniston, Tristan M MEM:EX
Sent: Monday, March 7, 2016 8:32 AM
To: Chin, Ben PREM:EX; Mills, Shane LASS:EX
Cc: Wallace-Deering, Eric MEM:EX; Lewis, Ted R
Subject: Alberta Access
Attachments: 16 - Alberta Access.docx

Good Morning Shane and Ben,

Please see attached for Alberta Access.

Please do not hesitate to contact me should you have any additional questions or concerns.

Regards,
Tristan

Key Messages

- Alberta is already a key trading partner for B.C. so there is definitely potential for B.C. to help Alberta meet its clean energy targets.
- Over the past five years (F2011 – F2015), Powerex has exported between about 500 and 2,500 gigawatt hours per year to Alberta.
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- work together with the provinces and territories on how best to lever federal investments in the Low Carbon Economy Fund to realize incremental emission reductions;
- advance the electrification of vehicle transportation, in collaboration with provinces and territories;

- foster dialogue and the development of regional plans for clean electricity transmission to reduce emissions;
- advance efforts to eliminate the dependence on diesel in Indigenous, remote, and Northern communities – and use renewable, clean energy as a replacement; and
- as part of Canada’s participation in Mission Innovation, double investments in clean energy, research and development over five years, and work with global partners to promote cleaner energy and better environmental outcomes.

Frankl, Dave MEM:EX

From: Chin, Ben PREM:EX
Sent: Monday, March 7, 2016 10:01 AM
To: Denniston, Tristan M MEM:EX; Mills, Shane LASS:EX
Cc: Wallace-Deering, Eric MEM:EX; Lewis, Ted R
Subject: RE: Alberta Access

From: Denniston, Tristan M MEM:EX
Sent: Monday, March 7, 2016 8:45 AM
To: Chin, Ben PREM:EX; Mills, Shane LASS:EX
Cc: Wallace-Deering, Eric MEM:EX; Lewis, Ted MEM:EX
Subject: RE: Alberta Access

Please see below for updated

Alberta Intertie

Overall:

- B.C. is working to provide ideas and options for clean electricity to help Alberta transition away from coal-fired generation.
Clean electricity from BC can help Alberta meet its emissions reductions targets (including powering Alberta's oil extraction with clean energy)
BC can help our trading partners reduce emissions, whether it's with clean tech, LNG, or our 98% clean electricity.

On Site C:

Site C's business case is solid – it's required for BC's long-term needs as our province and economy grows

On Kinder Morgan:

- We understand Alberta's need to talk about support for heavy-oil pipelines.
- B.C. has a pathway to yes through our five conditions to ensure any heavy oil pipeline is safe, responsible and fair.

Background:

- Alberta is already a key trading partner for B.C. so there is definitely potential for B.C. to help Alberta meet its clean energy targets.
- Over the past five years (F2011 – F2015), Powerex has exported between about 500 and 2,500 gigawatt hours per year to Alberta.
- There are currently some constraints on the transmission connections between B.C. and Alberta.
 - Most of the electricity is exported through the interconnection in the Crowsnest Pass.
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 - In total, we have 1,200 megawatts of transfer capacity into Alberta. However, at this time, it's limited to about 450 megawatts due to constraints on the Alberta side.
- A connection in the north would go from Fort St. John or Hudson's Hope to either Edmonton or Fort McMurray. The distance is in the 600-700 km range.

- Government would need to consult like any other project: a 500-kV line would trigger an environmental assessment in B.C., and an intertie would trigger the Canadian Environmental Assessment Act federally.
- BC Hydro has recently constructed the Dawson Creek-Chetwynd Area Transmission Project (DCAT) and worked with Treaty 8 to deliver that project.
- The ministry has been consulting with Treaty 8 on potential exemption of the next two transmission lines to electrify upstream gas processing, BC Hydro's Peace Region Electricity Supply (PRES) and ATCO's North Montney Power Supply.
- There are First Nations consultation obligations on all major projects impacting the land base.

Costs and benefits of new transmission capacity:

- The issue of further interconnecting the British Columbia and Alberta power grid has been studied a number of times over the years.
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- Just with inflation, those costs would be in the range of \$1 billion today, and we will need to go back and review those studies in detail and update them.
- If we were to add a second intertie, and depending how much of B.C.'s clean electricity we supplied and what it displaced – coal or gas-fired power generation, or oil sands extraction or processing – we think that we could avoid between three million and six million tonnes of greenhouse gas emissions annually.

From: Denniston, Tristan M MEM:EX
Sent: Monday, March 7, 2016 8:32 AM
To: Chin, Ben PREM:EX; Mills, Shane LASS:EX
Cc: Wallace-Deering, Eric MEM:EX; Lewis, Ted MEM:EX
Subject: Alberta Access

Good Morning Shane and Ben,

Please see attached for Alberta Access.

Please do not hesitate to contact me should you have any additional questions or concerns.

Regards,
 Tristan

Frankl, Dave MEM:EX

From: Lewis, Ted R
Sent: Monday, March 7, 2016 8:29 AM
To: Wallace-Deering, Eric MEM:EX; Denniston, Tristan M MEM:EX; Haslam, David GCPE:EX
Subject: Updated HN - Alberta Access
Attachments: 16 - Alberta Access.docx

Ted Lewis
Executive Assistant to the Hon. Bill Bennett
Minister of Energy and Mines
Office: 250-953-0942 | Mobile: 250-893-2147
Email: ted.lewis@gov.bc.ca

Key Messages

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Background from Framework Agreement:

Excerpt regarding "clean electricity transmission" from the March 3, 2016 joint communique for the Vancouver Declaration:

"For its part, the Government of Canada committed to the following:

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Frankl, Dave MEM:EX

From: Denniston, Tristan M MEM:EX
Sent: Tuesday, March 8, 2016 7:26 AM
To: Haslam, David GCPE:EX
Subject: Alberta Access

Please see below for updated

Alberta Intertie

Overall:

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From: Denniston, Tristan M MEM:EX
Sent: Monday, March 7, 2016 8:32 AM
To: Chin, Ben PREM:EX; Mills, Shane LASS:EX
Cc: Wallace-Deering, Eric MEM:EX; Lewis, Ted MEM:EX
Subject: Alberta Access

Good Morning Shane and Ben,

Please see attached for Alberta Access.

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Regards,
Tristan

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Sent: Monday, March 7, 2016 8:45 AM
To: Chin, Ben PREM:EX; Mills, Shane LASS:EX
Cc: Wallace-Deering, Eric MEM:EX; Lewis, Ted R
Subject: RE: Alberta Access

Please see below for updated

Alberta Intertie

- B.C. is working to provide ideas and options to help Alberta.
- We don't have a problem with Premier Notley linking a potential power deal to pipeline support.
- B.C. wants to ensure any new heavy oil pipelines are built to the highest standards, which is why it has five conditions in place that will ensure protection of land, air and sea.
- Alberta is already a key trading partner for B.C. so there is definitely potential for B.C. to help Alberta meet its clean energy targets.
- Over the past five years (F2011 – F2015), Powerex has exported between about 500 and 2,500 gigawatt hours per year to Alberta.
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Frankl, Dave MEM:EX

From: Denniston, Tristan M MEM:EX
Sent: Friday, April 15, 2016 8:17 AM
To: 'Vanagas, Steve'; Haslam, David GCPE:EX; Wallace-Deering, Eric MEM:EX
Subject: RE: Explanatory statement on BC-Alberta intertie report

I will check in this morning

From: Vanagas, Steve [<mailto:steve.vanagas@bchydro.com>]
Sent: Friday, April 15, 2016 8:14 AM
To: Haslam, David GCPE:EX; Wallace-Deering, Eric MEM:EX; Denniston, Tristan M MEM:EX
Subject: RE: Explanatory statement on BC-Alberta intertie report

Will you follow up with PO?

From: Haslam, David GCPE:EX [<mailto:David.Haslam@gov.bc.ca>]
Sent: 2016, April 14 9:49 AM
To: Vanagas, Steve; Wallace-Deering, Eric MEM:EX; Denniston, Tristan M MEM:EX
Subject: RE: Explanatory statement on BC-Alberta intertie report

I like it.

From: Vanagas, Steve [<mailto:steve.vanagas@bchydro.com>]
Sent: Thursday, April 14, 2016 9:47 AM
To: Haslam, David GCPE:EX; Wallace-Deering, Eric MEM:EX; Denniston, Tristan M MEM:EX
Subject: Explanatory statement on BC-Alberta intertie report

As requested, here is an explanatory note for Vaughn on what has changed since the completion of this 2009 study on an additional BC-Alberta interconnection.

The study was completed in 2009 and considered options for a new transmission intertie between BC and Alberta. The study concluded that at the time there “may not be a compelling economic case for the additional intertie” based on the direct benefits. However, the study also acknowledged there could be several “very significant” overall system benefits for the two provinces: “system reliability, generation adequacy, market efficiency and system access”. The study did not include these benefits in its analysis and the study is quoted as saying “their inclusion in the analysis would likely significantly improve the economics of a new intertie”.

Most significantly, a lot has changed in the 7 years since the completion of the study:

- Alberta has taken a policy decision to phase out coal-fired power generation by 2030, replacing it with gas and renewable power with renewable generation accounting for at least 50% of the new power. This means that by 2030, renewable power would account for 30% of generation in Alberta.
- In order to achieve this target, Alberta needs about 4,500 MW of new wind or other renewable power (they have 1,500 MW of wind today).
- Adding more wind presents a system operations challenge for Alberta. They will need to back up intermittent renewable resources like wind with a source of firm, dependable capacity and that's where BC Hydro comes in with our dependable, flexible capacity resources that are provided by hydropower. In fact, an additional intertie may be

more cost effective and be available sooner than Alberta building new natural gas generation facilities to back up their wind resources.

- Since 2009, Alberta has been reinforcing its transmission system with a new high-voltage DC transmission corridor and other transmission projects, and additional reinforcements are planned on the transmission system in Southern Alberta. These reinforcements are expected to facilitate the exchange of power between BC and Alberta.

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Frankl, Dave MEM:EX

From: Denniston, Tristan M MEM:EX
Sent: Monday, April 25, 2016 10:55 AM
To: Mills, Shane LASS:EX
Cc: Koolsbergen, Nick GCPE:EX; Gordon, Matt GCPE:EX; Wallace-Deering, Eric MEM:EX; Lewis, Ted R; Haslam, David GCPE:EX
Subject: Intertie - Alta/Manitoba

Good Morning Shane,

Adrian Dix was quoted in the Alaska Highway News with regards to an intertie between Manitoba and Alberta being more likely than one with British Columbia. Dix asserts that Manitoba is ahead of the game and that they have had real results with Alberta, including an MOU on an intertie. He then goes on to say that BC is scrambling to find a willing buyer for Site Power.

Here are our KMs as well as a backgrounder. Note the backgrounder highlights that it is simply challenging from an economic and geographic standpoint. There is also the fact that the incoming government in Manitoba plans to 'pull the plug' on the current line which is being constructed that has run 1.3 billion over budget.

Manitoba to Alberta Transmission Line KMs:

- Alberta and Manitoba signed an MOU in January. The MOU covers themes from the broader Canadian Energy Strategy.
- My understanding is that it's "a symbolic document" under which officials will meet and exchange ideas – more likely on efficiency and conservation, renewable energy and GHG reduction themes.
- There would need to be a lot of strategic discussion before any consideration of what would be a very expensive and controversial grid integration across Saskatchewan.
- If Alberta is interested in low carbon electricity, it is readily available from BC over existing infrastructure that could be upgraded at much lower cost.
- I am not sure how Mr. Dix can assert Manitoba is ahead – BC is already selling power into Alberta.

Background on Manitoba to Alberta Transmission Line

Linking MB to AB would be challenging, and defies both physics and economics. BC and AB are part of the Western Interconnection. SK and MB are part of the Eastern Interconnection. The tie between AB and SK is what is called a back-to-back DC connection, where power at one frequency is converted to direct current then back to alternating current at a slightly different frequency. The tie is expensive, has high losses and is rated at 150 MW (ours with AB at its rated capability is 1,200MW west to east and 1,000 east to west). MB would be better off selling power to SK to lower the carbon intensity of the SK power system.

Getting power from MB to AB would require a long-distance high voltage direct current line. MB currently has such a line under construction called the Bipole III Project. Initially budgeted at \$3.3B, there are reports the 1,400 km line is \$1.3B over budget. Incoming Premier Brian Pallister has been quoted that he wants to "pull the plug" on the project, and the MB Conservative Election Platform states that the Bipole III Project will be sent to the Public Utilities Board for a proper review, which the former government apparently bypassed.

Tristan Denniston

Ministerial Assistant to
The Honourable Bill Bennett
Minister of Energy and Mines
250-387-5896

Frankl, Dave MEM:EX

From: Denniston, Tristan M MEM:EX
Sent: Monday, April 4, 2016 1:34 PM
To: Wallace-Deering, Eric MEM:EX; Lewis, Ted R; Dalal, Suntanu GCPE:EX; Haslam, David GCPE:EX; Gilmore, Dan GCPE:EX
Subject: Times Colonist
Attachments: Times Colonist.m4a; ATT00001.txt

Intertie

Frankl, Dave MEM:EX

From: Denniston, Tristan M MEM:EX
Sent: Friday, April 15, 2016 9:07 AM
To: Vanagas, Steve
Cc: Haslam, David GCPE:EX; Wallace-Deering, Eric MEM:EX
Subject: Re: Explanatory statement on BC-Alberta intertie report

All good

Sent from my iPhone

On Apr 15, 2016, at 8:14 AM, Vanagas, Steve <steve.vanagas@bchydro.com> wrote:

Will you follow up with PO?

From: Haslam, David GCPE:EX [<mailto:David.Haslam@gov.bc.ca>]
Sent: 2016, April 14 9:49 AM
To: Vanagas, Steve; Wallace-Deering, Eric MEM:EX; Denniston, Tristan M MEM:EX
Subject: RE: Explanatory statement on BC-Alberta intertie report
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Most significantly, a lot has changed in the 7 years since the completion of the study:

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- Adding more wind presents a system operations challenge for Alberta. They will need to back up intermittent renewable resources like wind with a source of firm, dependable capacity and that’s where BC Hydro comes in with our dependable, flexible capacity resources that are provided by hydropower. In fact, an additional intertie may be more cost effective and be available sooner than Alberta building new natural gas generation facilities to back up their wind resources.
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-BCHydroDisclaimerID5.2.8.1541

Frankl, Dave MEM:EX

From: Denniston, Tristan M MEM:EX
Sent: Monday, April 18, 2016 11:51 AM
To: XT:Bennett, B LP:IN
Cc: Wallace-Deering, Eric MEM:EX; Smith, Heather L LASS:EX
Subject: Vaughn Palmer - 12:30 pm call
Attachments: IN_BC Hydro_Intertie with Alberta_2009 Report_Mar17_2016.docx

Good Morning Minister,

Vaughn is confirmed for 12:30 (1:30 Mountain) pm call on Alberta Intertie.

David has informed us Vaughn is expecting your call at 250-953-5936. Below is the info sent to Vaughn with the report. Attached is the BC Hydro IN that includes a short QA. I have copied the Q&A into the body of the email below the messaging.

Sarina has also added to your calendar and your iPad.

- The study was completed in 2009 and considered options for a new transmission intertie between BC and Alberta.
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- In order to achieve this target, Alberta needs about 4,500 MW of new wind or other renewable power (they have 1,500 MW of wind today).
- Adding more wind presents a system operations challenge for Alberta. They will need to back up intermittent renewable resources like wind with a source of firm, dependable capacity and that's where BC Hydro comes in with our dependable, flexible capacity resources that are provided by hydropower. In fact, an additional intertie may be more cost effective and be available sooner than Alberta building new natural gas generation facilities to back up their wind resources.
- Since 2009, Alberta has been reinforcing its transmission system with a new high-voltage DC transmission corridor and other transmission projects, and additional reinforcements are planned on the transmission system in Southern Alberta. These reinforcements are expected to facilitate the exchange of power between BC and Alberta.
- BC and Alberta officials have had a number of meetings to discuss the Inter-tie. I expect discussions to continue.

Question	Answer
1. What did the report say?	<ul style="list-style-type: none"> • The study looked only at a limited set of direct benefits and in relation to those specific benefits at the time the study was done 7 years ago, it didn't find a compelling economic case for intertie. • However, the study didn't look at all the benefits of an additional line. It did acknowledge that there would be overall benefits related to reliability, generation adequacy and market efficiency and system access for both BC and Alberta.
2. How much would a new line cost?	<ul style="list-style-type: none"> • At that time, two alternatives were studied: in the south through the Crowsnest Pass and the north from B.C.'s Peace River generation. The cost was estimated between \$700 million to \$850 million. <p>The costs included in the study are now 7 years old and need to be updated to reflect current market conditions.</p>
3. Will BC Hydro do a new study?	<ul style="list-style-type: none"> • We will work with the provincial government to determine the next steps in exploring this opportunity to provide renewable power to Alberta.

BC HYDRO ISSUES SHEET

Issue:	2009 report on new BC-Alberta intertie
Spokesperson:	TBD

ISSUE SUMMARY

Media have reported on the existence of a 2009 report that studied options for a new transmission intertie between BC and Alberta.

HISTORY OF THE ISSUE

- The new Alberta Climate Leadership plan, announced last fall, included plans to phase out coal-fired electricity. This resulted in increased discussion around the potential to develop a new transmission line connecting the two provinces.
- Premier Clark raised this discussion at the Globe 2016 conference and the Province has suggested federal funding for the new line. The topic has received extensive media attention.

FACTS

- In 2006, the Alberta-British Columbia Electricity Transmission subcommittee was formed from a working group established by the Ministry of Energy and Mines and Alberta Energy to address electricity-related issues.
- The subcommittee consisted of representatives from the BC Transmission Corporation and the Alberta Electric System Operator (AESO). It was tasked with conducting a study on the economic feasibility of a new intertie between BC and Alberta.
- In 2009, a consultant completed a 55-page study for the subcommittee: "Additional Alberta-BC Transmission Interconnection".
- The study included two transmission options:
 - A northern tie from Peace Canyon in BC to Brintnell in Alberta
 - A southern tie which runs parallel with the existing 500kV transmission lines from Selkirk to Cranbrook both in BC and then to Langdon in Alberta.
- The study considered three scenarios of generation development in BC and Alberta:
 1. 2006 resource plan in BC and heavy coal generation development in AB
 2. additional wind generation and Site C in BC and reduced coal and increased wind generation in AB
 3. same as scenario 1 but with delayed coal development in AB
- The study focused solely on the economics of an intertie. It did not look at capacity ownership or the sharing of benefits and costs.

- The economic analysis was based on a limited set of direct benefits. The study concludes: “When considering only these direct benefits, the analysis indicates that there may not be a compelling economic case for the additional intertie...”
- The study acknowledged the overall system impacts and market benefits: “However, the potential overall system impacts and market benefits to both provinces of a new intertie are considered to be very significant. This includes system reliability, generation adequacy, market efficiency and system access. The value of these other market and system benefits, which can reasonably be anticipated from a new intertie, have not been estimated or included in the economic analysis completed for this Report, and their inclusion in the analysis would likely significantly improve the economics of a new intertie.”
- AESO concluded: “From an AESO perspective, an additional intertie may improve future reliability and supply adequacy, particularly in the 2015 timeframe when Alberta is expected to require significant peaking capacity.”
- BCTC concluded: “...an additional intertie would provide potential trading benefits to all users of the intertie and enhanced opportunities to improve the utilization of resources on a regional basis.”
- British Columbia and Alberta took no further steps to proceed with this potential additional transmission connection.

KEY MESSAGES

- Alberta is a key trading partner for B.C. We do see a potential role for B.C. to help Alberta meet its clean energy targets.
- There are currently some constraints on the existing transmission connections between B.C. and Alberta.
 - Most of the electricity is exported through the interconnection in the Crowsnest Pass.
 - We have a second much smaller interconnection between our Fort Nelson generation and Alberta.
 - In total, we have 1,200 megawatts of transfer capacity into Alberta. However, at this time, it's limited to about 450 megawatts due to constraints on the Alberta side. BC Hydro and AESO are working together to address the constraints on the existing transmission connection.
- There is work in the study that we can consider and use moving forward, but we would need to take a fresh look at potential options – a lot has changed over the last seven years including most recently Alberta's decision to phase out coal-fired power generation. In addition to that, Alberta and BC systems look much different now than they did in 2009 – we have new and refurbished generation and transmission assets that would need to be factored in.

TOP QUESTIONS AND ANSWERS

Question	Answer
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Frankl, Dave MEM:EX

From: Denniston, Tristan M MEM:EX
Sent: Monday, April 11, 2016 9:14 AM
To: Mills, Shane LASS:EX; Chin, Ben PREM:EX
Cc: Koolsbergen, Nick GCPE:EX; Gordon, Matt GCPE:EX; Haslam, David GCPE:EX; Wallace-Deering, Eric MEM:EX; Lewis, Ted R
Subject: Intertie with Alberta_2009 Report
Attachments: IN_BC Hydro_Intertie with Alberta_2009 Report_Mar17_2016.docx

Good Morning Shane and Ben,

Please see attached IN from BCH regarding the 2009 BC Alberta Intertie Study. The study was requested by Vaughn Palmer.

The study itself looked at two viable options:

- o A northern tie from Peace Canyon in BC to Brintnell in Alberta
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Regards,
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Frankl, Dave MEM:EX

From: Denniston, Tristan M MEM:EX
Sent: Monday, April 18, 2016 9:42 AM
To: Mills, Shane LASS:EX; Chin, Ben PREM:EX
Cc: Koolsbergen, Nick GCPE:EX; Gordon, Matt GCPE:EX; Haslam, David GCPE:EX; Wallace-Deering, Eric MEM:EX; Lewis, Ted R
Subject: RE: Intertie with Alberta_2009 Report

Good Morning,

Just wanted to give a heads up, Vaughn Palmer is looking to speak with the Minister directly with regards to the report. It will likely happen in the form of a phone call later today.

Regards,
Tristan

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Sent: Monday, April 11, 2016 9:14 AM
To: Mills, Shane LASS:EX; Chin, Ben PREM:EX
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Regards,
Tristan

Frankl, Dave MEM:EX

From: Bennett, Bill MEM:EX
Sent: Thursday, March 17, 2016 10:21 AM
To: Haslam, David GCPE:EX
Cc: Lewis, Ted R
Subject: Re: Update - MEM Communications Outlook_March 17

Plz send this new debt mgmt doc into the House asap. Thx

Sent from my BlackBerry 10 smartphone on the TELUS network.

From: Haslam, David GCPE:EX
Sent: Thursday, March 17, 2016 9:34 AM
To: Wallace-Deering, Eric MEM:EX; Lewis, Ted MEM:EX; Bennett, Bill MEM:EX; Denniston, Tristan M MEM:EX
Cc: McKnight, Elaine L MEM:EX; MacLaren, Les MEM:EX; Robb, Peter L. MEM:EX; Marshall, Fraser MEM:EX; McCann, Meghan MEM:EX; Wieringa, Paul MEM:EX; Green, Dan L MEM:EX; Chace, Julie MEM:EX; Amann-Blake, Nathaniel MEM:EX; Hynes, Michelle MEM:EX; Bose, Sara MEM:EX; 'Vanagas, Steve'; 'Heer, Simi'; 'Elliott, Caroline'; 'Fitzsimmons, Craig'; 'Conway, David'; 'Sandve, Chris'; 'Iseli, Elizabeth'; De Champlain, Rhonda MEM:EX; Cochrane, Marlene MEM:EX; GCPE Communications - Energy and Mines
Subject: RE: Update - MEM Communications Outlook_March 17

BC Hydro and Les provided a few minor edits to the KMs for the Fairchild story on debt. Update below. Edits in red:
On Debt and Regulatory Account

Y/BC Hydro is investing \$2.4 billion a year over the next ten years in infrastructure upgrades to meet the needs of a growing economy and population and keep our electricity system reliable to prevent outages and brownouts.

Y/That means they have to borrow money and have a plan to manage it. BC Hydro have submitted their Debt Management Strategy to the BCUC

Y/BC Hydro is proposing to create a Debt Management Regulatory Account to allow BC Hydro to lock-in the current low interest rates for long-term debt, which in turn helps keep rates low and predictable.

Y/The regulatory account is supported by a number of the key groups in the BCUC's review process, including the BC Sustainable Energy Association and Sierra Club of BC, the BC Public Interest Advocacy Centre and the Commercial Energy Consumers Association.

Y/Our government put in place a plan to reduce the BC Hydro dividend to zero and keep it at zero until BC hydro's debt to equity ratio reaches 60:40 – and we're sticking to that.

IPP Contract Obligations

Y/IPPs have been providing power to BC Hydro since the 1980s, and are now capable of supplying about 25% of B.C.'s energy needs.

Y/We would face a significant electricity supply shortage without them.

Y/Just like anything else, building new power projects costs more today than it did decades ago, whether BC Hydro or the private sector builds them.

Y/The private sector is better suited to develop many small projects across BC and assume some development and cost financing risks that can help BC Hydro ratepayers.

IPP Benefits

Y/Our government believes in a balanced approach to securing a clean energy future while growing our economy.

Y/B.C. has enormous untapped clean energy resource potential, including wind, tidal, solar, geothermal, run of river and biomass.

Y/Clean Energy Act requires that at least 93 per cent of British Columbia's electricity be generated from clean or renewable resources – as of this year in 2014/15 97.9% clean of our electricity came from clean or renewable resources.

Y/IPPs providing power since the late 1980's. Supply over 25% of domestic energy needs today. Would have significant electricity supply shortage without IPPs.

Y/In addition to Site C, BC Hydro is maintaining and growing its IPP portfolio with contract renewals and new clean energy supply contracts under the Standing Offer Program with a strong focus on First Nations participation in power acquisition process.

~~Y/Strong focus on First Nations participation in power acquisition processes.~~

Y/The Province is committed to working with the private renewable power industry to ensure there is a continued role for private sector energy development in British Columbia.

Y/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.

Y/According to CEBC, Projects currently under construction represent 2,850 construction jobs across BC, including 700 jobs held by First Nations people, in communities across the Province.

BC Hydro 4 percent Rate Increase KMs:

Y/BC Hydro filed an application with the British Columbia Utilities Commission for a 4% interim rate increase effective April 1.

Y/The increase is part of BC Hydro's 10-year rates plan that was announced in November 2013, so the increase has been known for more than two years, however it is required to go through the BCUC process.

Y/While no one likes to see rates go up, the increase is required while BC Hydro invests \$2.4 billion per year in aging assets and new infrastructure to support British Columbia's growing population and economy.

Y/B.C. has the third lowest residential electricity rates in North America, and the 10-year rates plan will keep rates as low as possible while BC Hydro makes these investments its dams, power stations and transmission system.

Y/BC Hydro is doing a lot of things to take pressure off rates by reducing operating costs, eliminating jobs, and becoming a more effective and efficient organization.

Y/In fact, over the past five years, BC Hydro has found more than \$400 million in operating cost savings and eliminated over 1,100 jobs.

Y/BC Hydro is updating its demand and supply forecasts, and will be submitting a full 3-year rate application to the BCUC in July.

Rates by the Numbers:

Y/F17: 4% increase; avg. impact: \$4/month residential

Y/F18: 3.5% increase; avg. impact: \$4/month residential

Y/F19: 3% increase; avg. impact: \$3/month residential

Y/3rd lowest residential rates in North America; 4th lowest com / 5th lowest industry

From: Haslam, David GCPE:EX

Sent: Thursday, March 17, 2016 8:44 AM

To: Wallace-Deering, Eric MEM:EX; Lewis, Ted MEM:EX; Bennett, Bill MEM:EX; Denniston, Tristan M MEM:EX

Cc: McKnight, Elaine L MEM:EX; MacLaren, Les MEM:EX; Robb, Peter L. MEM:EX; Marshall, Fraser MEM:EX; McCann, Meghan MEM:EX; Wieringa, Paul MEM:EX; Green, Dan L MEM:EX; Chace, Julie MEM:EX; Amann-Blake, Nathaniel MEM:EX; Hynes, Michelle MEM:EX; Bose, Sara MEM:EX; 'Vanagas, Steve'; 'Heer, Simi'; 'Elliott, Caroline'; 'Fitzsimmons, Craig'; 'Conway, David'; 'Sandve, Chris'; 'Iseli, Elizabeth'; De Champlain, Rhonda MEM:EX; Cochrane, Marlene MEM:EX; GCPE Communications - Energy and Mines

Subject: RE: Update - MEM Communications Outlook_March 17

Good morning. QP is approximately 10:30 am. Fairchild TV news reported last night (in Mandarin) that BC Hydro is applying to the BCUC for approval of a Debt Management Regulatory Account. Canadian Taxpayers' Federation's Jordan Bateman expects BC's hydro customers will face significant rate increase as BC Hydro

pays IPPs to purchase electricity. Opposition critic Adrian Dix says BC's Hydro's deferral account totalling \$441 million is a political consideration. BC Hydro said in a statement that debt is one way of financing long-term investments. This is a likely QP issue. BC Hydro is drafting a note. Holding KMs below:

Fraser Institute Energy Poverty Study KMs:

Y/The Fraser Institute released the study yesterday and we're reviewing it.

Y/According to the study, BC has the lowest percentage of customers (5.3 percent) with bills accounting for more than 10 percent of their household budgets. That's encouraging. The national average is 7.9 percent. Atlantic Canada is just over 20 percent. Saskatchewan is almost 13 percent. We still want to take a close look at the study. It appears weather – both winter and summer – are factors.

Y/That said - we know the best way to help low-income households with their energy bills is keep our hydro rates low – which we do with the 3rd lowest in North America.

Y/Factoring in inflation – people are paying the same amount for electricity as they did in 1976.

Y/That said, we recognize it's important to help low-income households save on their energy costs where possible with our energy efficiency programs.

Y/Both BC Hydro and FortisBC offer programs that can help low-income families find energy savings and reduce their electricity and gas bills.

Y/For example, BC Hydro's Energy Conservation Assistance Program offers free energy assessments and energy saving products to customers on low incomes.

Y/The Energy Saving Kit program provides customers on low incomes with a number of simple, easy-to-install, energy savings products like compact fluorescent light bulbs, weather stripping and high-efficiency showerheads.

Y/A low income family paying \$84 a month can save up to \$38 a month using BC Hydro's energy saving program for low income families.

Y/In 2014 government announced updates to existing low-income programs that make it easier for customers to apply and nearly double the number of eligible customers.

Y/These programs have delivered nearly half a million dollars in electricity cost savings to BC Hydro low-income customers.

On Hydro Rate Deferral for Mines

Y/Government is acting to help keep thousands of B.C.'s metal and coal mines workers on the job by allowing mining companies to temporarily defer a portion of their hydro bills – supporting families and communities during the current slowdown in the sector due to low commodity prices.

Y/We are doing this to protect the numerous communities that rely on or are supported by the economic activity these mines generate.

Y/Low copper and coal prices have put operations at a number of British Columbia mines at risk and some have already been forced to reduce production and employee levels. There are currently eight metal mines and five coal mines operating in the province, employing approximately 7,500 workers.

Y/We're not just talking about the direct jobs that support thousands of families. We have to consider the numerous other businesses that could be impacted – everything from coffee shops, pubs and restaurants to car dealerships, home builders and plumbers.

Y/Similar programs have been used in British Columbia before. The Economic Development Electricity Rate Discount Act and the Critical Industries Act were implemented during the 1980s as a response to BC Hydro having surplus power and to support industry as it emerged from a recession.

Y/And, in 1997, the government of the day implemented the Power for Jobs Development Act to provide specific industries with a preferential development power rate based on available surplus power.

HD Mining - Murray River Mine KMs:

On sampling and permitting

Y/I was aware of this development. It's an exploration permit and HD Mining has completed the extraction of the coal sample it needs to test for coal quality and marketability.

Y/Because it's an exploration site – and not an operating mine – to characterize it as going into care and maintenance is not really accurate. I understand that they wound down operations Jan. 31.

Y/It's just the next stage in the exploration process. They'll test the coal sample and in the meantime wait until all federal and provincial environmental approvals are in place to move towards it becoming an operating mine.

Y/Provincial permitting decisions are expected in October 2016.

On Benefits

Y/It would be the first underground coal mine to open in Canada in decades and has the potential to provide lasting benefits to B.C for three reasons:

- o The environmental footprint of an underground mine is miniscule compared to open-pit mines.
- o The grade of coal from underground mines has unique qualities that open-pit mines do not offer.
So this would be a new coal product for B.C. that could expand our reach into world markets.
- o It's success would encourage more Chinese investment.

Y/In summary, the Murray River mine would have a significant positive impact on the province in terms of increased tax revenue and future employment for British Columbians.

On TFWs

Y/I know there are opponents to this project because HD Mining was using temporary foreign workers from China.

Y/As I said, right now all our coal mines are open-pit mines and the long-wall mining technique used at Murray River is not a common mining technique used here and differs from the open-pit mines on which most Canadian miners are trained and employed.

Y/If this mine proves to be viable – the plan is to train and transition British Columbians into long-wall mining jobs and potentially begin a new era of underground coal mining in British Columbia.

On coal market

Y/Low coal prices have put operations at a number of British Columbia mines at risk and some have already been forced to reduce production and employee levels.

Y/As long as there is a need for steel, there will be a need for British Columbian coking coal.

Y/We really just need the markets to rebound and have the rest of the world to start building again.

Y/When that happens, I think that British Columbia's coal industry will be back in good shape.

Columbia River Treaty Negotiations KMs

Y/Our government wants to continue the Columbia River Treaty and seek improvements within its existing framework.

Y/British Columbia has been working closely with Canada in preparing for potential negotiations to ensure our common interests are represented and benefits to both British Columbians and Canadians are maintained.

Y/British Columbia believes the Columbia River Treaty continues to benefit both Canada and the United States, but the benefits to the United States are significantly undervalued and extend across a much broader range of interests - such as navigation and water supply - than the original Treaty focus of flood control and power production.

Y/Our position was based on an extensive First Nations, local government and public consultation process, and more than two years of hydrologic, social, economic and legal studies.

Y/BC is still waiting for the US State Department to come out with its position on the Columbia River treaty. I won't speculate on what the United States will bring forward as a negotiating team or process.

Y/The United States have not yet completed their federal interest review to determine their position and there is no timeline for that.

Y/BC is certainly prepared to sit down with Canada and the US and discuss what could be improved in the current treaty without starting from scratch.

Y/There are some environmental issues that we'd like to discuss, issues relating to the management of water and how that water management impacts our citizens on the BC side of the border.

Y/The Province will continue to refine studies on potential improvements to Columbia River Treaty operations in British Columbia and the valuation of Treaty benefits to the United States, and will continue to engage with First Nations, local governments and citizens in the Basin.

Columbia River Treaty – Canadian Entitlement KMs:

Y/I think Mr. Swain is unfamiliar with the terms of the Columbia River Treaty.

Y/British Columbia could choose not to sell the power back to the United States, but the Province does not view it as a reliable source because the United States also can cancel the treaty with 10 years' notice.

Cancellation would deprive B.C. of its share of the power, meaning it could neither sell nor keep it.

Y/One of BC Hydro's guiding requirements is to ensure our province is electricity self-sufficient.

Y/This means that, although we may trade to manage flexibility and keep our rates low, we are not reliant on energy from other jurisdictions to meet our base domestic needs.

Y/This is why our long-term planning does not build-in energy generated in the United States Pacific Northwest, known as the "Canadian Entitlement" under the Columbia River Treaty.

Y/Either party can now terminate the Treaty as of 2014 and, if either does, the terms of the Treaty will ultimately be re-opened which means that the Canadian Entitlement may not be available as a source of energy ten years into the future.

Y/Very importantly, the BC Utilities Commission has also previously stated that the Canadian Entitlement is not a suitable source of dependable capacity in the long term.

Joint Review Panel Conclusions:

Y/The joint review panel concluded Site C will provide a source of clean, renewable energy in B.C. for more than 100 years.

Y/Site C will have the lowest greenhouse gas emissions compared to other forms of electricity generation.

Site C protester KMs:

Y/We respect the right of all individuals to express their opinions about Site C in a safe and lawful manner.

Y/It is worth noting that overall, the Site C project enjoys a high level of public support both province-wide and in the region. For example, public opinion research in 2015 found that there is a high level of public support for the project. Overall, 81% of those surveyed either support or can accept building the Site C project, while 17% are opposed.

On Rocky Mountain Fort Injunction

Y/As you may know, BC Hydro applied for an injunction in January because it was unsafe to carry on with our clearing work with people in the construction area. The Court agreed with us and granted the injunction.

Y/The individuals on the construction site have respected the decision of the Court and have left the area so that work can proceed safely. Our clearing work is now underway.

Y/We understand there are some individuals who had hoped for a different outcome from the Court, and that they are expressing that view by setting up a protest.

Y/We respect the right of all individuals to express their opinions about Site C in a safe and lawful manner

On construction proceeding prior to Court decisions

Y/Of the four cases challenging Site C that have been heard so far, all have been dismissed by the Courts.

Y/While there have been three appeals filed, and one decision has yet to be issued, we have an obligation to customers to keep Site C on-schedule and on-budget.

Y/Workers on the project have peaked at approximately 650 so far, about 450 of which are from B.C., and approximately 50 of which are First Nation. These workers may be out of work for potentially a year or more if construction activities were to stop while waiting for the court cases – and appeals – to run their course.

Y/In August 2015, the West Moberly and Prophet River First Nations applied to the B.C. Supreme Court for an injunction stopping work under the provincial permits issued in the summer 2015 until the court hearing took place in November 2015. The Court dismissed that application in part because of the harm to BC Hydro and its contractors caused by a delay in the construction work.

Y/Most recently, the BC Supreme Court granted an injunction to stop a small number of individuals from preventing our clearing work from taking place, and that clearing work is now underway.

On Agriculture

Y/More than 99 per cent of Class 1 to 5 agricultural land (land capable of crop production) in the Peace Agricultural Region will not be affected by Site C.

Y/While there will be a permanent loss of about 3,800 hectares of Class 1 to 5 land, about 2.7 million hectares of Class 1 to 5 land will remain available in the Peace Agricultural Region.

Y/The independent Joint Review Panel concluded that “the permanent loss of the agricultural production of the Peace River valley bottomlands... is not, by itself and in the context of B.C. or western Canadian agricultural production, significant.”

Y/Overall agricultural production in the region is expected to benefit from proposed mitigation measures, including a \$20 million agricultural compensation fund that will support agricultural programs and projects such as irrigation and drainage improvements.

Y/On the \$20 million agricultural compensation fund, the Panel stated: “The current annual value of crops from the portion of the valley that would be inundated is but \$220,000.... The proposed \$20 million agricultural investment fund, to be spent on improvements outside the inundation zone, is generous by comparison.”

On feeding a million people:

Y/Even with Site C, there will be enough farmland remaining in the Peace River valley to provide 100% of locally-suitable vegetable crops for more than a million people. This is because over 6,600 hectares of Class 1 and 2 land will remain available in the B.C. Peace River valley.

On First Nations

Y/BC Hydro has been consulting and engaging with Aboriginal groups since 2007 and is continuing to have many positive discussions.

Y/BC Hydro’s consultation work was acknowledged in a federal/provincial Consultation and Accommodation Report, which concluded: “There has been meaningful consultation with the potentially affected Aboriginal groups...” and “... consultation has been carried out in good faith and that the process was appropriate and reasonable in the circumstances.”

Y/Offers of accommodation have been made to all of the First Nations significantly affected by the project and we continue to work very hard to build positive long-term relationships with First Nations.

Y/BC Hydro is committed to working hard with Aboriginal groups to address their concerns and identify opportunities for them to benefit from the project.

Y/We’re pleased to see eight First Nations companies and more than 50 First Nations employees working on the project.

Job Fair KMs:

Y/The Site C project will create approximately 10,000 jobs during construction.

Y/BC Hydro and its contractors have completed the latest round of Site C job fairs and business networking sessions in northern B.C.

Y/More than 5,000 job seekers and over 700 businesses attended the events in Chetwynd, Dawson Creek, Fort Nelson, Fort St. John, Mackenzie, Prince George, Quesnel and Tumbler Ridge.

Y/The construction of Site C is providing an important opportunity for British Columbians to find work and business opportunities, particularly during some difficult times in the natural resource sector.

Y/Our government believes in Site C; it's an important long-term asset for our province and its construction will provide much needed jobs.

Y/BC Hydro was joined at the job fairs and business sessions by some of the contractors working on the Site C project, including Peace River Hydro Partners (main civil works), ATCO Two Rivers Lodging (construction and operation of Site C worker lodge), along with companies providing site preparation and security services.

Y/The purpose of the job fairs and business sessions is to facilitate local employment and contract opportunities on Site C construction.

Y/We want to make sure that local and Aboriginal businesses and workers have every opportunity to benefit from Site C.

Y/Site C will contribute \$3.2 billion to provincial GDP during construction.

Y/Construction of Site C will result in increased government revenues at the regional, provincial and federal levels, including a total of \$40 million in tax revenues to local governments.

Y/As the third project on one river system, Site C will use water already stored behind the existing W.A.C. Bennett Dam in the Williston Reservoir to generate about 35 per cent of the Bennett Dam's energy, with only five per cent of the reservoir area.

Y/Site C will have among the lowest greenhouse gas emissions, per gigawatt hour, compared to other electricity-generation options.

Y/Site C will be a source of affordable power to meet B.C.'s future electricity needs. Over the first 50 years of Site C's project life, ratepayers will save an average of \$650 to \$900 million each year, compared to alternatives.

Site C losing bids KMs:

Y/A rigorous evaluation process concluded that Peace River Hydro Partners has a strong delivery record for projects of a similar size and nature and best met BC Hydro's requirements for the Site C main civil works contract.

Y/We looked at project management — including key personnel and experience, safety, quality and environment — construction management (including construction schedule, means and methods and plans for specific the scope of work), and financial capacity, among other considerations.

Y/The procurement was overseen by independent fairness and due diligence advisors who concluded they were satisfied with the fairness of the process and the bid evaluations.

Y/We are not going to release detailed information on the bids received for commercial reasons.

Y/As you may know, the Freedom of Information and Protection of Privacy Act (FOIPPA) allows information to be withheld if its release would affect the business interests of a third party.

Y/While we disclosed the contract value of the successful bid, it is common practice in procurement processes to withhold detailed information about unsuccessful bids.

Alberta Intertie KMs:

Overall:

Y/B.C. is working to provide ideas and options for clean electricity to help Alberta transition away from coal-fired generation.

Y/Clean electricity from BC can help Alberta meet its emissions reductions targets (including powering Alberta's oil extraction with clean energy)

Y/BC can help our trading partners reduce emissions, whether it's with clean tech, LNG, or our 98% clean electricity.

On Site C:

Site C's business case is solid – it's required for BC's long-term needs as our province and economy grows

On Kinder Morgan:

Y/We understand Alberta's need to talk about support for heavy-oil pipelines.

Y/B.C. has a pathway to yes through our five conditions to ensure any heavy oil pipeline is safe, responsible and fair.

Background:

Y/Alberta is already a key trading partner for B.C. so there is definitely potential for B.C. to help Alberta meet its clean energy targets.

Y/Over the past five years (F2011 – F2015), Powerex has exported between about 500 and 2,500 gigawatt hours per year to Alberta.

Y/There are currently some constraints on the transmission connections between B.C. and Alberta.

- o Most of the electricity is exported through the interconnection in the Crowsnest Pass.

- o We have a second much smaller interconnection between our Fort Nelson generation and Alberta.

- o In total, we have 1,200 megawatts of transfer capacity into Alberta. However, at this time, it's limited to about 450 megawatts due to constraints on the Alberta side.

Y/A connection in the north would go from Fort St. John or Hudson's Hope to either Edmonton or Fort McMurray. The distance is in the 600-700 km range.

Y/Government would need to consult like any other project: a 500-kV line would trigger an environmental assessment in B.C., and an intertie would trigger the Canadian Environmental Assessment Act federally.

Y/BC Hydro has recently constructed the Dawson Creek-Chetwynd Area Transmission Project (DCAT) and worked with Treaty 8 to deliver that project.

Y/The ministry has been consulting with Treaty 8 on potential exemption of the next two transmission lines to electrify upstream gas processing, BC Hydro's Peace Region Electricity Supply (PRES) and ATCO's North Montney Power Supply.

Y/There are First Nations consultation obligations on all major projects impacting the land base.

On Costs and benefits of new transmission capacity:

Y/The issue of further interconnecting the British Columbia and Alberta power grid has been studied a number of times over the years.

Y/The most recent study undertaken by BC Hydro (actually was BC Transmission Corp. which was merged back into BC Hydro in 2010) and the Alberta Electric System Operator was in 2009.

Y/At that time, they studied two alternatives for a second high-voltage transmission line – one in the south through the Crowsnest Pass, or one in the north from B.C.'s Peace River generation – with costs in the range of \$700 million to \$850 million.

Y/Just with inflation, those costs would be in the range of \$1 billion today, and we will need to go back and review those studies in detail and update them.

Y/If we were to add a second intertie, and depending how much of B.C.'s clean electricity we supplied and what it displaced – coal or gas-fired power generation, or oil sands extraction or processing – we think that we could avoid between three million and six million tonnes of greenhouse gas emissions annually.

Powerex – Carbon Credit Sale KMs:

Y/Powerex will bring BC Hydro's credits under the BC Renewable and Low Carbon Fuel Standard to market.

Y/BC Hydro receives credits under the Act due to its delivery of electricity to transportation customers, notably, SkyTrain, trolley buses, and electric vehicles. Powerex is a regulated part 3 fuel supplier as a result of the electricity imported by Powerex into BC which is ultimately sold for transportation use.

Y/Powerex has been careful to engage industry in a manner that is equitable to all potential buyers, based on a public list of regulated entities, and with a standard enabling agreement that creates a level playing field regardless of bidder size or credit quality.

Y/The income earned by Powerex from the sale of the credits will flow back to BC Hydro and its ratepayers via the existing mechanism for transferring Powerex's income to BC Hydro.

Y/The RFP is on Thursday, March 10 and Powerex expects to have results by the following day.

Y/Powerex expects that multiple buyers will go through the pre-qualification process to bid in the RFP, however, the final number of buyers will only be clear on the date of the RFP.

FLNRO Access to the Land Base KMs:

Y/We're committed to sustainable natural resource development and policies that are conducive to investment. At the same time we need to protect the environment to ensure future generations can also benefit from the natural resources our province offers. 90 per cent of the province is covered by regional land use plans which clearly delineate areas for protection and areas suitable for resource development.

Y/We continue to streamline the process for the authorizations needed to allow resource development to occur – significantly reducing permitting processing times.

Y/We're also implementing a cumulative effects framework which allows us to take a more integrated approach to managing and regulating resource development, and look at projects from a regional – as opposed to sector-by-sector – perspective.

Mining Competitiveness and Land Access KMs:

Y/Despite the slowdown in Chinese growth and the strengthening U.S. dollar driving commodity prices down, mineral exploration has grown exponentially—\$29.1 million (NRCan statistics) in 2001 versus \$272 million in 2015.

Y/Spending on advanced mine development projects remains strong, which is a positive sign that investors remain confident in the long-term potential of mining in B.C.

Y/Our government has also ensured B.C. remains a competitive place to do business, by extending the B.C. Mining Flow-Through Share Tax Credit and the New Mine Allowance.

Y/The Province's tax incentives, balanced budget, rich mineral deposits, world-class infrastructure and abundant source of clean and affordable energy continue to make B.C. an attractive jurisdiction for mine investors.

Mining Industry Facts KMs:

Y/British Columbia is internationally recognized as a centre of expertise in mining, metallurgy, environmental engineering, mine safety, and geoscience.

Y/BC has the largest number of exploration companies and mining experts in the world. In total, more than 800 mining and mineral firms and 400 service suppliers to the mining sector are headquartered in Vancouver.

Y/Thirty-five countries around the world have adapted BC's mineral exploration code.

Y/Sixty per cent of Canadian exploration companies are based in British Columbia.

Y/Sixty-nine per cent of companies based in BC and listed on the TSX and TSX-V stock exchanges are involved in the mineral exploration and mining sector.

Y/There are more than 26,200 people working in British Columbia's mining industry, in more than 50 communities across the province.

Y/British Columbia mining companies spent \$272 million on exploration in 2015. Much of this exploration expenditure is carried out by small and medium sized companies in regions throughout British Columbia.

Y/British Columbia's service company expertise is accessed by exploration, development, and production companies in BC and around the world. With efficient supply chains and superior transportation links, BC's small and medium sized businesses supply services to the mining sector including:

- o Mine Operations – engineering; power and communications; construction and maintenance
- o Exploration and Development – geological and geotechnical; equipment and supply; legal and financial
- o Processing and Handling – vehicles; production and machinery; distribution (trucking; rail; ports)

Y/The Mining Suppliers Association of British Columbia has over 180 suppliers, contractors and consultants, most of whom are small and medium sized businesses.

Y/Large mining operations like Taseko, Imperial Metals and Copper Mountain mining use MSABC members as their first choice for procurement.

On Land Claims:

Y/The Province has made significant steps to support the participation of First Nations in resource development, including becoming the first province in Canada to share mineral tax revenue on new mines and major mine expansions with First Nations communities.

Y/Our government is committed to collaborating with First Nations to reach long-term reconciliation of Aboriginal rights and title in ways that work for First Nations and benefit all British Columbians.

Y/We're working in partnership with First Nations and industry to strengthen the tools we use to help reconcile First Nations title, rights and interests.

Teck Fines KMs:

Y/Environmental protection is something we take very seriously in B.C., as the penalty levied against Teck Metals Ltd. shows.

Y/We operate on a polluter pay principle, to ensure those responsible for spills are also responsible for cleaning them up.

Y/The COS, which is an independent law enforcement agency, along with its federal counterparts, conducted thorough investigations, and the courts ultimately sent a strong message to the company.

Background:

Y/In late December 2013, Teck Metals Ltd. in Trail, B.C., experienced a zinc discharge, into the Columbia River, in excess of its permitted limits.

Y/The incident was due to a dewatering cone becoming plugged with zinc dust, which overflowed the cone and bypassed a sand filter.

Y/A sample indicated 251 kilograms of zinc had been discharged into the river, exceeding Teck's authorized limit of 175 kilograms per day.

Y/In early January 2014, a caustic containment area was drained in order for staff to repair a damaged fill line. Teck staff discovered the containment drain line was connected to the facility's sanitary sewer system.

Y/As a result of the discharge, caustic solution entered the Regional District of Kootenay Boundary Sewage Treatment Plant and into the Columbia River.

Y/On February 29, 2016, Teck Metals Ltd. was convicted on one count of introducing waste and one count of failing to comply with permit requirements under the Environmental Management Act, and sentenced to pay \$10,000.

Y/The court also ordered Teck Metals Ltd. to pay \$390, 000 to the Habitat Conservation Trust Foundation. Teck also pleaded guilty to three federal Fisheries Act charges related to separate Environment Canada investigations at the same facility, and was fined \$3 million.

Site C Water Permits KMs:

Y/This is another important milestone and demonstrates the Site C project is progressing on-time and on-budget.

Y/Site C will provide approximately 10,000 direct jobs during construction.

Y/Upon completion, Site C will provide a century of affordable, reliable and clean power that will keep rates low and support British Columbia's growing economy.

Background

Y/The main water licences were issued to BC Hydro's Site C project by the deputy comptroller of water rights.

Y/Two conditional water licences allow BC Hydro to store up to 165 million cubic metres of water and divert from 390 cubic metres of water per second to 2,700 cubic metres of water per second from the Peace River for the purposes of power generation. One permit allows for the creation of a reservoir to cover approximately 9,580 hectares of Crown land along the Peace River.

Y/All three authorizations are for a period of 40 years and require construction to be completed before Dec. 31, 2025. Prior to construction of the dam and spillways, BC Hydro must have approved engineering plans, an emergency response plan and an environmental management plan in place.

Y/Conditions in the water licences are consistent with environmental assessment certificate conditions. The provincial and federal governments granted approval for Site C in October 2014.

Y/The Site C project will require several hundred separate authorizations over the life of construction. More than 30 different authorizations have already been issued for dam site clearing and construction activities.

Y/The Province continues to consult with First Nations on all authorizations that will be required for the project.

Y/Consultation with Treaty 8 First Nations was concluded in January 2016.

Conservation Target KMs:

Y/The Clean Energy Act was passed in 2010 with a target of 66 percent of all incremental demand for electricity must be met by conservation.

Y/B.C. Hydro is in the process of filing a revenue requirements application with the BCUC.

Y/In that filing, they will show that in fact they're going to meet over 70 percent of all incremental new electricity.

Y/BC Hydro's powersmart programs were adjusted to focus on more efficient conservation outcomes. There were a few programs that were inefficient and BC Hydro dropped them from the menu to focus on more cost effective programs.

Y/Since 2003, BC Hydro has invested \$1.3 billion in conservation – an average of \$100 million per year.

Y/Over the next three years, BC Hydro will invest \$375 million in conservation – an average of \$125 million per year.

Site C – Auditor General KMs:

Y/Government and BC Hydro are committed to moving forward with the Site C project.

Y/The Office of the Auditor General will be provided with government's and BC Hydro's due diligence information.

Y/BC Hydro has all environmental approvals, provincial permits and federal authorizations in place for the work it is currently doing.

Y/Approval of the Site C Project followed a rigorous three-year federal-provincial environmental assessment process, which included two months of public hearings in Peace region communities under an independent joint review panel.

Y/Approval of the project came with 77 provincial conditions and 80 federal conditions that BC Hydro is committed to meeting. Approval of the project also followed years of consultation with communities and First Nations.

Y/In addition, BC Hydro's load forecasting methodology has been the subject of independent review in a number of BCUC regulatory proceedings, and the BCUC has accepted BC Hydro's load forecasting methodology.

Y/It is worth noting that the Site C cost estimate has been independently reviewed by KPMG and an independent panel of contractors with decades of experience in the management and construction of major projects.

Y/To provide additional transparency on the project's capital costs, BC Hydro is providing regular reports to the BCUC.

Y/In addition, the BCUC will have an important role to play in reviewing Site C in determining how costs are recovered from rates.

Y/BC Hydro has been consulting and engaging with Aboriginal groups since 2007 and are continuing to have many positive discussions with the majority of the First Nations they are engaged with.

Y/BC Hydro conducted analysis on potential project delay and found that delaying Site C would result higher costs to ratepayers. These higher costs would be due to the cost of replacing the project's energy and capacity with other higher-cost alternative resources – such as electricity market purchases and IPPs.

Y/It is also worth noting that the current economic conditions are ideal for building a large infrastructure project like Site C. As a result of a slowdown in some industrial sectors, there are workers available for work on Site C.

Y/In addition to attractive labour conditions, current interest rates are low which reduces the construction financing costs of Site C.

TFW KMs on Site C:

Y/There are no Temporary Foreign Workers on site.

- Y/We have been very clear with all of our contractors that local hiring is the top priority for BC Hydro on the Site C project. That's why job fairs have been taking place in the north. The next round of job fairs starts this month and will be taking place in Tumbler Ridge, Fort St. John, Dawson Creek, Chetwynd, Prince George, Quesnel, Mackenzie and Fort Nelson.
- Y/When we announced the main civil works contract, Peace River Hydro Partners committed to local hiring for Site C construction. In fact, partners ACCIONA and Petrowest have a proven track record of hiring local workers and contractors on the Fort St. John Hospital project.
- Y/We have spoken with Peace River Hydro Partners about their ad and they confirmed their commitment to local hiring. The ad they place has been revised to reflect this.
- Y/Employment to date on Site C construction has peaked at 600 workers, of which three-quarters have been from B.C. — and there have been no temporary foreign workers. Employment at the construction site will be ramping up this year as the main civil works contractor starts.
- Y/The main civil works will require approximately 1,500 workers at peak construction. We will need approximately 600 workers in early summer.
- Y/The following is a list of the positions that Peace River Hydro Partners will be recruiting for locally:
- | | |
|---|-------------------------------|
| o Account receivable & Account payables | o Heavy equipment operators & |
| o Administration/support staff | mechanics |
| o Batch plant operators | o Industrial electricians |
| o Blasters | o Labourers |
| o CAD operators | o Machine operators |
| o Carpenters | o Mechanics |
| o Communications personnel | o Pipefitters |
| o Concrete workers | o Planners |
| o Construction supervisors | o Quality control |
| o Crane operators | o Safety advisors & officers |
| o Crusher operators | o Scaffolders |
| o Driller | o Surveyors |
| o Engineers | o Tunnelers |
| o Environmental coordinators | o Warehouse personnel |
| o Form setters | o Welders & Fabricators |
- Y/Peace River Hydro Partners has also committed to providing training opportunities, including apprenticeships, to local residents in order to build a skilled labour force and long-term capacity for future projects in the region.

Load Resource Balance KMs:

- Y/Demand for power in BC is continuing to grow. This Load-Resource Balance study shows that demand for power will grow by 38% over the next 20 years before conservation. And that does not take into account potential demand from new LNG plants.
- Y/A big part of this growth comes from the fact that there will be more people living in BC 20 years from now. According to BC Stats (May 2015), BC's population will grow by 1.15 million people over 20 years, from our current population of 4.6 million. This is 25% growth which is like adding another city the size of Vancouver AND a city the size of Surrey.
- Y/There are short-term fluctuations in demand from year-to-year due to weather or changes in industry.
- Y/As extensive as BC Hydro's electricity supply is, it will not be enough to meet B.C.'s future electricity needs if demand continues to grow as projected. To meet B.C.'s future electricity needs, BC Hydro is encouraging conservation, upgrading its facilities, building new transmission and distribution infrastructure, and investing in new supplies of clean energy.
- Y/Site C is being built to meet the long-term energy and capacity needs of the BC Hydro's customers. The construction of Site C will take almost a decade to complete and will be operational by 2024. The Load-Resource Balance continues to show that we will need Site C's capacity beginning in 2024.

Y/The Load-Resource Balance also shows that in addition to building Site C, we need to continue advancing Revelstoke Unit 6. Currently, we plan to have Revelstoke Unit 6 in place by 2026; but it could be ready as early as 2022 if required.

Y/There is also the potential for a LNG sector which could significantly increase the demand for electricity from our system. However, we will need the energy and capacity from Site C regardless of demand from LNG.

Budget 2016 KMs:

Y/B.C. released its fourth consecutive balanced budget, which is the product of sticking to our plan and the hard work of British Columbians.

Y/As a result of fiscal discipline, we are in a position to invest \$1.6 billion in new spending towards initiatives that make a real difference in people's lives. We are:

- o Helping B.C. families with some of the challenges they are facing;
- o Offering greater support to the most vulnerable among us; and
- o Partnering with communities, First Nations and the private sector to create province-wide jobs and opportunities

Y/We are not in this position by accident. Balanced budgets are the foundation, together with a relentless focus to building a strong, diverse and growing economy.

Y/As Canada's strongest economy:

- o We are leading in economic growth and predicted to stay as leader;
- o We created 50,000 jobs last year – the most of any province;
- o We are the only province rated AAA stable, which is the highest possible rating

Y/British Columbians should be proud of what we've achieved together. But today's success is no reason to take our eye off the ball for even a minute. In a global economy, contagion can spread quickly.

Y/So we will not lose our focus. We will stick with our plan. And with our collective hard work and determination, we can build an incredible future.

Key Facts:

Within the three year fiscal plan, new and increased investments in government programs and services include:

Y/Annual 3% increases to the Ministry of Health totalling \$3.2 billion

Y/\$673 million in additional support for children, families and individuals in need

Y/\$143 million to enhance key areas of the BC economy that support jobs in communities and diversify local economies, increase support for youth trades training, build our BC wood brand in India, and increase BC Transit funding

Y/\$20 billion in capital infrastructure, including BC Hydro, which will create over 71,000 jobs over three years

Y/Exempting children from MSP premiums and enhancing premium assistance to help lower-income families, individuals and seniors with the cost of living

Y/Introducing a new full exemption from the property transfer tax on new homes valued at up to \$750,000

Y/Expanding eligibility for the BC Training and Education Savings Grant from 2007 to 2006

Y/An inaugural investment of \$100 million to establish the BC Prosperity Fund, focused on eliminating the debt, preserving a share for future generations and investing in vital services today.

MEM Budget KMs:

Y/The Ministry of Energy and Mines operating budget has been increased by \$386,000 for 2016/17.

Y/This increase strengthens support for important work my ministry is doing in the area of permitting work with First Nations.

Y/As is the case for all ministries, my ministry continues to follow corporate direction regarding spending restraint through the managed hiring process, restrictions on travel, and other cost savings approaches to effectively allocate resources to support government priorities.

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Frankl, Dave MEM:EX

From: Bennett, Bill MEM:EX
Sent: Thursday, April 28, 2016 8:58 AM
To: Haslam, David GCPE:EX
Cc: Wallace-Deering, Eric MEM:EX; Lewis, Ted R; Denniston, Tristan M MEM:EX; MEM Executive Committee; McCann, Meghan MEM:EX; Wieringa, Paul MEM:EX; Green, Dan L MEM:EX; Chace, Julie MEM:EX; Amann-Blake, Nathaniel MEM:EX; Hynes, Michelle MEM:EX; Bose, Sara MEM:EX; Vanagas, Steve; Heer, Simi; Elliott, Caroline; Fitzsimmons, Craig; Conway, David; Sandve, Chris; Iseli, Elizabeth; De Champlain, Rhonda MEM:EX; Cochrane, Marlene MEM:EX; GCPE Communications - Energy and Mines
Subject: Re: MEM Communications Outlook_April 28

So is the bypass new or has it been happening for a longer period of time and if so, how long?

Sent from Bill Bennett,
Minister of Energy & Mines
British Columbia

On Apr 28, 2016, at 7:38 AM, Haslam, David GCPE:EX <David.Haslam@gov.bc.ca> wrote:

Good morning. QP is approximately 10:30 am. Globe and Mail columnist Mark Hume writes that effluent from the Mount Polley mine is again flowing into Quesnel Lake nearly two years after a catastrophic tailings pond breach caused one of the worst mining accidents in Canadian history. The Ministry of Environment authorized the bypass of the water-treatment plant and temporary discharge of waste water directly into the lake to deal with freshet flows that have bottlenecked the water treatment plan. Both the company and the Ministry of Environment say the release of the effluent won't cause any harm to the environment. However, Hume says local residents have concerns that more damage is being done to the lake. Chief Anne Louie of the Williams Lake Band said the mine is working hard to deal with water treatment issues but she remains worried about sediments on the bottom of the lake. MLA Andrew Weaver said it's troubling the mine's waste-water management system appears to be under strain again. MoE KMs below. Media are covering BC Hydro's filing of a civil claim and an injunction in BC Supreme Court yesterday against the individuals who have occupied a camp on the plaza outside their head office in Vancouver. Attached BC Hydro media plan includes QA. KMs below.

MoE Mount Polley Bypass KMs:

- ? The bypass is required to deal with freshet flows and a bottleneck at the water treatment plant.
- ? The bypass does not allow the discharge of any greater amount of mine effluent than the discharge permit 0.3m³/s Only water that meets the permit discharge quality will be allowed to be discharged. The water that bypasses the water treatment plant has received settling and treatment via storage in the Springer Pit which enables it to meet the permit discharge permit quality limits (as indicated by sampling of the Springer pit water).
- ? There will be no variance in the environmental impact from the permitted discharge. The permitted discharge was developed to ensure that BC aquatic life and drinking water quality guideline was met.
- ? As the long term water management plan has not been submitted, we cannot speculate on how the bypass may or may not fit into the long term water management plan.

Protester Injunction KMs:

- ? BC Hydro is beginning the legal process of having the overnight campers at their headquarters removed to protect public and employee safety.
- ? We respect the right of all individuals to express their opinions about BC Hydro initiatives in a safe and lawful manner.
- ? BC Hydro has been balancing health and safety needs with the right for people to have their voices heard.
- ? However, as the camp has grown, health and safety conditions have deteriorated. The fire department and health authority have already been involved. In addition, the camp has made it more difficult for employees and customers to access BC Hydro's building.
- ? BC Hydro asked the campers not to camp overnight and have asked them to remove their tents, tarps, wood structures and latrine. However, they have not complied.
- ? BC Hydro offered protestors an area in front of their building where they can continue to express their opinion from 7 am to 7 pm but they can't continue to allow the overnight camping.
- ? It is worth noting that overall, the Site C project enjoys a high level of public support both province-wide and in the region. For example, public opinion research in 2015 found that there is a high level of public support for the project. Overall, 81% of those surveyed either support or can accept building the Site C project, while 17% are opposed.
- ? Construction of Site C started in July 2015 and will be completed in 2024. Once built, Site C will provide clean, reliable and cost-effective electricity in B.C. for more than 100 years.

Background on actions to address Site C protesters

- ? BC Hydro has been working with local and provincial authorities to make the situation safe:
 - o Vancouver Police Department notified of all unlawful acts and continuously communicated with
 - o Vancouver Fire & Rescue Services attended for a life safety inspection and issued an order
 - o Provincial Fire Commissioner's office engagement on Thursday April 07
 - o Vancouver Coastal Health attended and inspected the site
 - o Worksafe BC did not attend the site but offered guidance on conducting our safety assessment

Manitoba to Alberta Transmission Line KMs:

- ? Alberta and Manitoba signed an MOU in January. The MOU covers themes from the broader Canadian Energy Strategy.
- ? My understanding is that it's "a symbolic document" under which officials will meet and exchange ideas – more likely on efficiency and conservation, renewable energy and GHG reduction themes.
- ? There would need to be a lot of strategic discussion before any consideration of what would be a very expensive and controversial grid integration across Saskatchewan.
- ? If Alberta is interested in low carbon electricity, it is readily available from BC over existing infrastructure that could be upgraded at much lower cost.
- ? I am not sure how Mr. Dix can assert Manitoba is ahead – BC is already selling power into Alberta.

Background on Manitoba to Alberta Transmission Line

- ? Linking MB to AB would be challenging, and defies both physics and economics. BC and AB are part of the Western Interconnection. SK and MB are part of the Eastern

Interconnection. The tie between AB and SK is what is called a back-to-back DC connection, where power at one frequency is converted to direct current then back to alternating current at a slightly different frequency. The tie is expensive, has high losses and is rated at 150 MW (ours with AB at its rated capability is 1,200MW west to east and 1,000 east to west). MB would be better off selling power to SK to lower the carbon intensity of the SK power system.

- ? Getting power from MB to AB would require a long-distance high voltage direct current line. MB currently has such a line under construction called the Bipole III Project. Initially budgeted at \$3.3B, there are reports the 1,400 km line is \$1.3B over budget. Incoming Premier Brian Pallister has been quoted that he wants to “pull the plug” on the project, and the MB Conservative Election Platform states that the Bipole III Project will be sent to the Public Utilities Board for a proper review, which the former government apparently bypassed.

Alberta Intertie Study KMs:

- ? The study was completed in 2009 and considered options for a new transmission intertie between BC and Alberta.
- ? The study concluded that at the time there "may not be a compelling economic case for the additional intertie" based on the direct benefits.
- ? However, the study also acknowledged there could be several "very significant" overall system benefits for the two provinces: "system reliability, generation adequacy, market efficiency and system access". The study did not include these benefits in its analysis and the study is quoted as saying "their inclusion in the analysis would likely significantly improve the economics of a new intertie".
- ? Most significantly, a lot has changed in the 7 years since the completion of the study:
 - o Alberta has taken a policy decision to phase out coal-fired power generation by 2030, replacing it with gas and renewable power with renewable generation accounting for at least 50% of the new power. This means that by 2030, renewable power would account for 30% of generation in Alberta.
 - o In order to achieve this target, Alberta needs about 4,500 MW of new wind or other renewable power (they have 1,500 MW of wind today).
 - o Adding more wind presents a system operations challenge for Alberta. They will need to back up intermittent renewable resources like wind with a source of firm, dependable capacity and that's where BC Hydro comes in with our dependable, flexible capacity resources that are provided by hydropower. In fact, an additional intertie may be more cost effective and be available sooner than Alberta building new natural gas generation facilities to back up their wind resources.
- ? Since 2009, Alberta has been reinforcing its transmission system with a new high-voltage DC transmission corridor and other transmission projects, and additional reinforcements are planned on the transmission system in Southern Alberta. These reinforcements are expected to facilitate the exchange of power between BC and Alberta.
- ? BC and Alberta officials have had a number of meetings to discuss the Inter-tie. I expect discussions to continue.

Project 2060 KMs:

- ? British Columbia will remain self-sufficient in its electricity supply as required under the Clean Energy Act, and we will ensure the electricity demands of British Columbians are met before exporting power to Alberta.
- ? Engaging in energy trading activities with Alberta (possibly with the support of an expanded or new intertie) would not require either province to have an energy surplus, and would be well-suited to B.C.'s reliable, flexible hydroelectric resources. For example:

- To meet its climate leadership commitments, Alberta will be building out a significant amount of new wind projects.
- Alberta could take energy from us when the wind isn't blowing there and send energy to us when the wind is blowing.
- ? Project 2060's research supports BC Hydro's forecast that demand for electricity in B.C. continues to grow.
- ? Including Site C, BC Hydro is investing, on average, \$2.4 billion per year to maintain, upgrade and expand our electricity system to reliably meet growing demand.

Reconnection Fees for Low Income Ratepayers KMs:

- ? BC Hydro has the 3rd lowest residential rates in North America.
- ? In addition to keeping rates low, we want to make it easier for British Columbians – especially low-income families – to find energy efficiencies and save on their electricity. That's why we are spending \$7.8 million over the next three years on programs for our low income customers.
- ? Updates to existing low-income programs have doubled the number of eligible customers.
 - The percentage of eligible customers has gone from 11 to 24 per cent.
 - The cut off for household income has increased by 30 per cent. Before, a family of four only qualified if they made less than \$40,000 a year. Updates to the Demand-Side Measures Regulations, a family of four making less than \$58,000 now qualifies.
- ? BC Hydro, in partnership with FortisBC, offers two programs for qualifying low income households – the Energy Conservation Assistance Program (ECAP) and energy saving kits.
- ? ECAP offers eligible low-income customers free energy assessments and energy-saving products like ENERGY STAR® refrigerators and insulation upgrades. Upgrades can result in savings up to \$300 each year.
 - More than 11,000 customers have participated in the program, including more than 3,600 First Nation homes in 80 communities.
- ? Eligible customers can apply to receive a free Energy Saving Kit. Kits include a number of simple, easy-to-install products such as ENERGY STAR® light bulbs and weatherstripping products that result in savings of up to \$70 each year.
 - Since the program launched in 2008, more than 90,000 low-income homes have received a kit.
- ? BC Hydro has also taken a number of additional steps to support low income customers:
 - BC Hydro has reduced the minimum reconnection charge from \$125 to \$30 to reflect the lower costs associated with remote disconnection and reconnection since smart meters were introduced.
 - BC Hydro and the Ministry of Social Development and Social Innovation have implemented new processes that enable low income customers with arrears to postpone disconnection while awaiting review of their application for income assistance.
 - BC Hydro now waives security deposits for customers that have their electricity bills paid directly by the Ministry of Social Development and Social Innovation;
 - Credit agents have been given more flexibility in establishing installment plan repayment terms, provided that repayment of arrears is complete before the next winter heating season; and,
 - BC Hydro is reviewing options for a temperature-based winter disconnection moratorium, as well as considering the use of service-limiting features in smart meters to allow disconnected customers to maintain use of a minimal amount of electricity.
- ? Government offers a wide range of support for low-income British Columbians:

- In 2015-16, the B.C. government invested \$331 million in employment and labour market programs.
- The Government of B.C. provides income assistance to approximately 177,000 people. Government spent \$1.71 billion on income and disability assistance programs in 2015-16 to help individuals and families in need.
- B.C. families generally have one of the lowest overall tax burdens in Canada including income taxes, consumption taxes, property taxes, health-care premiums and payroll taxes.
- The B.C. government has invested \$4.4 billion since 2001 to provide affordable housing for low-income individuals, seniors and families in communities throughout the province – more than 102,500 B.C. households benefit from provincial social-housing programs and services, and government helps more than 30,000 families with subsidized housing and rental assistance throughout B.C.
- Nearly one million British Columbians receive MSP subsidies, including more than 800,000 residents who pay no MSP premiums at all.
- Government provides child-care subsidies to help low-income families with the cost of child care – supporting about 21,000 children and their families each month.

Background on Reconnection Fees

- ? As part of our September 2015 RDA, BC Hydro sought approval to lower the minimum reconnection charge from \$125 to \$30 effective April 1, 2016 and that the review of the charge be done by expedited process to accommodate the April 1st date. BCOAPO and others requested that the change come into place earlier. On November 3, 2016, the BCUC approved the change on an interim basis effective December 1, 2015. The Commission will decide on permanent treatment of the charge following the oral hearing in summer 2016.
- ? The main reason for the decrease in the charge is that the implementation of the smart meters allow for most of the reconnections to take-place remotely rather than sending a crew to reconnect the service, as such the manual costs of disconnection/reconnection are substantially lower.
- ? Reducing the charges in December rather than April results in a hit to BC Hydro's revenues associated with the charge. To mitigate this impact the BCUC also approved a deferral account to record the difference between the reconnection charges collected at the interim rate and the reconnection charges that would have been collected had they been billed at the current rate, in the period December 1, 2015 through March 31, 2016, for recovery in rates in F2017.
- ? So in short, we applied to have the charge lowered to better reflect the cost of providing the service now that smart meters are in place and the BCUC expedited the timing of the implementation of the charge but kept us whole by establishing a deferral account to capture the variance.

Biomass Cogeneration KMs

- ? We have a responsibility to ensure BC has a reliable supply of power. That means we need firm, reliable sources of power like those from biomass facilities. In order to secure those sources of power, we need to pay them to be available to us at all times. The alternative is that we risk being short of power at peak times when the province needs most needs its electricity.
- ? For these biomass plants, we have provisions in their contracts that allows us to pay them less if it turns out we don't need the power at certain times. We exercise that provision when its more economic for us to get the power from other sources.

- ? We're talking about a small amount of power – we turned down 300 gigawatt-hours out of a contracted supply of 18,000 gigawatt-hours per year from IPPs. This resulted in a net savings of at least \$8.6 million for ratepayers.
- ? Some of these contracts have been in place for many years. For example, NWE Energy in Williams Lake has a contract with us that has been in place since 1993 (it was secured as part of a 1988 call for power).

IPP/Import/Export KMs:

- ? Mr Dix's assertions show a fundamental misunderstanding of how the BC Hydro system is planned and operated.
- ? Under the Province's self-sufficiency policy, BC Hydro must have sufficient owned or contracted electricity resources to meet customers' needs assuming there are average water inflows into the system.
- ? BC Hydro needs to be able to meet both forecast peak demand, such as when there is an arctic outflow in the middle of winter when heating and lighting needs are highest, as well as consumption over the entire year, which varies by season.
- ? In planning the system, BC Hydro includes the maximum peak and annual output of contracted biomass and natural gas generation, such as the Northwest Energy biomass plant in Williams Lake, and the Island Generation Plant in Campbell River.
- ? BC Hydro's load forecasting methodology was reviewed by an independent expert as part of the due diligence supporting the decision to proceed with Site C and was found to be "state of the art."
- ? In operating the system in a given year, BC Hydro optimizes its owned and contracted generation resources available to it, including buying and selling in external markets, to minimize costs to its ratepayers.
- ? For example, in the spring months as demand drops from the winter peak and inflows into BC Hydro's and IPPs hydroelectric facilities increase, it makes sense to curtail generation from biomass and natural gas generators if doing so is a lower cost option for ratepayers. In these cases, the contracts require that BC Hydro cover the fixed costs of the plants, but they avoid the variable fuel costs for biomass and natural gas.
- ? In a given year the net import or export position is determined by a combination of customer demand and water inflows. Over the past 10 years, based on domestic purchases and sales, BC Hydro has been a net importer in 5 years, relatively balanced in 3 years, and a net exporter in two years.
- ? Layered on top of BC Hydro's operations to meet domestic customers' needs are the trading activities of their subsidiary Powerex, which can use the capability of BC Hydro's flexible hydroelectric storage system to opportunistically buy and sell power in external markets. These activities generally contribute over \$100M per year (range \$12M-\$259M and average of \$130M over the last 10 years) to keep BC Hydro rates lower than they would otherwise be.
- ? So while it is possible to make wild allegations just looking at one or a couple of facilities in isolation, when you look at the bigger picture of how the system needs to be planned and how it is operated to reliably meet customers' needs at lowest cost, those allegations start to look pretty silly.
- ? and 2 land will remain available in the B.C. Peace River valley.

IPP KMs:

IPP Contract Obligations

- ? IPPs have been providing power to BC Hydro since 1980, and are now capable of supplying about 25% of B.C.'s energy needs.
- ? We would face a significant electricity supply shortage without them.

- ? Just like anything else, building new power projects costs more today than it did decades ago, whether BC Hydro or the private sector builds them.
- ? The private sector is better suited to develop many small projects across BC and assume some development and cost risks that can help BC Hydro ratepayers.

IPP Benefits

- ? Our government believes in a balanced approach to securing a clean energy future while growing our economy.
- ? B.C. has enormous untapped clean energy resource potential, including wind, tidal, solar, geothermal, run of river and biomass.
- ? Clean Energy Act requires that at least 93 per cent of British Columbia's electricity be generated from clean or renewable resources – as of this year 97.9% clean from clean or renewable resources.
- ? IPPs providing power since the late 1980's. Supply over 25% of domestic energy needs today. Would have significant electricity supply shortage without IPPs.
- ? In addition to Site C, BC Hydro is maintaining and growing its IPP portfolio with contract renewals and new clean energy supply contracts.
- ? Strong focus on First Nations participation in power acquisition processes.
- ? The Province is committed to working with the private renewable power industry to ensure there is a continued role for private sector energy development in 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.
- ? According to CEBC, Projects currently under construction represent 2,850 construction jobs across BC, including 700 jobs held by First Nations people, in communities across the Province.

BC Hydro SAP/IT KMs:

- ? There is a formal process in place between Mr. Dix and the B.C. Utilities Commission. We want to respect that process.
- ? It's important to note Mr. Dix originally alleged that BC Hydro had spent \$492 million on SAP projects. This is not correct. Even when BC Hydro include projects that were not part of his complaint, the actual amount is \$192 million which is significantly less than Mr. Dix originally claimed.
- ? SAP is a software company that produces enterprise software used by large companies, including most utilities around the world such as FortisBC, Sask Power, Manitoba Hydro, Hydro One, Hydro Quebec and New Brunswick Power. Their products help companies run their core business processes, like supply chain, work management, customer service and finance.
- ? BC Hydro wants to ensure the BCUC has had the opportunity to get all the facts about these IT projects.
- ? BC Hydro thoroughly reviewed all projects that "touch" SAP and for completeness have updated the list of projects to remove some projects that were not SAP-related and added others that could be seen as SAP-related. The combined total for SAP-related project expenditures is \$192 million over 8 years (fiscal 2009 to fiscal 2016 as of December 31, 2015).

EAO Order KMs:

- ? BC Hydro takes the order from the Environmental Assessment Office very seriously and is committed to meeting all the conditions of the B.C. Environmental Assessment Certificate.
- ? The Independent Environmental Monitor, BC Hydro and EAO worked together to ensure the time sensitive issues were addressed immediately in the field.
- ? BC Hydro will prepare a project-wide sediment and erosion control plan by April 22 to address how erosion and sediment control will be managed on site.
- ? At this time the Environmental Assessment Office believes BC Hydro can achieve this date.
- ? All large construction projects deal with issues like this. This demonstrates that environmental monitoring and inspection programs are working.
- ? Problems at the site are being identified and they will be fixed.

CEBC Report KMs:

- ? IPPs do contribute about 25 percent to BC Hydro's supply portfolio.
- ? The CEBC report focuses on a subset of the private power industry that includes stand-alone clean energy projects from small hydro, wind, biomass, biogas and waste heat sources.
- ? Power coming from industrial self-generators, like Rio Tinto's Kemano Project and biomass power projects at pulp mills, and natural gas generation, is not included.

Moody's Report KMs:

- ? The statements made in Moody's annual report last week aren't a change from previous reports.
- ? The Province still has a triple A credit rating and Moody's also states that BC Hydro's debt service ability is strong.
- ? BC Hydro's debt has increased because it's investing \$2.4 billion per year in aging assets and new infrastructure to support British Columbia's growing population and economy.
- ? The 10-Year Rates Plan allows for a reduction in BC Hydro's dividend to the Province by \$100 million per year starting next fiscal year until it reaches zero and will be restricted until the capital ratio achieves a debt: equity of 60/40.
- ? This will allow BC Hydro to use more of its cash flow to finance its capital expenditures and reduce its reliance on debt.
- ? In addition - by the end of Rates Plan, the regulatory balance is forecast to decrease by approximately 35 percent (\$5.43B in F15 vs \$3.54B in F24).

BC Hydro Dividend KMs:

- ? The practice of BC Hydro paying a dividend to the crown began in 1992. We know the practice is unsustainable.
- ? Given the need for substantial investment in the system, government through the 10-Year Rates Plan has implemented a plan beginning next fiscal year to reduce BC Hydro's dividend to zero, which will allow BC Hydro to retain more cash to fund investments in electrical infrastructure.
- ? BC Hydro does not tie the amount it borrows each year to specific items such as the dividend or a particular capital project. Instead, BC Hydro simply borrows the net amount required to support its activities in a given year. This could include capital expenditures or the dividend.

- ? The dividend does not increase the province's debt. It's simply a transfer of borrowing and does not impact the total debt of the province.
- ? BC Hydro's dividend decreases the amount of money the province is required to borrow to invest in capital projects such as hospitals and schools and increases the amount of money that BC Hydro is required to borrow to invest in its system.

Laid-off Mine Workers KMs:

- ? Our ministry does not currently have information from workers or from unions regarding alleged unpaid wages.
- ? We understand that there are accusations of unpaid wages from the workers, and are aware that there are legal action or actions between some of the workers and the company.
- ? We were saddened to learn about Walter Energy's announcement of its termination the company's remaining employees and understand the hardship this causes for the workers, families and communities affected.
- Layoffs and mine closures are devastating for our miners, their families, their communities, and our mining industry.
- Our government is doing what it can to help workers and their families during this difficult time, including providing support and services through WorkBC Employment Services Centres.
- Staff from the Ministry of Jobs, Tourism and Skills Training (JTST) will be reaching out to the company to explore opportunities to support affected workers and will continue to provide support to the community in all areas of worker transition/training, community services and economic development.
- JTST has already worked closely with the community since the initial layoff announcement and continues to support them by:
 - o Establishing a worker transition team immediately after the initial announcement and which continues to meet as required.
 - o Assisting with organizing two job fairs and a career forum.
 - o Facilitating discussions and interventions with Ministries/External Stakeholders pertaining to community social service support needs.
 - o Providing support to the local government including presentations to Council on Community Transition efforts.
 - o Supporting the community to advance its' economic development objectives (particularly tourism and small business supports)
 - o Providing \$10,000 funding for Business Advisory Services to support small businesses in the community.
 - o Negotiating and approving a Targeted Initiative for Older Workers program in Tumbler Ridge
- Other Provincial supports for the workers and impacted communities provided include:
 - o Ministry of Advanced Education provided \$150,000 for targeted training for impacted workers which has now been expended.
 - o Ministry of Social Development and Social Innovation provided \$38,000 for the District to undertake a Labour Market Partnership project.
- Another Job Fair will be held in the community before the end of April, coordinated by the Chamber of Commerce and supported through funds from the Labour Market Partnership (LMP).

On Reclamation:

- As the Mines Act permit holder for Wolverine, Brule and Willow Creek mines, Walter Energy is responsible for all reclamation costs at those sites and the company's chapter 11 filings do not discharge it from this responsibility.

- The company is in the process of trying to sell the three mine sites, but has funds set-aside to start addressing reclamation should it fail to secure a buyer.
- The Province holds security totaling \$20.85 M for the three mine sites. All security remains in good standing.

Fraser Institute DMS Report KMs

- ? The Fraser Institute report claims energy efficiency and conservation programs - otherwise known as demand-side management (DSM) - do not provide net benefits in many circumstances and disputes the cost effectiveness of DSM implemented in Ontario over the past 10 years.
- ? In B.C., DSM provides a cost effective resource for utilities to address energy and capacity needs, while helping families and businesses reduce their energy bills and greenhouse gas emissions.
- ? Like Ontario, BC Hydro faces a supply surplus, but has recently reviewed and updated its DSM program portfolio to ensure it is cost effective relative to electricity market prices.
- ? This is important because it means that while certain energy conservation programs may contribute to BC Hydro's forecast energy surplus, BC Hydro can sell that surplus energy on the market for a price equal to or greater than the costs of the program.
- ? BC Hydro's system needs are also changing. While the need for energy resources has softened, the need for capacity resources has increased.
- ? The new DSM program portfolio balances impacts to customers with mitigation of rate increases, while maintaining broad customer access and the ability to ramp up energy conservation programs in the future, as required.

Core Review Target

- ? We reached the \$50 million target, but it's important to remember that the Core Review I undertook was more than just about saving money. It was also about finding ways to make government services smarter and more effective. Changes to the ALR is a good example.
- ? The work that was ongoing at the Ministry of Health regarding generic drug pricing and supply chain management with the health authorities was entirely consistent with these objectives, and have saved the taxpayers of B.C. hundreds of millions of dollars.
- ? Projects undertaken by the Ministry of Health through the Core Review process to improve innovation, productivity and efficiency in the delivery of healthcare services resulted in total savings of \$63 million for 2014/15. A large portion of the savings were reinvested in front-line healthcare services, leaving net Core Review savings of \$25 million for 2014/15 and \$22 million for 2015/16.
- ? The actions taken were as follows:
 - Through Health Shared Services BC, the ministry searched for additional incremental savings from supply chain/procurement activities – such as genetic oncotype testing, sterilization wrappers, surgical and exam gloves, and heart cath lab stents and balloons, with expected savings estimated at \$10 million.
 - As well, government was able to continue on the successful generic drug policy introduced April 1, 2013 – the price of generic drugs was reduced to 20% of the brand-name price on April 1, 2014. That means incremental savings for 2014/15 are estimated at \$50 million.
 - By introducing blood glucose test strip coverage limits on Jan. 1, 2015, savings were achieved of up to \$1 million for the balance of the 2014/15 fiscal and \$4 million per year on an ongoing basis.

- And through the extended audit capacity, the number of audits completed and recoveries have increased. Audit recoveries in 2013/14 were \$6 million and projected to increase to \$8 million in 2014/15.

Bull Fish KMs

- ? BC Hydro undertook a structured approach to assess fish passage management options in terms of potential fish passage risks, technical feasibility, biological benefits and costs. This assessment was undertaken with participation from Fisheries and Oceans Canada, BC Ministry of Forests, Lands and Natural Resource Operations and the BC Ministry of Environment, and fish passage experts from the US and Canada.
- ? Trap and haul is effective at other hydroelectric facilities
 - Examples of successful trap and haul facilities includes the Lower Baker Dam on the Skagit River, which has operated since the 1950s, and this facility also captures and transports bull trout.
 - Four trap and haul facilities on the Willamette River that also transport bull trout, and other facilities include the Merwin Dam on the Lewis River, the Cowlitz River hydroproject, the Roza Dam on the Yakima River, Cougar Dam, and Sunset Falls project on the Skykomish River.
 - Several trap and haul facility have been constructed or reconstructed within the last five years to enhance passage for bull trout. A trap and haul facility has been recommended for Site C given a number of factors including the management of flexibility to determine which species and individuals to transport and where to release them.
- ? The Joint Review Panel supported BC Hydro's trap and haul plan program and concluded that BC Hydro's *"planned trap and haul program but notes that it must be combined with a successful management plan to reduce entrainment, especially if bull trout is the targeted species. These mitigation measures that BC Hydro determined would fully mitigate three of the identified effects to fish and fish habitat are important and should form part of the conditions of approval."*

Site C Water Licences KMs

- ? On February 29, the Deputy Comptroller of Water Rights issued two conditional water licences and a permit that allows for the creation of the reservoir for Site C.
- ? The authorizations come with specific conditions and are consistent with requirements in the environmental assessment certificate.
- ? BC Hydro must have approved engineering plans prior to starting construction of the dams and spillways.
- ? BC Hydro must also hire an independent environmental monitor to help ensure environmental impacts are mitigated during construction.
- ? A hearing process on the main water licence application was carried out under the Water Act in the fall of 2015 in which landowners, water licensees, First Nations and others were invited to participate.
- ? In reaching a decision, the application was reviewed for environmental impacts and with input from the hearing process.
- ? Consultation with Treaty 8 First Nations was concluded in January 2016.
- ? Under the Water Act, objectors have 30 days to appeal the decisions of the Deputy Comptroller of Water Rights to the Environmental Appeal Board.
- ? On April 5, the Deputy Comptroller of Water Rights received a letter from the Environmental Appeal Board advising that his decisions on the two water licences and one permit were being appealed by Treaty 8 First Nations. A hearing date has not yet been set.

Overview of Environmental Appeal Board Appeal Process

- ? The appellant files a Notice of Appeal with the Board.
- ? The Board sends a letter acknowledging the appeal notice and providing more information about the appeal process. A copy is sent to the respondent and any third parties.
- ? If not provided by the appellant, the respondent may be asked to provide a copy of the decision under appeal and other documents to ensure that the appeal moves forward expeditiously.
- ? The Board will decide whether to hold an oral or a written hearing and will notify the parties. It will also set the date(s) that any submissions or documents are due. (hearing dates are set in consultation with both parties and date of hearing from date of filing of appeal varies depending on complexity of the case).
- ? The hearing will take place. All parties will present their evidence and submissions.
- ? The Board will issue a decision, in writing.

Estimates Commitment on South Island Aggregates KMs

- ? In response to a few questions by MLA Bill Routley on South Island Aggregates, I made a commitment to provide all the mining act permits issued for South Island Aggregates and other information such as the shutdown order issued in May 2015.
- ? Mining staff are gathering the permits and information and it will be forwarded to the MLA.

PVLA Appeal KMs:

- ? In July 2015, the BC Supreme Court dismissed a petition by the Peace Valley Landowner Association challenging environmental approval of Site C by the provincial government. An appeal was filed and is being heard April 4th and 5th.
- ? I don't want to speculate on the outcome of this appeal, as you can appreciate that we don't comment on matters before the courts.
- ? Approval of the Site C Project followed a rigorous three-year federal-provincial environmental assessment process, which included two months of public hearings in Peace region communities under an independent joint review panel.
- ? Approval of the project came with 77 provincial conditions and 80 federal conditions that BC Hydro is committed to meeting. Approval of the project also followed years of consultation with communities and First Nations.

On Continuing Construction while litigation proceeds:

- ? We recognize and are mindful of the concerns of First Nations, landowners and the court processes.
- ? It is not unusual for a large infrastructure project to face legal challenges, and the court proceedings do not stop Site C construction activities from continuing.
- ? BC Hydro also has to consider its obligations to its customers. This obligation includes meeting the budget and construction schedule for Site C.
- ? BC Hydro has all environmental approvals, provincial permits and federal authorizations in place for the work they are currently doing.
- ? It is important to understand that there has been a lot of resolution to date with respect to the legal issues with the project. All four judicial reviews of the environmental approvals of Site C have been dismissed — two in Federal Court, and two in B.C. Supreme Court.
- ? However, three of these decisions have been appealed and there is one judicial review that is still underway regarding the issuing of permits

On Agricultural Impact:

- ? The environmental assessment process for Site C considered agricultural impacts and had two dedicated hearings on the topic.
- ? The independent Joint Review Panel concluded: “the permanent loss of the agricultural production of the Peace River valley bottomlands... is not, by itself and in the context of B.C. or western Canadian agricultural production, significant.”
- ? Overall agricultural production in the region is expected to benefit from proposed mitigation measures, including a \$20 million agricultural compensation fund that will support agricultural programs and projects such as irrigation and drainage improvements.
- ? On the compensation fund, the Independent Joint Review Panel said: “The current annual value of the crops from the portion of the valley that would be inundated is but \$220,000... the proposed \$20 million agricultural investment fund, to be spent on improvements outside the inundation zone, is generous by comparison.”
- ? More than 99 per cent of Class 1 to 5 agricultural land — that is, land capable of crop production — in the Peace Agricultural Region will not be affected by Site C.
- ? While there will be a permanent loss of about 3,800 hectares of Class 1 to 5 land, about 2.7 million hectares of Class 1 to 5 land will remain available in the Peace Agricultural Region.

Tom Sigurdson on hiring British Columbians KMs:

- ? Our priority is that British Columbians are first in line to work on the Site C project.
- ? It’s important to note that building Site C is an 8 year project. The workforce composition at any given time is only a snapshot of and the numbers of British Columbians working on the project will change, and we believe, increase over time.
- ? It is inappropriate to extrapolate numbers for one month, as stated by the BC Building Trades, and suggest that is indicative of every other month.
- ? While the BC Building Trades drew attention to November 2015 job numbers, the reality is that the number of workers – and the proportion from any particular location – will fluctuate month-to-month.
- ? To date, the percentage of B.C. workers on Site C has ranged from 65 per cent to 82 per cent, with an average of 71 per cent over the August to February time period.
- ? Our most recent statistics for February 2016 show that there were close to 700 workers on site and about 500, or 71 per cent, were from B.C.
- ? The bottom line is that Site C construction is creating hundreds of jobs for British Columbians today and will create thousands more during an almost decade-long construction period.

On Apprentices/25% goal

- ? BC Hydro has invested approximately \$1.5 million in a number of skills and trades training programs in the Peace region:
- ? \$1 million to Northern Lights College Foundation to support trades and skills training through the creation of student bursaries.
- ? \$184,000 to Northern Opportunities for the creation of a school district career counsellor position to help students transition into trades and career training.
- ? \$100,000 to the North East Native Advancing Society to support trades training under its North East Aboriginal Trades Training program.
- ? \$175,000 over five years to Northern Opportunities for its pre-apprenticeship program.

Job Fair KMs:

- ? The Site C project will create approximately 10,000 jobs during construction.
- ? BC Hydro and its contractors have completed the latest round of Site C job fairs and business networking sessions in northern B.C.
- ? More than 5,000 job seekers and over 700 businesses attended the events in Chetwynd, Dawson Creek, Fort Nelson, Fort St. John, Mackenzie, Prince George, Quesnel and Tumbler Ridge.
- ? The construction of Site C is providing an important opportunity for British Columbians to find work and business opportunities, particularly during some difficult times in the natural resource sector.
- ? Our government believes in Site C; it's an important long-term asset for our province and its construction will provide much needed jobs.
- ? BC Hydro was joined at the job fairs and business sessions by some of the contractors working on the Site C project, including Peace River Hydro Partners (main civil works), ATCO Two Rivers Lodging (construction and operation of Site C worker lodge), along with companies providing site preparation and security services.
- ? The purpose of the job fairs and business sessions is to facilitate local employment and contract opportunities on Site C construction.
- ? We want to make sure that local and Aboriginal businesses and workers have every opportunity to benefit from Site C.
- ? Site C will contribute \$3.2 billion to provincial GDP during construction.
- ? Construction of Site C will result in increased government revenues at the regional, provincial and federal levels, including a total of \$40 million in tax revenues to local governments.
- ? As the third project on one river system, Site C will use water already stored behind the existing W.A.C. Bennett Dam in the Williston Reservoir to generate about 35 per cent of the Bennett Dam's energy, with only five per cent of the reservoir area.
- ? Site C will have among the lowest greenhouse gas emissions, per gigawatt hour, compared to other electricity-generation options.
- ? Site C will be a source of affordable power to meet B.C.'s future electricity needs. Over the first 50 years of Site C's project life, ratepayers will save an average of \$650 to \$900 million each year, compared to alternatives.

BC Hydro 4 percent Rate Increase KMs:

- ? The British Columbia Utilities Commission approved BC Hydro's 4% rate increase effective April 1.
- ? The increase is part of BC Hydro's 10-year rates plan that was announced in November 2013, so the increase has been known for more than two years, however it is required to go through the BCUC process.
- ? While no one likes to see rates go up, the increase is required while BC Hydro invests \$2.4 billion per year in aging assets and new infrastructure to support British Columbia's growing population and economy.
- ? B.C. has the third lowest residential electricity rates in North America, and the 10-year rates plan will keep rates as low as possible while BC Hydro makes these investments its dams, power stations and transmission system.
- ? BC Hydro is doing a lot of things to take pressure off rates by reducing operating costs, eliminating jobs, and becoming a more effective and efficient organization.
- ? In fact, over the past five years, BC Hydro has found more than \$400 million in operating cost savings and eliminated over 1,100 jobs.

Rates by the Numbers:

- ? F17: 4% increase; avg. impact: \$4/month residential
- ? F18: 3.5% increase; avg. impact: \$4/month residential
- ? F19: 3% increase; avg. impact: \$3/month residential
- ? 3rd lowest residential rates in North America; 4th lowest com / 5th lowest industry

Conservation Target KMs:

- ? The Clean Energy Act was passed in 2010 with a target of 66 percent of all incremental demand for electricity must be met by conservation.
- ? B.C. Hydro is in the process of filing a revenue requirements application with the BCUC.
- ? In that filing, they will show that in fact they're going to meet over 70 percent of all incremental new electricity.
- ? BC Hydro's powersmart programs were adjusted to focus on more efficient conservation outcomes. There were a few programs that were inefficient and BC Hydro dropped them from the menu to focus on more cost effective programs.
- ? Since 2003, BC Hydro has invested \$1.3 billion in conservation – an average of \$100 million per year.
- ? Over the next three years, BC Hydro will invest \$375 million in conservation – an average of \$125 million per year.

Hydro Rates for Low Income KMs:

- ? We are helping low-income British Columbians by keeping residential hydro rates the 3rd lowest in North America.
- ? In addition, both BC Hydro and FortisBC also offer programs that can help low-income families find energy savings and reduce their electricity and gas bills.
- ? For example, BC Hydro's Energy Conservation Assistance Program offers free energy assessments and energy saving products to customers on low incomes.
- ? The Energy Saving Kit program provides customers on low incomes with a number of simple, easy-to-install, energy savings products like compact fluorescent light bulbs, weather stripping and high-efficiency showerheads.
- ? A low income family paying \$84 a month can save up to \$38 a month using BC Hydro's energy saving program for low income families.
- ? In 2014 government announced updates to existing low-income programs that make it easier for customers to apply and nearly double the number of eligible customers.
- ? These programs have delivered nearly half a million dollars in electricity cost savings to BC Hydro low-income customers.

On Hydro Rate Deferral for Mines

- ? There appears to be a misunderstanding of government's actions to help keep thousands of B.C.'s metal and coal mines workers on the job by allowing mining companies to temporarily defer a portion of their hydro bills – supporting families and communities during the current slowdown in the sector due to low commodity prices.
- ? We are doing this to protect the numerous communities that rely on or are supported by the economic activity these mines generate.
- ? Low copper and coal prices have put operations at a number of British Columbia mines at risk and some have already been forced to reduce production and employee levels. There are

currently eight metal mines and five coal mines operating in the province, employing approximately 7,500 workers.

- ? We're not just talking about the direct jobs that support thousands of families. We have to consider the numerous other businesses that could be impacted – everything from coffee shops, pubs and restaurants to car dealerships, home builders and plumbers.
- ? Similar programs have been used in British Columbia before. The Economic Development Electricity Rate Discount Act and the Critical Industries Act were implemented during the 1980s as a response to BC Hydro having surplus power and to support industry as it emerged from a recession.
- ? And, in 1997, the government of the day implemented the Power for Jobs Development Act to provide specific industries with a preferential development power rate based on available surplus power.

Load Resource Balance KMs:

- ? Demand for power in BC is continuing to grow. This Load-Resource Balance study shows that demand for power will grow by 38% over the next 20 years before conservation. And that does not take into account potential demand from new LNG plants.
- ? A big part of this growth comes from the fact that there will be more people living in BC 20 years from now. According to BC Stats (May 2015), BC's population will grow by 1.15 million people over 20 years, from our current population of 4.6 million. This is 25% growth which is like adding another city the size of Vancouver AND a city the size of Surrey.
- ? There are short-term fluctuations in demand from year-to-year due to weather or changes in industry.
- ? As extensive as BC Hydro's electricity supply is, it will not be enough to meet B.C.'s future electricity needs if demand continues to grow as projected. To meet B.C.'s future electricity needs, BC Hydro is encouraging conservation, upgrading its facilities, building new transmission and distribution infrastructure, and investing in new supplies of clean energy.
- ? Site C is being built to meet the long-term energy and capacity needs of the BC Hydro's customers. The construction of Site C will take almost a decade to complete and will be operational by 2024. The Load-Resource Balance continues to show that we will need Site C's capacity beginning in 2024.
- ? The Load-Resource Balance also shows that in addition to building Site C, we need to continue advancing Revelstoke Unit 6. Currently, we plan to have Revelstoke Unit 6 in place by 2026; but it could be ready as early as 2022 if required.
- ? There is also the potential for a LNG sector which could significantly increase the demand for electricity from our system. However, we will need the energy and capacity from Site C regardless of demand from LNG.

Frankl, Dave MEM:EX

From: Bennett, Bill MEM:EX
Sent: Thursday, April 14, 2016 7:01 PM
To: Wallace-Deering, Eric MEM:EX
Cc: MacLaren, Les MEM:EX; Haslam, David GCPE:EX; Lewis, Ted R; Denniston, Tristan M MEM:EX
Subject: Re: Alberta Intertie Report Statement Draft

Good with me

Sent from my BlackBerry 10 smartphone on the TELUS network.

From: Wallace-Deering, Eric MEM:EX
Sent: Thursday, April 14, 2016 10:16 AM
To: Bennett, Bill MEM:EX
Cc: MacLaren, Les MEM:EX; Haslam, David GCPE:EX; Lewis, Ted MEM:EX; Denniston, Tristan M MEM:EX
Subject: Alberta Intertie Report Statement Draft

Hi Minister,

Here is a draft statement BC Hydro plans to send along with the intertie report.

Please let me know if you have any edits.

CC'ing Les as well for his input.

Eric

The study was completed in 2009 and considered options for a new transmission intertie between BC and Alberta. The study concluded that at the time there “may not be a compelling economic case for the additional intertie” based on the direct benefits. However, the study also acknowledged there could be several “very significant” overall system benefits for the two provinces: “system reliability, generation adequacy, market efficiency and system access”. The study did not include these benefits in its analysis and the study is quoted as saying “their inclusion in the analysis would likely significantly improve the economics of a new intertie”.

Most significantly, a lot has changed in the 7 years since the completion of the study:

- Alberta has taken a policy decision to phase out coal-fired power generation by 2030, replacing it with gas and renewable power with renewable generation accounting for at least 50% of the new power. This means that by 2030, renewable power would account for 30% of generation in Alberta.
- In order to achieve this target, Alberta needs about 4,500 MW of new wind or other renewable power (they have 1,500 MW of wind today).
- Adding more wind presents a system operations challenge for Alberta. They will need to back up intermittent renewable resources like wind with a source of firm, dependable capacity and that's where BC Hydro comes in with our dependable, flexible capacity resources that are provided by hydropower. In fact, an additional intertie may be more cost effective and be available sooner than Alberta building new natural gas generation facilities to back up their wind resources.
- Since 2009, Alberta has been reinforcing its transmission system with a new high-voltage DC transmission corridor and other transmission projects, and additional reinforcements are planned on the transmission system in Southern Alberta. These reinforcements are expected to facilitate the exchange of power between BC and Alberta.

Bennett 01

Start Time in Seconds		End Time in Seconds	Section	Start time in HH:MM:SS	End Time in HH:MM:SS
0		452.675918	Full Disclosure	00:00:00	00:07:33

Times Colonist 01

Start Time in Seconds	End Time in Seconds	Section	Start time in HH:MM:SS	End Time in HH:MM:SS
0	241.397551	Full Disclosure	00:00:00	00:04:01