draft critical path updated

Zadravec, Don GCPE:EX

Mon 11/27/2017 9:41 AM

To:Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca>;

1 attachment

CONFIDENTIAL DRAFT Site C Nov 27.docx;

Evan, for your review and comment.

Regards,

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

CONFIDENTIAL DRAFT

Site C Report Critical Path

(Nov 13 - Nov 20)

Timing	Event	Notes
Nov 14	Consultation with Treaty 8 First Nations in Fort St. John by MMM and MSF	Fulfils consultation commitment
Nov 15	Send letter to BCUC to clarify some of the analysis and findings (joint EMPR and Fin). Issue IB and letter to media (TBD)	Info gathering as part of decision-making process
Nov 16 TBD	BCH letter to BCUC	Due diligence
Nov 15-16	MMM media avail following her meeting with First Nations and Letter from government being submitted to BCUC	Minister to briefed prior to interviews One-on-one interviews from Minster's constituency
Nov xx	Finance Ministry fiscal and financial analysis of BCUC report	Info gathering as part of decision-making process
Nov xx	Officials (TBD) brief media on decision-making inputs	Technical background briefing
Nov xx	Briefing of caucus on technical/ financial review of BCUC report	Caucus briefing

Required Collateral materials

Key messages

Q&As

CONFIDENTIAL DRAFT

Site C Report Critical Path

(Nov 21- Dec 12 Announcement Day)

Timing	Event	Notes
Nov 21-22	Finalize draft of Communications synopsis	Draft completed
Nov 22	Review finalize materials for P&A presentation	Completed
Nov 23	BCUC respond to DM's letter	Completed
Nov 23	IB issued re panel of experts advising cabinet on Nov 30	Completed
Nov 23	P&A presentation	Completed
Nov 27	**Finalize content and materials for microsite**	**In progress**
Nov 27	**Website goes live**	**TBD**
Nov xx	**MOF financial analysis completed**	**TBC and need to determine when it will be released**
Nov 27-28	**Determine venue for technical briefing and announcement**	**GCPE with PO**
Nov 27-28 **Nov 29-Dec 5**	**Finalize draft of communications materials for Nov 29 cabinet meeting**	**Communications plan (GCPE HQ and MEM Comms)** **Key messages (PO, GCPE HQ, and MEM Comms** **Recommended collateral materials (TBC with PO)** **Presentation deck (GCPE HQ and MEMs Comms)** **Event plan (GCPE HQ and MEMs Comms)** **Media plan (GCPE HQ and MEMs Comms)** **Social media plan (GCPE Digital)** **Stakeholder plans PO, MO, GCPE HQ and MEMs Comms)** **Materials for caucus (MO and Caucus comms)**
Nov 29	**Cabinet discusses Site C**	
Nov 30	**Panel of independent experts presents to Cabinet**	**Part of overall due diligence** **Monitor coverage**
Dec 5	**Presentation to caucus**	**Timing and details TBC**
Dec 6	**Cabinet Site C decision**	**TBC**

Dec 6-11	Finalize communications materials	Key messages News Release Backgrounders Q&As Technical briefing materials Event plan Media plan, including ethnic media Social media plan and materials Stakeholder plan, including script for calls Materials for caucus
Dec 11	Dry Run of presentation	TBC
Dec 11 morning	Media Advisory re Dec 12 announcement	Timing TBC
Dec 12 10:00 a.m.	Presentation to government caucus re decision	TBC
Dec 12 10:00 a.m.	Briefing for Ethnic media in Vancouver prior to start of full technical briefing	TBC Need to determine who does briefing
Dec 12: 10:30 a.m.	Technical briefing for media, including video feed for Vancouver media for Metro Vancouver and ethnic media	TBC
Dec 12 11:00 a.m.	Presentation to MAs and CAs re decision	TBC
Dec 12 11:00 a.m.	Briefing of Green caucus re decision	TBC
Dec 12	Briefing of Liberal caucus	TBD
Dec 12 11:30 a.m.	Announcement of decision Venue TBC	Key messages News release Backgrounders Q&As Deck Technical presentation
Dec 12 11:30 a.m.	Outreach to stakeholders	Timing TBC
Dec 12	Post announcement monitoring and debrief	Timing TBC

DRAFT

Via E-mail

David Morton
Chair
BC Utilities Commission

Re: Inquiry Respecting Site C

We ~~would like to~~ thank the BC Utilities Commission (Commission) for the report on the Inquiry Respecting Site C that you delivered to the Minister of Energy, Mines and Petroleum Resources on November 1, 2017. Completing the report in a short time frame with such high levels of public and First Nations input and transparency is a significant achievement.

Our Ministries are supporting government's decision making on the future of Site C, which will consider the Commission's report along with other implications associated with proceeding or terminating the Project. In considering the Commission's report, we want to be sure that we fully understand the Commission's assumptions and computations in its analysis of Site C and of potential alternative sources of generation and capacity.

As such we have identified a number of items in the final report as detailed in the Appendix below which we are hoping you can address in order to help our Ministries provide the advice necessary to support a government decision on Site C that is in the best interests of British Columbians.

These issues are related to the following key questions:

- Did the Commission include sunk costs (the estimated $2.1 billion already spent on the project) and termination costs (the $1.8 billion determined by the Commission) when comparing the costs to ratepayers of completing Site C with the costs of an alternative portfolio of resources that would be required if the project were terminated?
    - If not, how would including those sunk and/or termination costs change the cost to ratepayers and the unit energy cost for both scenarios?

- Does the Commission assume that BC Hydro would develop and finance alternative sources of generation included in the alternative portfolio (wind, geothermal) instead of independent power producers (IPPs) as is BC Hydro's long-standing practice today?
    - Would the Commission agree that if it is not the assumption, then ~~If not, why does the Commission (in some but not all cases)~~ usinge BC Hydro's lower cost of capital financing when calculating the cost of the alternative portfolio would be inappropriate assumption?
    - How would a higher cost of capital (consistent with financing rates for IPPs) impact the cost to ratepayers of the alternative portfolio?

Comment [FDF1]: Would it make sense to set out more the technical aspects in the Appendix attachment, and save the main body for a high level discussion of major policy assumptions around which we wish focus public understanding and awareness more fully? (e.g. load and reasonable of DSM and choice of alternative portfolio?)

Comment [FDF2]: Would it make sense to focus more references on the report rather than the commission?

Formatted: Highlight

Formatted: Highlight

- Does the Commission assume that in the event the project is cancelled, termination, remediation and sunk costs (approximately $4 billion) would be recovered from ratepayers over 10, 30 or 70 years?

    - Is recovery of these costs over longer periods of 30 or 70 years consistent with accepted accounting principles for rate-regulated utilities which generally ensure future generations aren't paying for investments from which they are deriving no benefits?

    - What is the impact on ratepayers if these costs associated with termination are recovered over a 10 year period?

- Does the Commission conclude that the final budget for the project, if completed, would be $10 billion or $12 billion?

    - How specifically did the Commission determine that the project would likely come in $1 billion to $3 billion over BC Hydro's Octobercurrent estimate of $8.95 billion before mitigation?

- We are unaware of prior instances when BC Hydro's mid-load forecast has not been the standard for planning purposes with the BCUC. Does the Commission assume lower demand for electricity (the low-load forecast used in the report) because it is forecasting a period of lower economic growth for the province in which major power consumers like mining, forestry, technology and commercial sectors are in decline?

    - Why doesn't the Commission include in its load forecast the potential growth in demand to meet the province's objectives to reduce greenhouse gas emission through electrification?

The government has stated that it plans to make a decision on Site C by the end of the year. The Commission's timely response to the matters identified below will help our Ministries provide the advice necessary to support government's decision-making.

Dave Nikolejsin
Deputy Minister
Ministry of Energy, Mines
and Petroleum Resources

Lori Wanamaker
Deputy Minister
Ministry of Finance

Attachment

Formatted: Highlight

Comment [FDF3]: There are actually two very different and important concepts at play here.

1) The accountants get to tell us how we have to report the impact of cancelling the project in our financial statements. We now know today, from consultations with our OCG (and Hydro has confirmed), that most of the $4B of costs will land (be expensed in our books) in the year of the decision. They will not be eligible to stuff into regulatory accounts and be deferred to the distant future.

2)The accountants do not get to decide how we set rates and recover costs. That is very different and is the job of the BCUC and should follow established BCUC policies and/or past practice/direction around what would be considered reasonable recovery periods. In the alternative, government could override that and set by OIC direction to the BCUC. Generally however, the practice of the BCUC has been to follow Hydro's standards for rate regulated accounting.

All that said, the auditor general is reviewing the whole rate regulation framework. In recent years, the auditor general has advanced its scope into publicly bringing into question elements of public policy.

If it is intended that cancellation costs be recovered from ratepayers, there is a likely risk that the Auditor General would criticize the reasonableness (from a financial sustainability and good business lens) of spreading such recoveries over extended periods when clearly there are no underlying assets or benefits around which such recovery terms could be justified.

We will be conferring with one of the rating agencies today and we expect that same view (as the OAG) to apply when the rating agencies assess the commerciality of Hydro's $4B of related underlying debt connected with the cancellation.

Formatted: Highlight

Formatted: Highlight

Comment [FDF4]: Or form other major capital programs announced in Budget 2017 Update and government's strategic plans?

Appendix: Detailed Questions for the Commission

We note that the Commission has stated in the report that the "alternative portfolio developed by Commission staff are not a substitute for BC Hydro's planning processes." We understand that BC Hydro modelled over 60 scenarios testing various assumptions, including a number of alternatives requested by the Commission, but that the Alternative Portfolio in the final report was not analyzed using BC Hydro's modelling tools. We have therefore asked BC Hydro to provide an assessment of the model used to develop the Commission's final Alternative Portfolio, and we understand that BC Hydro will be providing the Commission with the results of that assessment separately.

There a number of matters that our Ministries and BC Hydro have identified in our initial analysis that we would like the Commission's feedback on. In particular, our staff have also discussed with BC Hydro the impact of certain assumptions, and how the costs of those assumptions would be recovered from ratepayers.

BC Hydro has suggested that recovery in rates of sunk costs in a Termination scenario should occur over a 10-year period. In the Continue scenario, the sunk costs, as part of the overall project, would be recovered over the 70-year amortization period, consistent with the modelled life of the Site C asset. The Commission staff model appears not to include sunk costs in the Termination scenario, and has removed those costs from the Continue Site C scenario. Effectively this assumes that sunk costs will be recovered in rates over 70 years if the Project is terminated. Recovering costs in rates over a shorter period has a material impact on the Alternative Portfolio. It would be helpful if you could provide an estimate of the rates impact using these two time-frames. We are also interested in how the Commission reconciles its 30-year amortization of termination costs, and this modelling result of sunk cost amortization over 70 years, with the rate setting principle of intergenerational equity.

Comment [FDF5]: Here it may be ok to ask how this recovery scheme would reconcile with Hydro's accounting of the costs which, by accepted accounting standards, would be recognized immediately or over a much shorter period.

We understand that BC Hydro follows standards for rate-regulated utilities in its financial statements and in preparing its applications for review by the Commission. This framework follows a number of principles in relation to the amortization of capital assets and the deferral of other costs for the purpose of matching recoveries from ratepayers to periods over which benefits are provided. BC Hydro's rate-regulated accounting framework is also currently a subject of review by the provincial Auditor General.

It would be helpful if the Commission could clarify how the choices of the various amortization and recovery periods in the Termination scenario would fit or be acceptable to provincial auditors as reasonable and justified assumptions within the rate-regulated accounting and rate-setting framework. We believe that choices must have a sound foundation of recognizing decision costs when they occur or can be matched to future periods reflecting underlying asset lives or when benefits are provided.

Comment [FDF6]: See earlier comments.

We understand that there was significant discussion during the Commission's process on the cost of capital. The Alternative Portfolio assumes that BC Hydro finances all new resources on its balance sheet. Other than redevelopment of existing sites and Site C, BC Hydro has, for almost three decades, been primarily procuring new supply from competitive processes or bilateral

agreements benchmarked to competitive processes. This effectively means that BC Hydro avoids assuming such debt on its balance sheet and only recognizes the incremental costs of new energy purchases which would include the private sector's annual debt servicing costs and equity return within approved purchase contracts.

It would be helpful to understand how the Commission assesses the impact on ratepayers of the additional debt associated with the assumptions underlying the Alternative Portfolio. We wish to further understand the Commission's approach to using BC Hydro's cost of capital for IPP projects and the approach used for the cost of capital faced by an IPP (i.e. what IPPs actually pay) and the resultant rate impacts. For example, we note on page 159-160, the Commission appears to conclude that IPP financing is the relevant assumption for the Alternative Portfolio, and the BC Hydro financing assumption should only be used for the Unit Energy Cost (UEC) analysis. Whereas, on pages 167, 170 and Appendix C (Assumption 2), it appears that the Commission has used BC Hydro financing (100% debt financing at a cost of 3.43%) for the Alternative Portfolio. We would appreciate clarification on which cost of capital should be used in analysing rate impacts.

The table on page 17 of the Executive Summary and Table 43 in the main report include a summary of the Commission's sample scenarios showing the effect of modifying one or more variables to the resulting NPV cost to ratepayers. As noted above, the Commission's alternative Portfolio does not appear to include sunk costs, and sunk costs have also been removed on the Continue scenario. The tables also include UECs. For the Site C scenario, the UECs reflect costs, including sunk costs, of Site C being either $10 billion or $12 billion depending on assumptions. Our review of the Commission report suggests that the Alternative Portfolio does not include termination costs. It would be helpful if the Commission could confirm this and provide a new version of the UEC portion of the table, where the Alternative Portfolio includes termination costs. This would help to ensure a consistent basis of comparing the costs of the Site Continue scenario with the Termination scenario on a forward-looking basis.

BC Hydro has informed us that in previous proceedings the Commission has concluded that the Total Resource Cost (TRC) test is the appropriate way to evaluate demand side management (DSM) in comparison to other resources. The Commission staff model uses the Utility Resource Cost (URC) standard. We believe that using the URC may underestimate the actual cost of DSM to ratepayers. BC Hydro estimates that using the TRC, consistent with previous applications and Commission decisions, would increase the cost of DSM in the Alternative Portfolio by $444 million on an NPV basis. It would be helpful for us to understand the Commission's rationale in choosing a test methodology that is inconsistent with past practice, and if the Commission could confirm that the TRC test remains the appropriate metric.

We have noted that the Commission has concluded that BC Hydro's Low Load Forecast is most appropriate for an assessment of Site C need. It would be helpful for us to further understand the rationale, and for the Commission to confirm, that the assessment does not include additional load requirements to meet the Province's *Clean Energy Act* energy objectives of reducing greenhouse gas emissions by 2050 by 80% less than 2007 levels; encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British

Columbia; and to encourage communities to reduce greenhouse gas emissions and use energy efficiently.

It would be helpful if the Commission could further describe the impact of electrification initiatives to meet these objectives. For example, the government, in its September Budget Update noted that increases in the Carbon Tax would be used to fund energy retrofits consistent with the government's PowerBC Plan. We believe that this objective would be aligned with increased levels of DSM spending in the Commission's Alternative Portfolio. The provincial government also is working with the Federal government on electricity system infrastructure investments to reduce and avoid greenhouse gas emissions, and has enabled BC Hydro to pursue electrification initiatives under the *Greenhouse Gas Reduction (Clean Energy) Regulation* under the *Clean Energy Act*.

The Commission report identifies an aggressive DSM program, coupled with load curtailments a way to achieve the Alternative Portfolio scenario. It would be helpful if the Commission could further describe how such load curtailments would practically be achieved in the natural resource sector without impairing operations, jobs and economic growth for that sector already facing trade sanctions and pressures.

We understand that BC Hydro has provided the Commission with a description of what the BC economic environment would look like under a low load outlook scenario. It would helpful if the Commission could further describe its view of the low load outlook, noting that the Commission believes that the outlook could be even lower, and how that outlook contributes to realistic economic sustainability, around which an Alternative Portfolio would be based.

With respect to project schedule and budget, it would be helpful if the Commission could clarify that today the Site C project is not 1 year behind schedule from the target in-service date of November 2024 that was approved by the provincial Cabinet in December 2014. While there are risks identified by the Commission, with varying degrees of probability, that this date could be exceeded, it is still early in the project and mitigation measures have not yet been fully assessed.

The Commission report assesses the size of the combined contingency allocation and project reserve using a comparison to total project costs – estimated at approximately 14% of total project costs of $8.335 billion. It would be helpful if the Commission could confirm that the total project budget quoted already includes a contingency allocation of $794 million. Direct project costs (which exclude indirect costs like First Nations agreements and project management that are more under direct control of management) are generally viewed as a more appropriate measure for assessing the adequacy of project contingencies and reserves. It would be helpful if the Commission could provide and confirm an assessment of the contingency allocation and project reserve as a percent of the direct project costs and total project costs which exclude the budgeted contingency allocation, since that is the cost base around which the contingencies allocation and project reserve are intended to address. Additionally, it would be helpful if the Commission could confirm how the P50 observation of the project budget would changes when the project reserve of $440 million is included.

The Commission report identifies a likely Site C cost estimate of about $10 billion (with upward pressure). It would be helpful to better understand the detailed components of the suggest forecast, which is well over $1 billion higher than the most recent scenario suggested by BC Hydro. It would also be helpful if the Province understood what mitigation measures, such as claims recoveries, the Commission has assumed (or not) in arriving at the $10 billion potential forecast.

We may identify further questions as our due diligence continues to support government decision-making.

Page 011 to/à Page 072

Withheld pursuant to/removed as

s.12;s.13

FW: BCUC Site C Inquiry - Additional Questions

Sanderson, Melissa EMPR:EX

Thu 11/23/2017 2:07 PM

To:Nikolejsin, Dave MNGD:EX <Dave.Nikolejsin@gov.bc.ca>; Howlett, Tim GCPE:EX <Tim.Howlett@gov.bc.ca>; MacLaren, Les EMPR:EX <Les.MacLaren@gov.bc.ca>;

Cc:Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca>; Zadravec, Don GCPE:EX <Don.Zadravec@gov.bc.ca>; Haslam, David GCPE:EX <David.Haslam@gov.bc.ca>; Kristianson, Eric GCPE:EX <Eric.Kristianson@gov.bc.ca>; Gibbs, Robb GCPE:EX <Robb.Gibbs@gov.bc.ca>; Kennedy, Christine PREM:EX <Christine.Kennedy@gov.bc.ca>;

1 attachment

11-23-2017_MEM MoF Site C_Addition Questions.pdf;

Hi all,

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

Thanks,

Melissa

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

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

Dear Dave Nikolejsin and Lori Wanamaker:

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

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

Regards,

Katie Berezan

Administrative Assistant, Regulatory Services

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

bcuc
British Columbia
Utilities Commission

David Morton
Chair and CEO

David.Morton@bcuc.com
bcuc.com

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

November 23, 2017

Sent via email

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

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

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

Dear Dave Nikolejsin and Lori Wanamaker:

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

Sincerely,

David Morton
Chair and Chief Executive Officer

DM/kbb
Enclosure

Introduction

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

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

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

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

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

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

[1] BCUC Site C Inquiry Respecting Site C Executive Summary (Executive Summary), p. 3.
[2] BCUC Site C Inquiry Respecting Site C Final Report (Final Report), p. 187.
[3] Final Report p. 128.
[4] This is BC Hydro's P90 estimate, which should only have a 10% chance of being exceeded.
[5] Final Report, Errata, p. 10 of 11.

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

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

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

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

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

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

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

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

---

[6] American Association of Cost Engineers, Cost Estimate Classification System – As Applied in Engineering, Procurement and Construction for the Process Industries.
[7] Exhibit F1-1, pp. 66–67 and 96–97.
[8] Executive Summary, p. 17.

> We have not been asked to make recommendations or to identify which option has the highest cost to ratepayers or more significant implications than others. Nevertheless, we have provided our view that not only is the suspension scenario the greatest cost to ratepayers of the three scenarios, it also has other negative implications.
>
> We take no position on which of the termination or completion scenarios has the greatest cost to ratepayers. The Illustrative Alternative Portfolio we have analyzed, in the low-load forecast case, has a similar cost to ratepayers as Site C. If Site C finishes further over budget, it will tend to be more costly than the Illustrative Alternative Portfolio is for ratepayers. If a higher load forecast materializes, the cost to ratepayers for Site C will be less than the Illustrative Alternative Portfolio.
>
> We have provided a discussion of the risk implications of each alternative in order to assist in the evaluation.[9]

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

[9] Final Report, p. 187.

Question 1: Inclusion of Site C sunk/termination costs

The Deputy Ministers ask:

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

Response

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

The Final Report states:

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

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

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

[10] Final Report, p. 163.

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

Table 1: Site C Final Report, Tables 39 and 40[11]

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

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

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

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

	Site C	Illustrative Alternative Portfolio
As provided in the Final Report Errata		
• Ratepayer impact	$2, 852 million	$3, 147 million[12]

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

The Deputy Ministers also ask:

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

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

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

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

Response

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

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

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

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

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

> The Panel therefore confirms the unit energy cost definition proposed in the Preliminary Report, that the Unit Energy Cost simply expresses the cost for a resource by its levelized annual cost per unit of energy produced. ...
>
> **Given the definition of UEC, the Panel finds it inappropriate that the unit energy cost be adjusted for sunk costs** [i.e. that the sunk costs be added to Site C cost to complete or to the Alternative Portfolio costs, as they are sunk so only future costs matter] **and termination costs** [i.e. that the termination costs be added to the Alternative Portfolio cost] **and will not consider these costs in the unit energy cost analysis.** [16]

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

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

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

---

[13] F1-1 Submission, p. 61.
[14] EIA Levelized Cost and Levelized Avoided Cost of New Generation Resources in the Annual Energy Outlook 2017, p. 1, https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf
[15] Final Report, p. 154.
[16] The wording in the Final Report has been corrected above to clarify that Site C sunk costs are excluded from the unit energy cost comparison.

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

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

Table 4: Total Rate Impact Sensitivity Analysis – Sunk Costs

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

[17] All scenarios are for the low load forecast, Panel market price assumption, BC Hydro financing, Medium Wind and Geothermal costs.
[18] Sunk costs of $2,100 million (F2018$)
[19] Termination costs of $1,800 million (F2018$).
[20] All scenarios are for the Low load forecast, Panel market price assumption, BC Hydro financing, Medium Wind and Geothermal costs.
[21] Sunk costs of $2,100 million (F2018$)
[22] Note that termination costs were included in the Total Rate Impact for the Alternative portfolio.

Question 2: Financing costs

The Deputy Ministers ask:

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

Response

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

The Deputy Ministers also ask:

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

Response

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

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

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

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

[23] Final Report, pp. 159–160.
[24] Final Report, Appendix C, p. 2.

Table 5: Sensitivity analysis regarding wind/geothermal financing cost assumption[25]

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

The Deputy Ministers ask:

> *[By procuring new supply from competitive processes] BC Hydro avoids assuming such debt on its balance sheet and only recognizes the incremental costs of new energy purchases which would include the private sector's annual debt servicing costs and equity return within approved purchase contracts.*
>
> *It would be helpful to understand how the Commission assesses the impact on ratepayers of the additional debt associated with the assumptions underlying the alternative portfolio. We would particularly appreciate better understanding the Commission's approach to using BC Hydro's cost of capital for IPP projects and the approach used for the cost of capital faced by an IPP (i.e. what IPPs actually pay) and the resultant rate impacts. For example, on page 159-160, the Commission appears to conclude that IPP financing is the relevant assumption for the alternative portfolio ...*

Response

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

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

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

[25] Results in this table are based on the revised Illustrative Alternative Portfolio spreadsheet published on Nov. 16 with the A-26 errata.
[26] Final Report, p. 70, footnote 600.

> By contracting for the supply of energy from an IPP, as opposed to developing an energy source directly, BC Hydro will transfer development, construction and operating risk to the IPP. In the Panel's view, the analysis should reflect this transfer of risk. CEABC suggests that the effect of this transfer of risk should be reflected in the discount rate that is applied to each project. BC Hydro submits that it isn't practical to conduct such an analysis on a project to project basis. ...
>
> The Panel makes no determination on whether BC Hydro or IPPs should undertake the investments included in the Illustrative Alternative Portfolio. This Inquiry is not the place to address the question of BC Hydro versus IPP ownership and determine the optimal price/risk allocation in energy purchase agreements between BC Hydro and IPPs. Indeed, this review is agnostic with respect to ownership structure and instead focuses on the inherent cost and performance attributes of the generating assets, and how those assets will meet needs and address risk within the broader generation portfolio.
>
> In order to ensure that the outcome of this review is not biased for or against a particular ownership structure, the Panel therefore determines that an "apples to apples" comparison requires that the same financing costs be assumed for both Site C and the Illustrative Alternative Portfolio. However, to address the concerns raised by BC Hydro, the Panel provides additional scenarios with different financing assumptions. For these scenarios, BC Hydro financing will only be applied to DSM initiatives, and IPP financing costs for all other generation sources. ...[27]

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

[27] Final Report, pp. 159, 160.

Question 3: Demand-side management

The Deputy Ministers ask:

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

Response

The Report stated:

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

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

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

The Deputy Ministers ask:

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

Response

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

[28] Final Report, p. 38.
[29] Final Report, p. 164.

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

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

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

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

> With regard to what DSM cost should be included in the Alternative Portfolio, the Panel finds that the cost should be the utility cost as section 3 (b)(iv) of the OIC refers to the cost to ratepayers, as opposed to the BC cost or the societal cost.
>
> For example, the industrial load curtailment DSM program has a utility cost of $75/kW-year, while BC estimates that the total resource cost (i.e. the cost to the customer of curtailing) is $60/kW-year. The Panel considers it would not be consistent with the treatment of Site C to include in the Alternative Portfolio the cost to the industrial customer of curtailing supply (total resource cost), instead of the cost to the utility of obtaining the curtailment (utility cost).[33]

The Deputy Ministers also ask:

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

Response

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

---

[30] Final Report, appendix A, p. 38.
[31] Final Report, Appendix A, p. 34.
[32] Final Report, appendix A, p. 38.
[33] Final Report, Appendix A, pp. 38, 39.
[34] Final Report, Appendix A, p. 34.

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

> Curtailable loads have already demonstrated that they can feasibly, cost-effectively and dependably provide system capacity for the necessary duration of peak load events. AMPC's October 11 submission details the specifics of AMPC's position. Once long term curtailable tariffs are established; scalable capacity resources can be delivered in appropriate quantities and at very short notice compared to generation sources. From BC Hydro's forecasts of capacity and energy need, the immediate implementation of curtailable contracts and/or tariffs could provide the necessary time to take a more detailed look at how future energy needs are most reliably and affordably provided. This time is particularly valuable during a period of significant technological development in energy storage, to reduce the risk of adopting a potentially short-lived technology path. Moreover, this provides a non-rate mechanism to retain existing, and attract additional, industrial load.
>
> ...the Commission should, as part of any alternative energy portfolio evaluated, consider the full use of industrial load curtailment to generate needed system capacity, because load curtailment is a well-developed, well-studied program that can be implemented economically and quickly, without the need to speculate on the its potential availability in the future.[35]

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

Question 4: Amortization of sunk/termination costs

The Deputy Ministers ask:

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

Response

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

> Regarding the potential mechanisms to recover termination costs, the options available are either from BC Hydro ratepayers, the shareholder or some combination of the two. If these costs are to be recovered from ratepayers a further issue is over what period they should be recovered.
>
> Generally speaking, a regulated utility is entitled to recover from its ratepayers, all prudently incurred expenditures. Therefore, the issue would be whether the costs to terminate the project were prudently incurred and this can only be determined after the expenditures have been made.
>
> In regard to the recovery period, this requires further analysis. Considerations include intergenerational equity – too long a period risks forcing customers who may not benefit from the expenditure to pay for it. If the payback period is too short, there is a risk of rate shock. This Panel takes no position at this time what the recovery period should be and notes that it would be subject to Commission approval.
>
> The same principles apply to the recovery of the sunk costs. There are some that suggest that if the project is terminated, this could be an indicator that the decision to go ahead with the project was not prudent. Others argue that since the project was not approved by the Commission, the costs were, by definition, not prudently incurred.
>
> **The Panel takes no position on the recoverability from ratepayers for sunk and termination costs. Further, we take no position on the recovery period for sunk and termination costs.** However, for the analysis of ratepayer impacts of the termination scenario, we have assumed that termination costs will be recovered from ratepayers over a 10, 30 and 70 year recovery period.
>
> Although we do not consider the rate impact of sunk costs when comparing the continue and termination scenario, the costs must be recovered. In the case of Site C being completed these costs would be included in the project costs, and barring any disallowance, would be recovered from ratepayers over the 70-year amortization period proposed. In a terminate scenario, again assuming the costs are to be recovered from ratepayers, to determine the cost impact to ratepayers requires assumptions regarding the amortization period.

The Deputy Ministers also ask:

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

Response

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

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

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

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

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

The Deputy Ministers also ask:

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

Response

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

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

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

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

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

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

The scenarios for the total rate impact of the Illustrative Alternative Portfolio as presented in the Final Report[39] include termination costs of $1,800 million. The analysis in the tables above suggests a situation whereby the sunk and termination costs of Site C would be recovered separately from the costs of the Illustrative Alternative Portfolio. To avoid double counting, it is therefore appropriate to present accompanying analysis that demonstrates the impact of removing termination costs from the total rate impact of the Alternative Portfolio. Table XX below indicates that the illustrative Portfolio would be less costly in all load forecast scenarios with termination costs excluded from the rate impact.

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

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

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

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

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

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

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

Response

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

> In regard to the recovery period, this requires further analysis. Considerations include intergenerational equity – too long a period risks forcing customers who may not benefit from the expenditure to pay for it. If the payback period is too short, there is a risk of rate shock. This Panel takes no position at this time what the recovery period should be and notes that it would be subject to Commission approval. ...
>
> **Further, we take no position on the recovery period for sunk and termination costs.** However, for the analysis of ratepayer impacts of the termination scenario, we have assumed that termination costs will be recovered from ratepayers over a 10, 30 and 70 year recovery period.
>
> Although we do not consider the rate impact of sunk costs when comparing the continue and termination scenario, the costs must be recovered. In the case of Site C being completed these costs would be included in the project costs, and barring any disallowance, would be recovered from ratepayers over the 70-year amortization period proposed. In a terminate scenario, again assuming the costs are to be recovered from ratepayers, to determine the cost impact to ratepayers requires assumptions regarding the amortization period.[40]

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

[40] Final Report, pp. 163–164.

Question 5: Load forecast

The Deputy Ministers ask:

> *We are unaware of prior instances when anything other than BC Hydro's mid-load forecast has been used for planning purposes. For that reason, we would like to clarify:*
>
> > *Did the Commission assume lower demand for electricity (reflected in the low-load forecast used in the report) because it is forecasting a period of lower economic growth for the province in which major power consumers such as mining, forestry, technology and commercial sectors are in decline?*

Response

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

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

The Deputy Ministers also ask:

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

Response

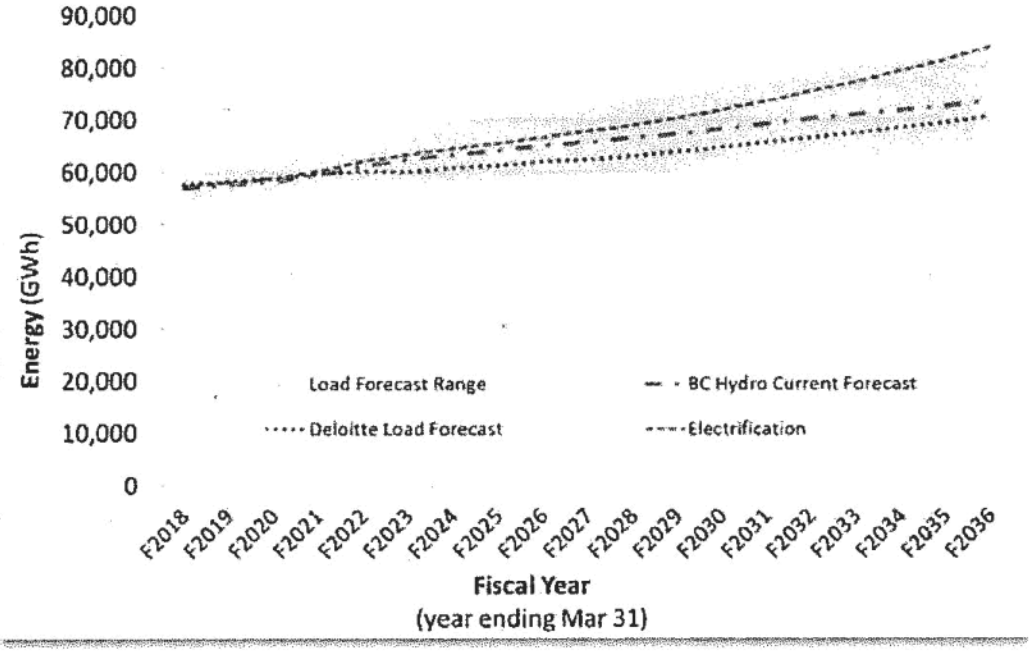
The Commission does not have a load forecast. The terms of reference required us to use BC Hydro's load forecast from the 2016 Revenue Requirements Application, which has a mid-level projection within a high and a low band. We were also required to seek BC Hydro's view on factors which might influence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

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

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

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

Figure 1: BC Hydro's Load Forecast Range, Impact of Electrification, and Deloitte's "Alternative" Load Scenario



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

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

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

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

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

The Deputy Ministers further ask:

> *We have noted that the Commission has concluded that BC Hydro's low load forecast was most appropriate for an assessment of the need for the capacity of Site C. It would be helpful for us to further understand the rationale, and whether the assessment includes the load requirements needed to meet the Province's Clean Energy Act energy objectives of:*
>
> - *Reducing greenhouse gas emissions by 2050 by 80% less than 2007 levels;*
> - *Encouraging the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia; and,*
> - *Encouraging communities to reduce greenhouse gas emissions and use energy efficiently.*

Response

To recap the Final Report, the Commission concluded:

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

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

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

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

---

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

[42] Final Report, p. 77.

Recent developments in the industrial sectors

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

> **The Panel finds the developments since the Current Load Forecast was prepared, as reported by BC Hydro, can reasonably be expected to reduce demand from the expected case or mid forecast.**
>
> The Panel acknowledges there have been some positive developments in the non-LNG large industrial load that BC Hydro suggests provide a net increase in demand since the Current Load Forecast was prepared (an anticipated positive total variance is approximately 750 GWh/100 MW in the short and medium term and 965 GWh/114 MW over the long-term). However, given the risk and volatility of the industrial load and its susceptibility to cyclical ups and downs, and the risks to the large industrial load set out by AMPC, the Panel is unable to draw any conclusions that these recent developments will result in a permanently positive impact on industrial demand. In any event, in the Panel's view these positive developments in the non-LNG sector are not enough to offset negative developments for a potential BC LNG sector.
>
> **The Panel finds that developments since the Current Load Forecast was prepared have significantly reduced the probability that the majority of BC Hydro's forecast LNG load will materialize.** Regarding the potential LNG industrial load, BC Hydro itself states there are questions as to whether BC has missed the window of opportunity for LNG. While BC Hydro points to certain third-party market views that still show some support for the opportunity to develop LNG in BC, the Panel notes the significant uncertainty expressed in most market views, the recent cancellation and postponement of several large potential BC LNG projects, and the higher costs of potential BC LNG projects compared to existing and potential projects in other jurisdictions. The Panel also agrees with several parties who express concern with the fact that BC Hydro had not made a probabilistic assessment of the likelihood of the LNG load materializing. The Panel agrees with Finn that the three projects cited by BC Hydro face uphill battles, especially given the current poor market conditions. [43]

Accuracy of historical load forecasts

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

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

[43] Final Report, p. 78.

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

GDP and other forecast drivers

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

> ...The Conference Board of Canada forecast projects the real GDP will grow by 2.6 percent on average between 2016 and 2020 and then drop to an average of 2.3 percent between 2021 and 2025. In contrast, BC Hydro's projection results in an average growth rate of 3.5 percent over the same five years. BC Hydro's forecast results in the BC economy being six percent larger than the CBoC's forecast by 2025. The Panel considers BC Hydro's average growth rate of 3.5 percent to be excessive.
>
> ...
>
> The Panel remains concerned that BC Hydro's GDP and disposable income forecast drivers are higher than other comparable third party estimates, such as the CBoC. Based on the evidence presented in this Inquiry, the Panel can make no definitive finding on the appropriate GDP or disposable income driver to apply. However, considering the historical over-estimates in the load forecast as noted above, the Panel approaches BC Hydro's estimates with skepticism given that these key drivers are both considerably higher than other third party estimates and use of the lower estimates would result in a lower load forecast. **Accordingly, the Panel finds BC Hydro's mid load forecast is higher than if it used the CBoC estimates and adjusting for this could reasonably be expected to influence demand towards the low load case.** [45]

Price elasticity assumptions

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

> **The Panel finds the -0.05 long-run price elasticity used by BC Hydro for all rate classes to be too low in magnitude to reflect the degree of change in demand for a given change in price. Accordingly, the Panel finds BC Hydro's mid load forecast is higher than would otherwise be the case if it used lower price elasticity factors, and that adjusting for this would reduce demand towards BC Hydro's low load forecast case.**
>
> **The Panel finds that BC Hydro should be using a long-run price elasticity given the long 70 year time horizon of Site C. The Panel also finds that the international literature shows that long-run elasticities are higher than short-run elasticity. It is not clear to the Panel that BC Hydro's empirical studies have appropriately estimated long-run price elasticities since the residential inclining block rate and the transmission stepped rates have not been in place over a long time horizon.**
>
> ...
>
> **The Panel finds the residential long-run price elasticity is likely to be more than -0.05.** BC Hydro's empirical evidence shows a range from 0 to -0.13; however, the zero in the low-end of the range with no price response indicates the study results may not be reliable. The Panel

[44] Final Report, P. 78.
[45] Final Report, pp. 78–79.

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

BC Hydro's empirical evidence shows that the price elasticity for commercial and industrial general service customers is close to zero so BC Hydro adopted -0.05. **The Panel finds that BC Hydro's empirical evidence for the price elasticity of commercial customers is unreliable in determining the long-run price elasticity.** The Panel notes the international literature shows varied results for commercial customers. Paul, Myers, and Palmer had a long-run elasticity average of -0.29 with a range of -0.02 to -0.70. Bernstein and Griffin had a single estimate of -0.97 which suggests the elasticity could be higher than -0.05.[46]

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

Future rate increases

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

> **The Panel finds BC Hydro's demand forecast is sensitive to rate changes even using BC Hydro's low price elasticity factors. Accordingly, any real increase in rates beyond the rates reflected in the 2013 10 Year Rates Plan and any subsequent real rate increase could reasonably be expected to influence demand towards the low load case.**
>
> **The Panel finds there will be considerable upward pressure on rates for the remainder of the 2013 10 Year Rates Plan and beyond fiscal 2024. The Panel finds the risk associated with this upward pressure on rates is especially concerning given the submissions related to potential "demand destruction" that could result from the impact of real rate increases on already vulnerable industrial customers and the likelihood that even nominal rate increases will increase energy poverty among BC's low income households.**[48]

Potential disrupting trends

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

> **Given the uncertainty, the Panel finds additional load requirements from potential electrification initiatives should not be included in BC Hydro's load forecast for the purpose of resource planning.** Although available information indicates that the effects of electrification on BC Hydro's load forecast could potentially be significant, the timing and extent of those increases remain highly uncertain.
>
> BC Hydro has not included in its Current Load Forecast additional load requirements from electrification initiatives to reduce greenhouse gas emissions. The Panel agrees with BC Hydro and Hendriks *et al.* that the timing and magnitude of the increase is uncertain at this time. However, electrification is still an issue for consideration. The Panel notes that if electrification

[46] Final Report, pp. 79–80.
[47] Final Report, p. 65.
[48] Final Report, p. 80.

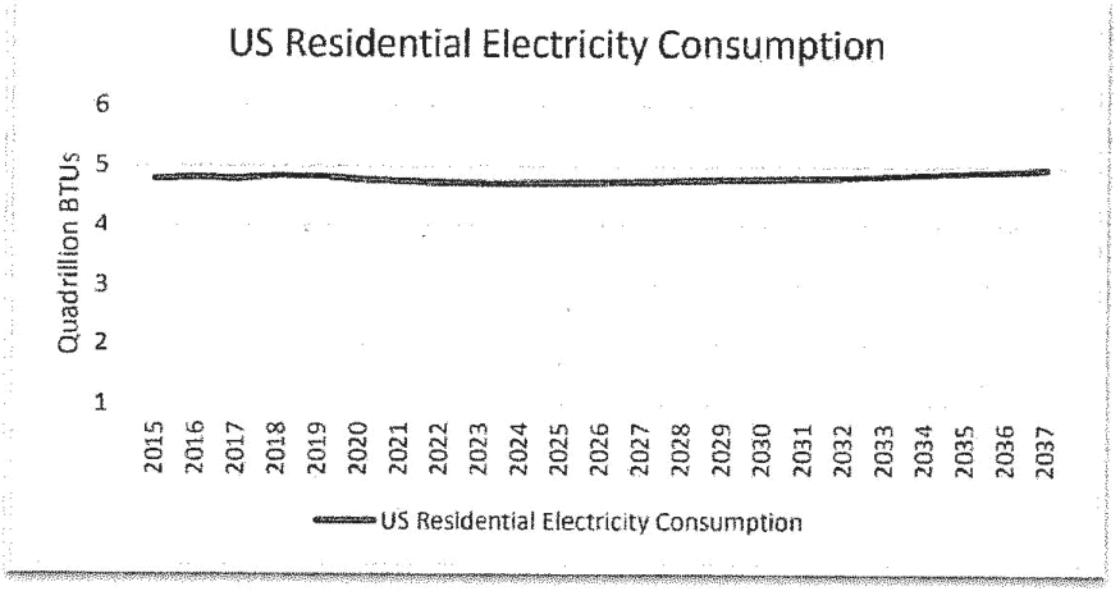
does materialize in the future, it is possible that some of the higher electricity demand could be offset with aggressive conservation measures, including DSM programs that achieve load reductions similar in magnitude to those experienced in the New England states.

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

Flattening electricity demand

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

Figure 2: US Residential Electricity Consumption



The Deputy Ministers ask:

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

[49] Final Report, pp. 81–82.
[50] Final Report, p. 82.

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

Response

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

The Deputy Ministers also ask:

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

Response

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

Additional question: Dispatchability

The Deputy Ministers ask:

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

Response

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

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

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

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

[51] Executive Summary, p. 3.
[52] Final Report, Appendix A, p. 32.
[53] Final Report, Errata, p. 6.

FW: Media Availability: Sivertson/Feller/Quail/Shaffer - Site C reports

Lowe, Mike GCPE:EX

Thu 11/23/2017 8:11 AM

To:Gibbs, Robb GCPE:EX <Robb.Gibbs@gov.bc.ca>; Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca>; Zadravec, Don GCPE:EX <Don.Zadravec@gov.bc.ca>;

In case you didn't notice this transcript come through... I know there was some interest in it.

From: tno@gov.bc.ca [mailto:tno@gov.bc.ca]
Sent: Wednesday, November 22, 2017 2:49 PM
Subject: Media Availability: Sivertson/Feller/Quail/Shaffer - Site C reports

Media Availability
Shaffer/Quail - Empress Hotel - BCUC Report Problems
22-Nov-2017 11:00

[tone-5x]

Page 103 to/à Page 115

Withheld pursuant to/removed as

Copyright

Page 116 to/à Page 124

Withheld pursuant to/removed as

s.12;s.13

Re: Rollout confirmed with MMM

Haslam, David GCPE:EX

Mon 11/13/2017 3:14 PM

To:Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca>;

Cc:Zadravec, Don GCPE:EX <Don.Zadravec@gov.bc.ca>; Gibbs, Robb GCPE:EX <Robb.Gibbs@gov.bc.ca>;

On it.

Sent from my iPhone

On Nov 13, 2017, at 2:53 PM, Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca> wrote:

> Les is checking again re posting. But we should be ok sending the letter ASAP and releasing IB when we know BCUC will be posting.
>
> Sent from my iPhone
>
> On Nov 13, 2017, at 1:11 PM, Zadravec, Don GCPE:EX <Don.Zadravec@gov.bc.ca> wrote:
>
> If we move to Tuesday in terms of sending letter to BCUC:
> 1. Would we still issue the IB and the letter to media?
> 2. If so, would those be released on Tuesday to coincide with the letter going to the BCUC or Wednesday when the letter is posted to the BCUC website?
> 3. If it is the former, we need to ensure MMM is in a position to respond to media inquiries on Tuesday.
>
> ---
>
> **From:** Lloyd, Evan GCPE:EX
> **Sent:** Sunday, November 12, 2017 11:26 AM
> **To:** Haslam, David GCPE:EX
> **Cc:** Gibbs, Robb GCPE:EX; Zadravec, Don GCPE:EX
> **Subject:** Re: Rollout confirmed with MMM
>
> Ok - Robb and Don note media training window. Latest word then is MMM will make the effort to be in FSJ.
>
> Sent from my iPad

On Nov 11, 2017, at 1:36 PM, Haslam, David GCPE:EX <David.Haslam@gov.bc.ca> wrote:

> Evan. As you know MMM confirmed media outreach rollout attached. She's available wed am for media training via skype which she can do from home. Attached rollout. produced by Don and reviewed by myself and Melissa. we'll update as necessary. In addition to the media training and supporting key messages (which I will produce) we'll need to arrange a briefing by Dave Nikolejsin on the letters once finalized. Finally. Spoke to Les about bcuc timing of posting docs. Generally they post day after receiving. But they may take more time on the letter. Will continue to monitor. Including Dave, Les and Melissa on this.
>
> <CONFIDENTIAL DRAFT Site C Nov 10.docx>

Sent from my iPhone

DMs to BCUC 13-11-17 v3 DN LM.docx

Lloyd, Evan GCPE:EX

Mon 11/13/2017 10:34 AM

To:Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca>;

2 attachments

DMs to BCUC 13-11-17 v3 DN LM.docx; ATT00001.txt;

DRAFT

Via E-mail

David Morton
Chair
BC Utilities Commission

Re: Inquiry Respecting Site C

We thank the BC Utilities Commission (Commission) for the report on the Inquiry Respecting Site C delivered to the Minister of Energy, Mines and Petroleum Resources on November 1, 2017. Completing the report in a short time frame with such high levels of public and First Nations input and transparency is a significant achievement.

Our ministries are supporting government's decision making on the future of Site C, which will consider the Commission's report along with other implications associated with proceeding or terminating the project. In considering the Commission's report, we want to ensure we fully understand the Commission's assumptions and computations in its analysis of Site C and of potential alternative sources of generation and capacity.

As such we have identified a number of items in the final report as detailed in the Appendix below which we hope you can address. Your responses will help us provide the advice necessary to support a government decision on Site C that is in the best interests of British Columbians.

These issues are related to the following key questions:

- Does the Commission's report include both sunk costs (the estimated $2.1 billion already spent on the project) and termination costs (the $1.8 billion determined by the Commission) when comparing the costs to ratepayers of completing Site C with those of pursuing an alternative portfolio of generation resources?

  Specifically, it is not clear if the sensitivity analysis presented on page 17 of the report's executive summary includes both costs in a consistent manner. If not, can you please advise how including those sunk and/or termination costs may change the cost to ratepayers and the unit energy cost in both scenarios?

- Were the government to terminate the project, does the Commission assume that BC Hydro would develop and finance the projects included in the alternative portfolio (wind, geothermal) rather than independent power producers (IPPs)?

  We seek clarification on this issue, inasmuch as the Commission, in some cases, appears to use BC Hydro's lower cost of capital financing when calculating the cost of the alternative portfolio, thus affecting the valuation of those projects.

- Could the Commission thus offer some insight into what affect a higher cost of capital for an alternative portfolio (consistent with financing rates for IPPs) would have on ratepayers?

- Government will need to consider the total cost of potential DSM initiatives (rather then just the utilities costs) as it considers the alternatives. How has the Terms of Reference led the Commission to the conclusion that demand-side measures should be assessed based on the Utility Resource Cost standard, when Total Resource Cost has been the standard in prior Commission proceedings?

- If the project is cancelled, the $4 billion sunk and remediation costs will need to be recovered and the amortization period will affect BC Hydro rates. Does the Commission assume that these costs would be recovered over 10, 30 or 70 years?

    - From the Commission's perspective, is recovery of these costs over longer periods of 30 or 70 years consistent with accepted accounting principles for rate-regulated utilities which generally ensure future generations aren't paying for investments from which they derive no benefits?

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

- Finally, we are unaware of prior instances when anything other than BC Hydro's mid-load forecast has been used for planning purposes.

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

    - Furthermore can Commission include in its load forecast the potential growth in demand for electrical power to meet the province's stated objectives to reduce greenhouse gas emissions through greater electrification of our economy?

The government has stated that it plans to make a decision on Site C by the end of the year. The Commission's timely response to the matters identified below will help our Ministries provide the advice necessary to support government's decision-making.

Dave Nikolejsin
Deputy Minister
Ministry of Energy, Mines
and Petroleum Resources

Lori Wanamaker
Deputy Minister
Ministry of Finance

Attachment

Appendix: Detailed Questions for the Commission

We note that the Commission has stated in the report that the "alternative portfolio developed by Commission staff are not a substitute for BC Hydro's planning processes." We understand that BC Hydro modelled over 60 scenarios testing various assumptions, including a number of alternatives requested by the Commission, but that the Alternative Portfolio in the final report was not analyzed using BC Hydro's modelling tools. We have therefore asked BC Hydro to provide an assessment of the model used to develop the Commission's final Alternative Portfolio, and we understand that BC Hydro will be providing the Commission with the results of that assessment separately.

There a number of matters that our Ministries and BC Hydro have identified in our initial analysis that we would like the Commission's feedback on. In particular, our staff have also discussed with BC Hydro the impact of certain assumptions, and how the costs of those assumptions would be recovered from ratepayers.

We understand that BC Hydro follows standards for rate-regulated utilities in its financial statements and in preparing its applications for review by the Commission. This framework follows a number of principles in relation to the amortization of capital assets and the deferral of other costs for the purpose of matching recoveries from ratepayers to periods over which benefits are provided. BC Hydro's rate-regulated accounting framework is also currently a subject of review by the provincial Auditor General.

It would be helpful if the Commission could clarify how the choices of the various amortization and recovery periods in the Termination scenario would fit or be acceptable to provincial auditors as reasonable and justified assumptions within the rate-regulated accounting and rate-setting framework. We believe that choices must have a sound foundation of recognizing decision costs when they occur or can be matched to future periods reflecting underlying asset lives or when benefits are provided.

We understand that there was significant discussion during the Commission's process on the cost of capital. The Alternative Portfolio assumes that BC Hydro finances all new resources on its balance sheet. Other than redevelopment of existing sites and Site C, BC Hydro has, for almost three decades, been primarily procuring new supply from competitive processes or bilateral agreements benchmarked to competitive processes. This effectively means that BC Hydro avoids assuming such debt on its balance sheet and only recognizes the incremental costs of new energy purchases which would include the private sector's annual debt servicing costs and equity return within approved purchase contracts.

It would be helpful to understand how the Commission assesses the impact on ratepayers of the additional debt associated with the assumptions underlying the Alternative Portfolio. We wish to further understand the Commission's approach to using BC Hydro's cost of capital for IPP projects and the approach used for the cost of capital faced by an IPP (i.e. what IPPs actually pay) and the resultant rate impacts. For example, we note on page 159-160, the Commission appears to conclude that IPP financing is the relevant assumption for the Alternative Portfolio, and the BC Hydro financing assumption should only be used for the Unit Energy Cost (UEC)

analysis. Whereas, on pages 167, 170 and Appendix C (Assumption 2), it appears that the Commission has used BC Hydro financing (100% debt financing at a cost of 3.43%) for the Alternative Portfolio. We would appreciate clarification on which cost of capital should be used in analysing rate impacts.

BC Hydro has suggested that recovery in rates of sunk costs in a Termination scenario should occur over a 10-year period. If the project were to continue as planned, the sunk costs, as part of the overall project, will be recovered over a 70-year period, consistent with the amortization of the Site C asset. The Commission staff model appears not to include sunk costs in the Termination scenario, and has removed those costs from the Continue Site C scenario. Effectively this assumes that sunk costs will be recovered in rates over 70 years if the Project is terminated. Recovering costs in rates over a shorter period has a material impact on the Alternative Portfolio. It would be helpful if you could provide an estimate of the rates impact using these two time-frames. We are also interested in how the Commission reconciles its 30-year amortization of termination costs, and this modelling result of sunk cost amortization over 70 years, with the rate setting principle of intergenerational equity.

The table on page 17 of the Executive Summary and Table 43 in the main report include a summary of the Commission's sample scenarios showing the effect of modifying one or more variables to the resulting NPV cost to ratepayers. As noted above, the Commission's alternative Portfolio does not appear to include sunk costs, and sunk costs have also been removed on the Continue scenario. The tables also include UECs. For the Site C scenario, the UECs reflect costs, including sunk costs, of Site C being either $10 billion or $12 billion depending on assumptions. Our review of the Commission report suggests that the Alternative Portfolio does not include termination costs. It would be helpful if the Commission could confirm this and provide a new version of the UEC portion of the table, where the Alternative Portfolio includes termination costs. This would help to ensure a consistent basis of comparing the costs of the Site Continue scenario with the Termination scenario on a forward-looking basis.

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

We have noted that the Commission has concluded that BC Hydro's Low Load Forecast is most appropriate for an assessment of Site C need. It would be helpful for us to further understand the rationale, and for the Commission to confirm, that the assessment does not include additional load requirements to meet the Province's *Clean Energy Act* energy objectives of: reducing greenhouse gas emissions by 2050 by 80% less than 2007 levels; encouraginge the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia; and ~~to~~ encouraginge communities to reduce greenhouse gas emissions and use energy efficiently. It would also be useful to know if the Commission examined the value of

"dispatchable" resources versus intermittent resources, particularly as applied to the goal of moving industrial loads now and in future to electricity.

It has been government's assumption electrification with low carbon electricity would be a key initiative to achieve greenhouse gas reductions. The provincial government is working with the Federal government on electricity system infrastructure investments to reduce and avoid greenhouse gas emissions, and has enabled BC Hydro to pursue electrification initiatives under the *Greenhouse Gas Reduction (Clean Energy) Regulation* under the *Clean Energy Act*. It would be helpful to understand if the Commission has a different view, and if the Commission could further describe the impact on its analysis of electrification initiatives to meet greenhouse gas reduction objectives.

The Commission report identifies an aggressive DSM program, coupled with load curtailments a way to achieve the Alternative Portfolio scenario. It would be helpful if the Commission could further describe how such load curtailments would practically be achieved in the natural resource sector without impairing operations, jobs and economic growth for sectors already facing trade sanctions and pressures.

We understand that BC Hydro has provided the Commission with a description of what the BC economic environment would look like under a low load outlook scenario. It would helpful if the Commission could further describe its view of the low load outlook, noting that the Commission believes that the outlook could be even lower, and how that outlook contributes to realistic economic sustainability, around which an Alternative Portfolio would be based.

With respect to project schedule and budget, it would be helpful if the Commission could clarify that today the Site C project is not 1 year behind schedule from the target in-service date of November 2024 that was approved by the provincial Cabinet in December 2014. While there are risks identified by the Commission, with varying degrees of probability, that this date could be exceeded, it is still early in the project and mitigation measures have not yet been fully assessed.

We may identify further questions as our due diligence continues to support government decision-making.

Re: Rollout Site C Nov 12.docx

Sanderson, Melissa EMPR:EX

Sun 11/12/2017 2:42 PM

To:Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca>;

Hi Evan,

The flight forecast for Castlegar is up and likely to cancel. So just to clarify MMM will be doing consultations via teleconference. Does that change this before I alert the group via email?

Sent from my iPhone

> On Nov 12, 2017, at 12:24 PM, Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca> wrote:
>
> Having (hopefully) resolved some travel and logistical uncertainty please note latest (revised) SiteC roll-out covering the next few days. Note uncertainty about when precisely BCUC might post the EMPR/FIN letter. Timing of IB and letter release on our part TBD - in consideration of a) unencumbered FSJ meetings Tuesday and b) maximizing BCUC time to respond to key Qs
>
> Evan
> <CONFIDENTIAL DRAFT Site C Nov 12.docx>
>
>
> Sent from my iPad

Site C comm plan working draft

Zadravec, Don GCPE:EX

Fri 11/10/2017 6:06 PM

To:Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca>;

1 attachment

Working Draft Communications Strategy Site C Nov08_320pm DZ edits.docx;

Evan, this is the latest draft, with my track changes that I sent to David Haslam.

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

Confidential Draft Advice

Working Draft
Communications Strategy – Executive Overview
Site C

Executive Overview
This document will serve as the communications strategy guiding the provincial government as it considers, makes and announces its decision regarding the future of Site C.

The communications strategy is a based on the premise that there are three separate but interrelated communications phases relating to the Site C decision. It also brings into play related issues outside the scope of Site C.

- Phase 1: Pre-Report: Mid October – November 1
- Phase 2: Review & Consult: November 1 – Pre-Decision
- Phase 3: Decision Day – Forward

Each phase will bring its own set of issues and stakeholder outreach, which will need to be proactively managed and require briefings with key decision-makers and influencers in government, including cabinet and non-elected officials and government caucus, while also adhering to the confidence and supply agreement with the Green Caucus.

Phase 1 was completed on Nov. 1 with the delivery of the BCUC's final report.

Phases 2 and 3 are summarized below, with a recommended issues-based strategic approach, communications tactics and collateral products.

Phase 2 Review, Monitor, Evaluate & Consult: November 1- Decision – Proactively communicate the provincial government's information gathering process for a decision on Site C to demonstrate all avenues are being explored to make the best decision in the interests of British Columbians and ratepayers.

Key eEvents and Critical Path

- November 1: BCUC completes Site C report, forwards to government and posts to BCUC website
- Government reviews report
- Nov. 8: Minister Mungall delivers announcement on rate freeze.
- Nov. 9: Letter to BCUC to clarify some of the analysis and findings (joint from EMPR and FIN Deputy Ministers).
- Nov. 9: Due diligence analysis of BCUC report in the context of impact on provincial finances, including debt and credit rating
- Nov. 9: Briefing of Green Party by EMPR, CASA officials
- Nov. 14: Minister Mungall and Minister Fraser meet with First Nations in Fort St. John
- Nov. 16: Minster Mungall media availability following meetings with First Nations (TBC)
- Nov. XX: Officials (TBD) brief media on decision-making process
- Nov. XX: Briefing of caucus on technical/financial review of the BCUC report
- Public opinion polling occurs
- Government lays the ground for a decision

EVENT/ISSUE: Construction continues during the period that government is reviewing BCUC report			
Strategic Approach	Tactics	Collateral products	Key Message
Consistent with the government's approach to allow work to continue while review and decision on future of Site C is made. Also, less construction as winter approaches	As per above, with additional stakeholder outreach as required.	Key Messages Q&As	Construction is slowing down with winter approaching but there are still over 2,000 people working at Site C and we don't think it is fair to those workers and their families to stop construction while we are still deciding whether or not to continue with the project.

EVENT/ISSUE: Announcement of rate freeze			
Strategic Approach	Tactics	Collateral products	Key Message
Consistent with the decision to review Site C, the rate freeze is another commitment government made to make life more affordable for British Columbians.	Minister Mungall announced rate freeze in media stand-up in the halls prior to QP and release of NR province-wide.	NR Q&As QA/KMs	The British Columbia government is delivering on its promise to freeze BC Hydro rates, putting an end to the years of spiralling electricity costs that have made life less affordable for B.C. homeowners and renters.

Formatted: Font: 10 pt

Formatted: Font: 10 pt

EVENT/ISSUE: Letter to BCUC from DMs of FIN and EMPR seeking clarification on BCUC~~their~~ report			
Strategic Approach	Tactics	Collateral products	Key Message
Communicate gGovernment's information gathering process for decision to demonstrate all avenues are being explored to make best decision in the interests of British Columbians and ratepayers.	Media avail by Minister Mungall before Cabinet	KMs Copy of letter to BCUC (TBD) News release (TBD)	Our request to the BCUC to clarify some elements of its final report is part of the actions we're taking to ensure we have all the information we need to make the best decision on Site C in the interests of British Columbians and ratepayers.

EVENT/ISSUE: Due diligence analysis of BCUC report			
Strategic Approach	Tactics	Collateral products	Key Message
Communicate Government's information gathering process for decision to demonstrate all avenues are being explored to make best decision in the interests of British Columbians and ratepayers.	Media avail by Minister Mungall before Cabinet as per above	KMs	Given the potential impact on the provincial debt and credit rating of a decision either way on Site C, as part of our due diligence the Ministry of Finance is undertaking a financial analysis of the BCUC report.

EVENT/ISSUE: Ministers Mungall and Fraser meet with First Nations in Fort St. John.			
Strategic Approach	Tactics	Collateral products	Key Message
Aligns with government's commitment to UNDRIP. Communicate Government's information gathering process for decision to demonstrate all avenues are being explored to make best decision in the interests of British Columbians and ratepayers.	Media avail by Minister Mungall before Cabinet. Government, through Ministers Mungall and Fraser, meets with First Nations Nov. 14 in Fort St. John. Media avail and one-on-one interviews by Minister Mungall following her meeting with First Nations.	Key Messages Q&As Presentation materials for meeting with First Nations	Further engagement with Treaty 8 First Nations impacted by the Site C project reflects our commitment to transform our relationship with Indigenous peoples and is one way we are bringing the principles of the UN Declaration on the Rights of Indigenous Peoples into action.

EVENT/ISSUE: If polling becomes public			
Strategic Approach	Tactics	Collateral products	Key Message
Part of the overall due diligence process and listening to and consulting with British Columbians.	Reactive media relations should the issue of opinion polling become public	Key Messages Issues note	Our Government is listening to British Columbians and making decisions that put people first – polling is part of our due diligence as we work towards a decision on Site C that is in the best interests

			of British Columbians.

EVENT/ISSUE: Officials (TBD) brief media on decision-making inputs			
Strategic Approach	Tactics	Collateral products	Key Message
Communicate Government's information gathering process for decision to demonstrate all avenues are being explored to make best decision in the interests of British Columbians and ratepayers.	Technical background briefing.	KMs Presentation materials.	In addition to fully reviewing the BCUC's findings and other issues outside the scope of the review Government is taking actions to ensure we have all the information we need to make the best decision on Site C in the interests of British Columbians and ratepayers.

EVENT/ISSUE: Laying the groundwork for a decision			
Strategic Approach	Tactics	Collateral products	Key Message
Begin to build support for the decision.	Select media engagement	Key messages	Our Government continues to talk with the public, community leaders, labour leaders, industry and First Nations to seek their opinions as we work towards a decision on Site C that will ultimately keep rates low while ensuring British Columbians have access to clean, renewable, reliable and cost-effective electricity to power their lives and businesses into the future.

Phase 3 Decision Day – Onwards

Events:

- Government decides on Site C
- Stakeholder reaction
- Mitigation Policies

EVENT/ISSUE: Regardless of the decision, there will be concerns/complaints raised by those who oppose the decision			
Strategic Approach	Tactics	Collateral products	Key Message
Difficult decision to make on a project we inherited that was already two years into construction thanks to actions of previous government. This decision was made due to the fact that this was the only realistic option for government based on the current state of the project and the situation which it inherited. A complex issue but one based on a comprehensive and fulsome decision-making process.	Integrated public affairs approach Focused on internal and external stakeholder relations, earned media, technical briefings digital engagement, and 3rd party validation.	Communications strategy (attached) Key messages News releases Q&As Issues Note Presentation materials: video PowerPoint, others Digital materials Polling	Our decision on Site C is the best decision for B.C. families, businesses and the sustainability of our environment and economy. Our decision is the only realistic option for government based on the current state of the project and the situation which it inherited.

EVENT/ISSUE: Government announces policy actions to mitigate impacts associated with decision			
Strategic Approach	Tactics	Collateral products	Key Message
Policy actions will further mitigate impacts associated with final decision on Site C.	In the months following the decision undertake proactive announcements of policy actions as they are finalized.	Media releases KMs/QA	Government is developing a range policies and actions we can undertake take to mitigate the impact of our decision on Site C.

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Communications Strategy
Announcing Site C Decision

Issue
Announcing a decision regarding the future of Site C.

Core Concept
To create understanding and support for the decision regarding the future of Site C while addressing the resulting issues arising from the decision.

Central Opportunity
To position the decision on Site C as the best/only option under the circumstances which the project began, and one that the government needed to make given where the project is coupled with the due diligence undertaken by the current government. This will require working with supportive stakeholders both pre and post the decision, with the goal of generating supporting and validation of the decision.

Central Challenge
While Site C may not be a top of mind issue for British Columbians (TBC), it is one that stakeholders, be they supporters or opponents of the project, have strong opinions on. Regardless of the decision on Site C, stakeholders who oppose the decision will likely be very vocal in voicing their displeasure with the decision, with the goal of making the Site C decision an issue of greater public debate and discussion.

Issues

Timing

- Once the BCUC submits its report on Site C to government, there will be heightened expectation among some that government should make a quick if not immediate decision. Government will need to be proactive in making sure that there is strong understanding that additional due diligence will be required once the report is received as well establishing a realistic time frame of when a decision will be made and announced.

Stakeholder reaction

- Ratepayers
- Industry
- Alternative energy industry: wind, solar, geothermal
- International investors, including LNG proponents
- Environmentalists
- First Nations
- Labour
- Regional
- Opinion leaders/influencers

Economic Strategy

- Any decision will be assessed in the context of the government's economic priorities and new economic strategy. For instance, if the decision is not to go ahead or to defer/delay, in the absence of an economic strategy, the decision will be portrayed as a government that just says no to everything.

- If the decision is to say yes, then it may be viewed as the government focusing on economic priorities in terms of attracting large industrial projects with affordable clean energy at the expense of the environment and shutting the door on other types of energy projects.

Financial implications

- Any decision will have financial implications in terms of the costs of proceeding versus the costs of cancellation or deferral.

Site C and Kinder Morgan

- Linkage of selling clean power to Alberta through extension of transmission lines vis-à-vis previous administration's tacit support for Kinder Morgan.

Urban/rural split

- Any decision could highlight the differences between rural BC and the lower mainland. For example, a no decision could reinforce the notion of the government being urban based. A yes decision could be seen as an attempt to woo rural voters.

First Nations

- First Nations primary objections to Site C have been infringement on treaty rights, lack of consent, and impacts to gravesites.
- Some First Nation view Site C as a barrier to alternative energy projects, which they are partners in by law under the Clean Energy Act. A decision to go forward with Site C will likely result in these First Nations voicing their displeasure.

Climate change strategy

- Some (i.e.: Marc Jaccard) argue that Site C is necessary to supply increased demand as a result of significant electrification to meet the province's greenhouse gas reduction targets. "Most mid- and small-sized vehicles will be electric. Most buildings will be well insulated and heated by electric resistance or electric heat-pumps, either individually or via district heating systems. And many low temperature industrial applications will be electric".

- The counter argument (i.e.: Robert McCullough) is that alternative energy sources can supply the energy needed for significantly increased electrification. "Renewables have declined in price so dramatically that Site C — even considering already sunk costs and the expenses of termination — can no longer compete".

Strategic Objectives

- Ensuring that decision is seen as one forced upon the government given that the government inherited the project coupled with the manner in which the original Site C decision was conceived, moved forward and advanced to this point
- Ensuring that the decision is seen as the right one in the best long-term interests of British Columbians given the current state of construction
- Aligning with the government's mandate
- Aligning with the objectives of the BCUC Review
- Aligning with UNDRIP
- Decision is best option given other alternatives to Site C
- Engaging with and maintaining the support of key stakeholders

- Anticipating, evaluating and proactively managing stakeholder issues

Strategic Considerations

- The decision if not properly communicated runs the risk of creating polarization between rural and urban residents, supporters and non-supporters of the project and impacting the province's investment climate

Key Stakeholders* See Appendix A for detailed list and Appendix B for stakeholder key messages

I. Business/industry
II. Environmental
III. Finance
IV. First Nations
V. Influencers
VI. Regional

Key Messages & Themes

Comment [ZDG1]: We will need a message frame for both pro and con and the Appendix B materials can be woven into this section as we progress.

Needs to dovetail and align with government's overall vision and mandate.

Key themes to include:

Rationale for decision

- Site C was inherited by the present government and was advanced to the point that the decision made by the new government was the only viable, feasible and realistic choice.

Economy

- Any decision will need to be messaged within the context of the government's economic priorities and new economic strategy.

Environment

- Any decision will need to be messaged within the context of the government's commitment to the environment and its strategy to address climate change. As well, messaging will be needed regarding the environmental impacts of decision.

Financial

- Financial cost of the decision.

First Nations

- UNDRIP Commitment.

Strategy

The approach will be focused on proactive media relations, earned and digital, including options for paid components, coupled with an aggressive stakeholder engagement strategy that puts an emphasis on ensuring that the decision is one that was essentially thrust upon the government.

Tactics TBD

Media Relations

- News Conference
- Technical briefings

Stakeholder Engagement

- Internal
- External

Advertising & Public Awareness

- TBD

Digital Media

- TBD

Polling

- Pre and post announcement

Others

- TBD

Recommended collateral products:

- Event Plan
- News Release(s)
- Key messages/Narrative
- Q&A
- MLA package
- Letters to stakeholders
- Fact sheets/Background
- Presentation deck
- Infographics
- Digital products
- Issues tracking matrix
- Post announcement polling

Next Steps

1. Approval on direction and approach
2. Preparation of collateral materials

Critical path/work plan: TBD

Task	Timing	Responsibility	Status

Appendix A – List of Key Stakeholders:

I. **Business/Industry:**
- Clean Energy Association of BC (CEBC)
- Allied Hydro Council of BC (AHC) (including the BC Building Trades)
- Independent Contractors and Businesses Association (ICBA)
- Peace Energy Renewable Energy Cooperative
- Canadian Geothermal Energy Association (CanGEA)
- Association of Major Power Customers of BC (AMPC)
- Commercial Energy Consumers Association of British Columbia (CEC)
- Canadian Wind Energy Association (CanWEA)
- Mining Association of BC (MABC)
- Canadian Association of Petroleum Producers (CAPP)
- Pulp and Paper Coalition
- Christian Labour Association of Canada
- Independent Contractors and Business Association
- WorkSafeBC
- Employment Standards Branch
- BC Chamber of Commerce
- Greater Vancouver Board of Trade
- Kleana Power Corporation
- West Coast Energy Inc.
- InterraPlan Inc.

II. **Environmental:**
- BC Sustainable Energy Association (BCSEA)
- Peace Valley Landowner Association (PVLA) and Peace Valley Environment Association (PVEA) (Represented by energy analyst Robert McCullough and lawyer Rob Botterell)
- The Wilderness Committee
- Peace River Environmental Society (Alberta)
- Yellowstone to Yukon Conservation Initiative
- Heritage Waterkeepers Society
- David Suzuki Foundation
- Sierra Club BC (represented by ecojustice)

III. **Finance:**

IV. **First Nations:**
- Treaty 8 First Nations with Tripartite Land Agreements:
  - McLeod Lake First Nations – Chief Harley Chingee
  - Halfway River First Nation – Chief Darlene Hunter

  - Doig River First Nation – Chief Trevor Makadahay
  - Saulteau First Nations – Chief Ken Cameron
- Treaty 8 First Nations with no agreements:
  - Fort Nelson First Nation – Chief Harrison Dickie
  - Blueberry River First Nations – Chief Marin Yahey Sr
  - Prophet River First Nation – Chief Lynette Tsakoza
  - West Moberly First Nations – Chief Roland Willson
- Non-Treaty B.C. First Nations:
  - Kwadacha First Nation
  - Tsay Keh Dene First Nation
- Other Aboriginal groups consulted by BC Hydro:
  - Athabasca Chipewyan First Nation (Alberta)
  - Beaver First Nation(Alberta)
  - Dene Tha' First Nation (Alberta) (reached benefits agreement with BC Hydro)
  - Duncan's First Nation (Alberta)
  - Horse Lake First Nation (Alberta)
  - Little Red River Cree Nation (Alberta)
  - Mikisew Cree First Nation (Alberta)
  - Smith's Landing First Nation (Alberta)
  - Sturgeon Lake Cree Nation (Alberta)
  - Sturgeon Lake Cree Nation (Alberta)
  - Woodland Cree First Nation (Alberta)
  - Deninu K'ue First Nation (N.W.T.)
  - Salt River First Nation (N.W.T.)
  - Kelly Lake Cree Nation (KLCN) – not recognized as an Aboriginal group.
- Indigenous associations:
  - Union of BC Indian Chiefs – Grand Chief Stewart Phillip
  - First Nations Summit – Grand Chief Ed John
  - BC Assembly of First Nations – Regional Chief Terry Teegee
  - Assembly of First Nations – Chief Perry Bellegarde
- Nanwakolas Society
- Amnesty International – Alex Neve, Secretary General of Amnesty International Canada
- UN Committee on the Elimination of Racial Discrimination – Alexei Avtonomov, Rapporteur
- UN Human Rights, Office of the High Commissioner - Victoria Tauli Corpuz, Special Rapporteur on the rights of indigenous peoples
- Métis Nation British Columbia (as directed by the CEA Agency)
- Kelly Lake Métis Settlement Society (as directed by the CEA Agency)
- Métis Nation of Alberta - Region VI
- Paddle Prairie Métis
- Settlement Society, Fort Chipewyan Métis Local 125
- Northwest Territory Métis Nation

V. **Influencers:**
- BCOAPO *et al.* (BC Old Age Pensioners Organization, Active Support Against Poverty, Council of Senior Citizens' Organizations of BC, Together Against Poverty Society, and the Tenant Resource and Advisory Centre, known collectively in regulatory processes as BCOAPO *et al.* representing the interests of low and fixed income residential ratepayers

- BC Utilities Commission (BCUC)
- British Columbians
- Former B.C. Hydro president Marc Eliesen
- Raymond James Analyst, Frederic Bastien
- B.C. Women's Institute
- BC Green Party
- Province of Alberta

VI. Regional:

- Municipalities:
  - City of Fort St. John (benefits agreement with BC Hydro)
  - City of Chetwynd (benefits agreement with BC Hydro)
  - Town of Peace River
  - Dawson Creek
  - District of Hudson's Hope (benefits agreement with BC Hydro)
  - District of Taylor (benefits agreement with BC Hydro)
  - Peace River Regional District (benefits agreement with BC Hydro)
  - Former Fort St. John mayor Steve Thorlakson
  - Fort St. John Chamber of Commerce president Tony Zabinski
- School Divisions:
  - Peace River North SD 60,
  - Peace River South SD 59,
  - Fort Nelson SD 81,
  - First Nations Chalo School
- Fort St. John Child Development Centre
- Hudson's Hope Historical Society
- North Peace Rod and Gun Club
- St. Peter's Church (Pender and Saturna Islands)

Appendix B

Policy Framework and Stakeholder ~~Key~~ Messaging Matrixes and ~~Mitigation Policies~~

November 7, 2017

Comment [ZDG2]: This is very thorough and gives a good basis for Q&A materials.

Comment [ZDG3]: We may have to add additional tables or somehow recorder to accommodate the policy initiatives. Perhaps a landscape format may work better. Also lets make sure that the policy initiatives are driving the comms

Impact Group s.13	Site C Continued
Agriculture	• The BCUC concluded that while significant acreage capable of growing vegetables will disappear with Site C's reservoir, there still remains ample land in the Peace River Valley to develop a vegetable industry if it is considered viable. • The Agricultural Mitigation and Compensation Plan developed for the project, which includes a $20-million fund to support the Peace Region's agricultural industry, will help ~~to~~ in mitigating the agricultural impact. Mitigation tactic TBD
First Nations Indigenous Relations and Reconciliation	• The decision to proceed with Site C is in the interest of all British Columbians and ratepayers. • The Province and BC Hydro are working hard to ensure Site C provides lasting economic and social benefits for northern communities and First Nations. • The Province and BC Hydro have been consulting with First Nations and Indigenous groups on Site C for more than a decade, and that process has been recognized by the courts as being meaningful, comprehensive and carried out in good faith. • Government met face-to-face with First Nations after the BCUC's final report and those sessions informed our final decision on the project.

	s.13	• We are accommodating Indigenous interests through offers of land protection, land transfers, financial payments and other economic benefits. • B.C. and BC Hydro have reached agreements with a number of Indigenous groups, including Doig River, Halfway River, McLeod Lake and Saulteau First Nations, related to the construction and operation of Site C. • In its submission to the BCUC review the McLeod Lake Indian Band characterized the prospect of termination or suspension of Site C as an "economic catastrophe for the community" that would "unravel the process of reconciliation" and the "renewed relationship" between McLeod Lake and BC Hydro, and by extension, the provincial Crown. • The Province and BC Hydro will continue to engage with Indigenous groups through throughout the construction stage of the Site C. Mitigation tactic TBD
First Nations with impact benefit agreements with BC Hydro		• While Site C will have significant impacts on First Nations near the project, it is important to note that BC Hydro has already reached impact benefit agreements with some First Nations. • Benefit agreements have been reached with six Treaty 8 First Nations which include lump sum payments, annual inflation-adjusted payments streams over a period of up to 70 years, procurement opportunities, and the transfer of provincial Crown lands and implementation of land protection measures to preserve values and areas of importance to the First

s.13		Nations. • In its presentation to the BCUC review the McLeod Lake Indian Band, one of the First Nations impacted by the project who has signed a series of benefit agreements, characterized the prospect of termination or suspension as an "economic catastrophe for the community" that would "unravel [the] process of reconciliation" and the "renewed relationship" between McLeod Lake and BC Hydro, and by extension, the provincial Crown. • It's important to note that no lands have been transferred to First Nations related to Site C at this point. Land transfers provided through tripartite land agreements are still subject to negotiation with affected First Nations. o The Province will engage local governments, stakeholders and other interested members of the public on all potential land transfers or potential land management measures. Our engagement with stakeholders, local governments and the public will inform whether individual parcels will be transferred to First Nations. • Negotiations with other Aboriginal groups affected by the project have been on-going and will continue. • As of September 2017, approximately $170 million in procurement opportunities for work on Site C has been committed to Aboriginal companies and partnerships, including for clearing, site preparation, security, grass seed supply, wetland mitigation, the project health clinic, substation work and environmental monitoring. • Further procurement opportunities

		for Aboriginal companies are planned. Mitigation tactic TBD
Industry/Labour Jobs, tourism and technology	s.13	• People need good paying jobs and the chance to get ahead. We're building a better B.C., with good jobs and a strong, sustainable and innovative economy that puts people first. • The completion of Site C will provide good paying jobs to the people of B.C. to support their families. • In fact, Site C will create approximately 33,000 jobs through all stages of development and construction. (according to a BC Hydro report). • In August, it employed more than 2,300 workers and more than 80% were from B.C., including apprentices, Aboriginal and female workers. • In addition, Site C construction will result in an increase of $3.2 billion to provincial GDP, including a $130 million increase in regional GDP during construction (according to BC Hydro report). • The electricity generated by Site C will support future growth of economic sectors across the province, sectors like forestry, mining and manufacturing, and at the same time supporting BC to be a preferred location for new tech opportunities such as data centres. • The employment opportunities and economic benefits of Site C will boost our rural communities in the Peace River region, and the province's economy. Mitigation tactic TBD

s.13

Allied Hydro Council of British Columbia (AHC) Independent Contractors and Businesses Association	• Government's decision to complete the Site C will support over 2,000 union and non-union workers currently employed on the project and many thousands more jobs in the future. • Of the total workers on Site C, over 80% have typically been from British Columbia in BC Hydro's quarterly reports. • These are well-paying jobs in an area of the province that has been hard hit by a slowdown in the resource sector. • As recommended by the AHC in its submission to the review: o BC Hydro is working with its contractors – particularly the main civil works contractor – to improve project management and better ensure the project sticks to budget and comes in on time. o The Province and BC Hydro continue to explore new export power markets – B.C.'s clean and renewable electricity could help displace fossil-fuel-fired generation and reduce greenhouse gas emissions in Alberta and other markets. Mitigation tactic TBD

s.13

Pulp and Paper Coalition	• Even with Site C, biomass power produced from wood waste at pulp and paper operations will remain an important part of BC Hydro's energy portfolio, and it's a good product for BC Hydro. • Biomass has the advantage of being

s.13	a firm and dependable source of power that is always available as opposed to intermittent sources of energy like wind and solar. • We recognize that biomass projects are an important source of revenue for pulp and paper mills around the province that are supplying power to BC Hydro under electricity purchase agreements. • However, we need to balance this against our commitment to British Columbians to keep rates as low as possible. • BC Hydro is reviewing electricity purchase agreements for biomass power and other IPP projects that are due to expire, and plan any renewal of those contracts at lower prices recognizing that these projects have typically recovered their initial capital costs over the term of the original contract. • BC Hydro will continue to work with the pulp and paper sector to address the impact of lower revenues from biomass power. • In addition, in 2014, BC Hydro introduced a program to help pulp and paper producers reduce their electricity costs. Under the program, BC Hydro provides a financial incentive of up to 75% of the project cost to support investments in more energy efficient equipment. Mitigation tactic TBD
Canadian Association of Petroleum Producers (CAPP)	• Site C provides a firm, dependable supply of affordable electricity that supports the growth of B.C.'s LNG sector. • The electrification of the LNG sector – using electricity instead of natural gas to power compression and auxiliary plant operations – can help

s.13	us reduce greenhouse gas emissions and fight climate change. • The completion of Site C also enables BC Hydro's proposed Peace Region Electricity Supply (PRES) transmission line which is designed to bring additional clean, renewable electricity from Site C to the South Montney area, where demand is growing due to gas companies electing to use clean electricity from BC Hydro to power their facilities. • The PRES project offers the opportunity to realize significant GHG reductions as producers choose to run their operations with electricity off the grid rather than self-generate using gas or diesel. • Full electrification of expected new industrial loads in the Montney Basin – enabled by PRES and other transmission lines – could avoid up to 4 million tonnes of emissions per year. Mitigation tactic TBD
Mining Association of BC	• Site C provides a firm, dependable supply of affordable electricity that supports the growth of B.C.'s mining sector. • Mining is one of B.C.'s largest industrial consumers of electricity and completing Site C will ensure that firm, dependable and affordable energy and capacity will be available to power B.C. mines for the future. • There will be no rate impact from Site C until the project comes into

s.13

service. This ensures that the costs for Site C are paid by the ratepayers who are benefiting from the project.

- Once the project is in operation, the B.C. Utilities Commission will determine the period over which costs will be brought into rates and recovered.
- It's also important to note that Government is currently working with BC Hydro to freeze Hydro rates ahead of the next scheduled rate increase of 3% in April 2018.
- BC Hydro estimates that a rate freeze eliminating the 3% increase will save industrial customers between approximately $133,000 and $2.0 million per year (about $11,100 to $167,000 per month) depending on the customer's consumption.

Mitigation tactic TBD

Comment [ZDG4]: Have they expressed concerns publicly

Alternative/clean energy	
Clean Energy Association of BC (CEBC)	• The BCUC determined that the cost to ratepayers of Site C was virtually the same as the cost to ratepayers

Comment [ZDG5]: I'm guessing this may be revised based on letter to BCUC

s.13

Peace Energy Renewable Cooperative Canadian Wind Energy Association (CanWEA)	of an alternative portfolio of resources that included wind and geothermal. • And the BCUC identified risks associated with each option. • As such, our decision to proceed with Site C is based on the firm, flexible capacity supply from Site C that we can use to increase electrification and fight climate change both here in B.C. and in neighbouring jurisdictions like Alberta where firm capacity is needed to back up wind resources that province is relying upon to move away from coal or gas generation. • Although the cost of energy from alternative resources such as wind and solar is dropping, the electricity produced by Site C has greater value because it is firm, dependable power that can be stored and dispatched when and where needed throughout the system. • Renewable power projects can help us take action on climate change while providing jobs for British Columbians, and will continue to play an important in BC Hydro's current and future supply of electricity. • Site C will provide the back-up capacity needed in BC Hydro's system to integrate intermittent renewable sources like wind, solar and run-of-river as needed in the future. Mitigation tactic TBD
BC Sustainable Energy Association (BCSEA)	• Site C should have been reviewed before the project was ever approved by the previous Government. • That did not happen, so because the project was in progress and many

s.13

lives were on hold, it was necessary for us to complete a BCUC review within a very tight timeline.

- Despite the short time frame the BCUC produced a comprehensive report that informed Government's decision-making process.
- In fact, despite the tight timelines, over 240 individuals and organizations made written submissions to the BCUC review, and more than 300 people made oral presentations at a series of community and First Nations public input sessions around the province.
- Based on the results of the review, and other environmental and First Nations considerations, Government has made an informed decision on the Site C project.
- In making this decision Government carefully weighed the BCUCs findings on the cost of alternative sources of energy, the development of new technologies to store and deliver power, the value of conservation to meet energy demand, the costs of terminating or proceeding with the project, BC Hydro load forecasts, the potential for energy surplus, and other comments and recommendations made by the BCSEA in its submissions to the review.

Mitigation tactic TBD

Canadian Geothermal Energy Association (CanGEA) s.13	• Even with Site C, we believe geothermal energy has a role to play in B.C.'s future energy system, especially as it has firming, shaping and storage capabilities that can provide dependable capacity. • While Site C provides us with a known and dependable source of dependable capacity, there are risks associated with geothermal. • There are currently no operating geothermal sites in B.C. and while the BCUC highlighted geothermal in its illustrative alternative portfolio as a viable source, it also noted that there may actually be no geothermal potential in B.C. • Recent changes to the regulatory framework for geothermal will streamline application processes for drilling permits and reduce costs for companies pursuing exploration activities, spurring further exploration of B.C.'s geothermal potential. Mitigation tactic TBD
Environmental Organizations	
	• An abundant supply of clean, firm, reliable electricity from Site C will help British Columbia, and Canada meet our climate action targets. • Within B.C., Site C will provide the supply we need to encourage the switch from fossil fuels to clean electricity to power electric vehicles and run industrial and natural gas operations. • Electricity from Site C will be used in B.C. first when it's needed. Until it's needed, it will be available to electrify other parts of the Canadian economy. • Power from Site C provides B.C. with the opportunity to assist a

s.13	province like Alberta reduce GHG emissions. • Depending how much of B.C.'s clean electricity was supplied and what it displaced – coal or gas-fired power generation, or oil sands extraction or processing – between three million and six million tonnes of greenhouse gas emissions could be avoided annually. • Expanding the electricity transmission connections between Alberta and B.C. (restoring the capability of our existing intertie and possibly new intertie) would increase the ability for B.C. to provide flexible, dependable clean electricity and capacity to Alberta, which would also help backstop the development of variable wind generation in Alberta and support the phase-out of coal. • BC is working with Natural Resources Canada, and the western provinces to study infrastructure that can support the Pan Canadian Framework on Clean Growth and Climate Change signed by First Ministers. Mitigation tactic TBD
Peace Valley Landowner Association (PVLA) and Peace Valley Environment Association (PVEA) (Represented by	• After considering the advice and findings of the BCUC, and other First Nations and environmental considerations our Government has decided that it is in the best interests of B.C. families, and B.C.

s.13 energy analyst Robert McCullough and lawyer Rob Botterell)	and national climate action goals, to complete the Site C project. • I recognize how difficult it must be for landowners in the area who are directly impacted by the project to have to move from their homes and properties, but as Government we have to make difficult decisions based on the best interest of the entire province, and in the case of Site C, the country. • Site C will help to keep rates affordable for B.C. families, and will supply clean electricity to help the transition from fossil fuels to electricity in B.C. and in other jurisdictions. • As a firm, reliable and flexible source of energy it can back up intermittent resources like wind and solar and enable the integration of other renewable, low-carbon energy sources. • BC Hydro will be reaching out to landowners directly affected by the project to discuss next steps regarding their properties. Mitigation tactic TBD
BC Hydro ratepayers	
Association of Major Power Customers of BC (AMPC)	• In making our decision to continue with the Site C project our priority was to ensure affordable rates for BC Hydro customers, including major industrial customers who use a lot of electricity, and who are concerned about the recovery of Site C costs. • There will be no rate impact from Site C until the project comes into service. This ensures that the costs for Site C are paid by the ratepayers who are benefiting from the project. • Once the project is in operation, the

s.13	B.C. Utilities Commission will determine the period over which costs will be brought into rates and recovered. • Supply from Site C will ensure that major power customers can rely upon a firm, dependable, affordable and clean supply of electricity to run their operations. • It's also important to note that BC Hydro is freezing rates ahead of the next scheduled rate increase of 3% in April 2018. • BC Hydro estimates that a rate freeze eliminating the 3% increase will save industrial customers between approximately $133,000 and $2.0 million per year (about $11,100 to $167,000 per month) depending on the customer's consumption. Mitigation tactic TBD
Commercial Energy	• As identified in the BCUC's final

Consumers Association of B.C. (CEC)	s.13	report there are risks and uncertainties associated with both completing and terminating the Site C project. • The risks and uncertainties – as outlined in the CECs submission to the review – are related to a range of issues including load forecasts, energy surplus, cost overruns, environmental impacts, and the costs of alternative energy. • Our assessment of those risks – along with other environmental and First Nations considerations – informed our decision to continue the project. • The BCUC identified risks associated with an alternative portfolio to Site C including: o There may actually be no geothermal potential. o Estimates of load curtailment could be overly optimistic o The cost of wind may be higher than estimated. o Demand for power could end up being higher than forecast. • Government also acknowledges that in addition to our decision on the Site C project, the development of good quality integrated resource planning for affordable energy is critical going forward as we work together with BC Hydro and the BCUC to keep Hydro rates affordable. • As part of our plan to freeze Hydro rates we will conduct a comprehensive review of BC Hydro. Mitigation tactic TBD

s.13

BCOAPO et al	• Our decision on Site C is focussed on keeping BC Hydro rates low and affordable for families while ensuring we have the supply of clean, renewable and reliable electricity we will need for the future. • While the BCUC takes no position on whether terminating or completing the project has the greatest costs to ratepayers, we believe that given the amount of money already invested in the project, and the costs and risks associated with alternative resources, completing the project is in the best interests of ratepayers. • In addition, BC Hydro has frozen rates while we conduct a comprehensive review of BC Hydro to look for further efficiencies that can keep rates low. • We are also taking a close look at the affordability of two-tiered rates and exploring the introduction of a reduced lifeline rate to help low-and-fixed income families that are having difficulty paying their electricity bills. • BC Hydro will continue to offer conservation and efficiency programs that can help all British Columbia families reduce the electricity they consume and lower their monthly bills. *Regarding review process:* • Site C should have been reviewed before the project was ever

s.13

approved by the previous Government.

- That did not happen, so because the project was in progress and many lives were on hold, it was necessary for us to complete a BCUC review within a very tight timeline.
- Despite the short time frame the BCUC produced a comprehensive report that informed Government's decision-making process.
- The review also provided an opportunity for everyday British Columbians and First Nations to make their voices heard, for experts, analysts and interest groups to comment and present their findings, for BC Hydro to update and present a huge volume of valuable data on the project, and for the BCUC to answer key questions on the project.
- The BCUC's findings are based on 620 written and 304 oral submissions from individuals and organizations, and thousands of pages of information on the project provided to the BCUC and made available to the public.
- In making this decision Government carefully weighed the BCUCs findings on the cost of alternative sources of energy, the development of new technologies to store and deliver power, the value of demand-side measures to meet energy demand, the costs of terminating or proceeding with the project, BC Hydro load forecasts, the potential for energy surplus , and other comments and recommendations made by the BCSEA in its submissions to the review

Mitigation tactic TBD

s.13	
B.C. Utilities Commission (BCUC)	• Our government initiated the BCUC review of Site C to assist us in making the best decision for keeping BC Hydro rates affordable in the long-term. • The BCUC's findings are based on 620 written and 304 oral submissions from individuals and organizations, and thousands of pages of information on the project provided to the BCUC and made available to the public. • I want to thank the BCUC for completing the review under extremely demanding timelines. • The BCUC's findings and analysis were key to Government's decision on the Site C project. • Our additional questions to the BCUC on elements in the final report, and a financial analysis by the Ministry of Finance provided further clarity to government on some very technical issues. • Our decision was further informed by First Nations, environmental and other considerations that were outside the scope of the review. • Moving forward, the BCUC will continue to provide the oversight we need to ensure British Columbians are assured of a clean, renewable, reliable and affordable supply of electricity that is sourced in a cost-effective, environmentally and socially responsible manner. Mitigation tactic TBD

	s.13
Local Governments with BC Hydro benefit agreements related to Site C	• While Site C will have significant impacts on the people living near the project, it is important to note that BC Hydro has already reached impact benefit agreements with surrounding communities. • Community agreements have been reached with the District of Chetwynd, District of Taylor, City of Fort St. John, and the District of Hudson's Hope, and a regional legacy benefits agreement has been reached with the Peace River Regional District. • Under these agreements communities are receiving payments as well as benefits such as rental housing, funding for police resources and various community funds. Mitigation tactic TBD

FW: EMPR FIN DM letter to BCUC_Nov09_1140am LM2_edit

Haslam, David GCPE:EX

Fri 11/10/2017 8:34 AM

To:Zadravec, Don GCPE:EX <Don.Zadravec@gov.bc.ca>; Gibbs, Robb GCPE:EX <Robb.Gibbs@gov.bc.ca>; Lloyd, Evan GCPE:EX <Evan.Lloyd@gov.bc.ca>;

1 attachment

EMPR FIN DM letter to BCUC_Nov09_1140am LM2_edit.docx;

Don – as discussed we reviewed for grammatical errors as requested by Dave Nik. The minor edits are tracked.
Cheers - d

DRAFT

Via E-mail

David Morton
Chair
BC Utilities Commission

Re:– Inquiry Respecting Site C

We would like to thank the BC Utilities Commission (Commission) for the report on the Inquiry Respecting Site C ~~that you~~ delivered to the Minister of Energy, Mines and Petroleum Resources on November 1, 2017. Completing the report in a short time frame with such high levels of public and First Nations input and transparency is a significant achievement.

Our Ministries are supporting government's decision-making on the future of Site C, which will consider the Commission's report along with other implications associated with proceeding with or terminating the Project. In considering the Commission's report, we want to be sure that we fully understand the Commission's assumptions and computations in its analysis of Site C, and of potential alternative sources of generation and capacity.

As such, we have identified a number of items in the final report as detailed in the Appendix below which we are hoping you can address in order to help our Ministries provide the advice necessary to support a government decision on Site C that is in the best interests of British Columbians.

These issues are related to the following key questions:

- Did the Commission include sunk costs (the estimated $2.1 billion already spent on the project) and termination costs (the $1.8 billion determined by the Commission) when comparing the costs to ratepayers of completing Site C with the costs of an alternative portfolio of resources that would be required if the project were terminated?
    - If not, how would including those sunk and/or termination costs change the cost to ratepayers and the unit energy cost for both scenarios?
- Does the Commission assume that BC Hydro would develop and finance alternative sources of generation included in the alternative portfolio (wind, geothermal) instead of independent power producers (IPPs)?
    - If not, why does the Commission (in some but not all cases) use BC Hydro's lower cost of capital financing when calculating the cost of the alternative portfolio?
    - How would a higher cost of capital (consistent with financing rates for IPPs) impact the cost to ratepayers of the alternative portfolio?

- Does the Commission assume that in the event the project is cancelled, termination, remediation and sunk costs (approximately $4 billion) would be recovered from ratepayers over 10, 30 or 70 years?

    - Is recovery of these costs over longer periods of 30 or 70 years consistent with accepted accounting principles for rate-regulated utilities which generally ensure future generations aren't paying for investments from which they are deriving no benefits?

    - What is the impact on ratepayers if these costs associated with termination are recovered over a 10 year period?

- Does the Commission conclude that the final budget for the project, if completed, would be $10 billion or $12 billion?

    - How did the Commission determine that the project would likely come in $1 billion to $3 billion over BC Hydro's current estimate of $8.95 billion before mitigation?

- We are unaware of prior instances when BC Hydro's mid-load forecast has not been the standard for planning purposes. Does the Commission assume lower demand for electricity (the low-load forecast used in the report) because it is forecasting a period of lower economic growth for the province in which major power consumers like mining, forestry, technology and commercial sectors are in decline?

    - Why doesn't the Commission include in its load forecast the potential growth in demand to meet the province's objectives to reduce greenhouse gas emission through electrification?

The government has stated that it plans to make a decision on Site C by the end of the year. The Commission's timely response to the matters identified below will help our Ministries provide the advice necessary to support government's decision-making.

Dave Nikolejsin
Deputy Minister
Ministry of Energy, Mines and Petroleum Resources

Lori Wanamaker
Deputy Minister
Ministry of Finance

Attachment

Appendix: Detailed Questions for the Commission

We note that the Commission has stated in the report that the "alternative portfolio developed by Commission staff are not a substitute for BC Hydro's planning processes." We understand that BC Hydro modelled over 60 scenarios testing various assumptions, including a number of alternatives requested by the Commission, but that the Alternative Portfolio in the final report was not analyzed using BC Hydro's modelling tools. We have therefore asked BC Hydro to provide an assessment of the model used to develop the Commission's final Alternative Portfolio, and we understand that BC Hydro will be providing the Commission with the results of that assessment separately.

There are a number of matters that our Ministries and BC Hydro have identified in our initial analysis that we would like the Commission's feedback on. In particular, our staff have ~~also~~ discussed with BC Hydro the impact of certain assumptions, and how the costs of those assumptions would be recovered from ratepayers.

BC Hydro has suggested that recovery in rates of sunk costs in a Termination scenario should occur over a 10-year period. In the Continue scenario, the sunk costs, as part of the overall project, would be recovered over the 70-year amortization period, consistent with the modelled life of the Site C asset. The Commission staff model appears not to include sunk costs in the Termination scenario, and has removed those costs from the Continue Site C scenario.

Effectively this assumes that sunk costs will be recovered in rates over 70 years if the Project is terminated. Recovering costs in rates over a shorter period has a material impact on the Alternative Portfolio. It would be helpful if you could provide an estimate of the rates impact using these two time-frames. We are also interested in how the Commission reconciles its 30-year amortization of termination costs, and this modelling result of sunk cost amortization over 70 years, with the rate setting principle of intergenerational equity.

We understand that BC Hydro follows standards for rate-regulated utilities in its financial statements and in preparing its applications for review by the Commission. This framework follows a number of principles in relation to the amortization of capital assets and the deferral of other costs for the purpose of matching recoveries from ratepayers to periods over which benefits are provided. BC Hydro's rate-regulated accounting framework is also currently a subject of review by the provincial Auditor General.

It would be helpful if the Commission could clarify how the choices of the various amortization and recovery periods in the Termination scenario would fit or be acceptable to provincial auditors as reasonable and justified assumptions within the rate-regulated accounting and rate-setting framework. We believe that choices must have a sound foundation of recognizing decision costs when they occur or can be matched to future periods reflecting underlying asset lives or when benefits are provided.

We understand that there was significant discussion during the Commission's process on the cost of capital. The Alternative Portfolio assumes that BC Hydro finances all new resources on its balance sheet. Other than redevelopment of existing sites and Site C, BC Hydro has, for almost

three decades, been primarily procuring new supply from competitive processes or bilateral agreements benchmarked to competitive processes. This effectively means that BC Hydro avoids assuming such debt on its balance sheet and only recognizes the incremental costs of new energy purchases which would include the private sector's annual debt servicing costs and equity return within approved purchase contracts.

It would be helpful to understand how the Commission assesses the impact on ratepayers of the additional debt associated with the assumptions underlying the Alternative Portfolio. We wish to further understand the Commission's approach to using BC Hydro's cost of capital for IPP projects and the approach used for the cost of capital faced by an IPP (i.e. what IPPs actually pay) and the resultant rate impacts. For example, we note on page 159-160, the Commission appears to conclude that IPP financing is the relevant assumption for the Alternative Portfolio, and the BC Hydro financing assumption should only be used for the Unit Energy Cost (UEC) analysis. Whereas, on pages 167, 170 and Appendix C (Assumption 2), it appears that the Commission has used BC Hydro financing (100% debt financing at a cost of 3.43%) for the Alternative Portfolio. We would appreciate clarification on which cost of capital should be used in analysing rate impacts.

The table on page 17 of the Executive Summary, and Table 43 in the main report, include a summary of the Commission's sample scenarios showing the effect of modifying one or more variables to the resulting NPV cost to ratepayers. As noted above, the Commission's alternative Portfolio does not appear to include sunk costs, and sunk costs have also been removed on the Continue scenario. The tables also include UECs. For the Site C scenario, the UECs reflect costs, including sunk costs, of Site C being either $10 billion or $12 billion depending on assumptions. Our review of the Commission report suggests that the Alternative Portfolio does not include termination costs. It would be helpful if the Commission could confirm this and provide a new version of the UEC portion of the table, where the Alternative Portfolio includes termination costs. This would help to ensure a consistent basis of comparing the costs of the Site Continue scenario with the Termination scenario on a forward-looking basis.

BC Hydro has informed us that in previous proceedings the Commission has concluded that the Total Resource Cost (TRC) test is the appropriate way to evaluate demand side management (DSM) in comparison to other resources. The Commission staff model uses the Utility Resource Cost (URC) standard. We believe that using the URC may underestimate the actual cost of DSM to ratepayers. BC Hydro estimates that using the TRC, consistent with previous applications and Commission decisions, would increase the cost of DSM in the Alternative Portfolio by $444 million on an NPV basis. It would be helpful for us to understand the Commission's rationale in choosing a test methodology that is inconsistent with past practice, and if the Commission could confirm that the TRC test remains the appropriate metric.

We have noted that the Commission has concluded that BC Hydro's Low Load Forecast is most appropriate for an assessment of Site C need. It would be helpful for us to further understand the rationale, and for the Commission to confirm, that the assessment does not include additional load requirements to meet the Province's *Clean Energy Act* energy objectives of reducing greenhouse gas emissions by 2050 by 80% less than 2007 levels; encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British

Columbia; and to encourage communities to reduce greenhouse gas emissions and use energy efficiently.

It would be helpful if the Commission could further describe the impact of electrification initiatives to meet these objectives. For example, the government, in its September Budget Update noted that increases in the Carbon Tax would be used to fund energy retrofits consistent with the government's PowerBC Plan. We believe that this objective would be aligned with increased levels of DSM spending in the Commission's Alternative Portfolio. The provincial government also is working with the Federal government on electricity system infrastructure investments to reduce and avoid greenhouse gas emissions, and has enabled BC Hydro to pursue electrification initiatives under the *Greenhouse Gas Reduction (Clean Energy) Regulation* under the *Clean Energy Act*.

The Commission report identifies an aggressive DSM program, coupled with load curtailments, as a way to achieve the Alternative Portfolio scenario. It would be helpful if the Commission could further describe how such load curtailments would practically be achieved in the natural resource sector without impairing operations, jobs and economic growth for that sector already facing trade sanctions and pressures.

We understand that BC Hydro has provided the Commission with a description of what the B.C. economic environment would look like under a low load outlook scenario. It would helpful if the Commission could further describe its view of the low load outlook, noting that the Commission believes that the outlook could be even lower, and how that outlook contributes to realistic economic sustainability, ~~around~~ on which an Alternative Portfolio would be based.

With respect to project schedule and budget, it would be helpful if the Commission could clarify that today the Site C project is not ~~1~~ one year behind schedule from the target in-service date of November 2024 that was approved by the provincial Cabinet in December 2014. While there are risks identified by the Commission, with varying degrees of probability, that this date could be exceeded, it is still early in the project and mitigation measures have not yet been fully assessed.

The Commission report assesses the size of the combined contingency allocation and project reserve using a comparison to total project costs – estimated at approximately 14% of total project costs of $8.335 billion. It would be helpful if the Commission could confirm that the total project budget quoted already includes a contingency allocation of $794 million. Direct project costs (which exclude indirect costs like First Nations agreements and project management that are more under direct control of management) are generally viewed as a more appropriate measure for assessing the adequacy of project contingencies and reserves. It would be helpful if the Commission could provide and confirm an assessment of the contingency allocation and project reserve as a percent of the direct project costs and total project costs which exclude the budgeted contingency allocation, since that is the cost base around which the contingencies allocation and project reserve are intended to address. Additionally, it would be helpful if the Commission could confirm how the P50 observation of project budget changes when the project reserve of $440 million is included.

The Commission report identifies a likely Site C cost estimate of about $10 billion (with upward pressure). It would be helpful to better understand the detailed components of the suggested forecast, which is well over $1 billion higher than the most recent scenario suggested by BC Hydro. It would also be helpful if the Province understood what mitigation measures, such as claims recoveries, the Commission has assumed (or not) in arriving at the $10 billion potential forecast.

We may identify further questions as our due diligence continues to support government decision-making.

Page 176 to/à Page 241

Withheld pursuant to/removed as

s.12;s.13

QUESTION AND ANSWERS
SITE C DECISION MAKING PROCESS
Nov. 15, 2017

Ministry of Energy and Mines

- The current uncertainty and division over the Site C project is a direct result of the previous government's irresponsible decision to start construction without proper regulatory oversight.

- It fell to our government to correct that oversight and send the project to the BCUC for review.

- We are now considering the BCUC's final report and other issues as we work towards a final decision on completing or terminating the project that will keep rates affordable for B.C. families and businesses in the long-term.

- We are taking time and care in our decision-making process to ensure the data and analysis we are relying upon is accurate, and that we have a clear understanding of the impacts on ratepayers associated with completing the project or cancelling it.

- That includes working with the Ministry of Finance to conduct an intense economic review of the project over the next few weeks.

Regarding questions to the BCUC and financial analysis:

- Government has asked the BCUC to clarify some elements of its final report on the Site C project delivered November 1, 2017.

- Our request to the BCUC is part of our due diligence as we work towards a final decision on Site C that will keep rates affordable for B.C. families and businesses in the long term.

- In the report the BCUC assesses a large amount of complex data and analysis and we want to make sure we fully understand the Commission's assumptions and calculations.

- Additionally, as part of our decision-making process the Ministry of Finance will be undertaking a financial analysis of BCUC report, including the implications for and risks to the fiscal plan in the event the project is continued or terminated.

Questions and Answers

1. The Allied Hydro Council of BC sent a letter to BCUC about the same time as the government. Does this mean the government's position on Site C is closely aligned with the labour movement?

The government is closely aligned with the citizens of British Columbia and ratepayers. We are now considering the BCUC's final report and other issues as we work towards a final decision on completing or terminating the project that will keep rates affordable for B.C. families and businesses in the long-term.

Our focus is on getting the facts as part of a proper due diligence process. We are taking time and care in our decision-making process to ensure the data and analysis we are relying upon is accurate, and that we have a clear understanding of the impacts on ratepayers associated with completing the project or cancelling it.

The timing of the AHC letter to BCUC is coincidental. What it clearly indicates is a high level of interest in the government's decision on the Site C project.

2. Why are you going back to the BCUC for more information?

After reviewing the BCUC's final report staff in the Ministries of Finance and Energy, Mines and Petroleum Resources had some questions related to the BCUC's methodology, assumptions, calculations and the cost to ratepayers of completing the project, or terminating it and looking to alternative sources of energy and capacity.

Our decision on Site C will ultimately be based on what is best for ratepayers. As we work through that decision we want to make absolute certain that we have a clear understanding of the impact on ratepayers. Our questions to the BCUC will help to clarify some elements of the report.

3. Specifically, what are you asking the BCUC?

The deputy-ministers of Finance, and Energy, Mines and Petroleum Resources have provided a letter to the BCUC asking for further clarification on a number of matters in the report, including the Commission's assumptions and calculations related to:

- The treatment of sunk costs (estimated $2.1 billion already spent on the project) and termination and remediation costs ($1.8 billion determined by the Commission) in comparing the costs to ratepayers of completing Site C against the costs of pursuing an alternative portfolio of generation resources.
- Whether BC Hydro or independent power producers (IPPs) would develop and finance projects included in the Commission's proposed alternative portfolio (wind, geothermal), the cost of capital financing applied to the alternative portfolio, and the impact of a higher cost of capital on ratepayers if the alternative portfolio were developed by IPPs rather than BC Hydro.
- The cost of demand side management (conservation) measures included in the alternative portfolio.
- The time period over which sunk, termination and remediation costs (approximately $4 billion) would be recovered in the event the project is cancelled and the impact on ratepayers.
- The use of a low-load forecast instead of a mid-load forecast to assess the need for Site C, and whether the Commission included in its load forecast the potential increased electrical power demand of meeting the province's objectives to reduce greenhouse gas emissions through greater electrification of the economy.

The full letter can be viewed on the BCUC's website (*TBC*) at http://www.sitecinquiry.com/

4. Does this show you lack confidence in the BCUC's findings or their ability to conduct the review?

Not at all. Given the short time they had the BCUC has conducted a remarkably comprehensive review and produced a report informed by contributions from BC Hydro, stakeholders, energy experts, First Nations and hundreds of concerned British Columbians.

We have full confidence in the BCUC as the province's energy regulator to advise Government on the project, however the final report is – by nature of the subject matter – very complex. As such, we are seeking clarity on some of the BCUC's assumptions and calculations as part of an economic review of the project and our due diligence process as we work towards a final decision that is in the best interests of ratepayers.

5. Does BC Hydro also have questions about the final report?

Staff in the ministries of Finance, and Energy, Mines and Petroleum Resources have discussed the BCUC report with BC Hydro, and government has identified a number of matters it would like the Commission's feedback on. These matters are captured in the deputy-ministers' questions to the Commission.

Government has also asked BC Hydro to provide an assessment of the model the Commission used to develop its illustrative alternative portfolio. We understand that BC Hydro will be providing the Commission with the results of that assessment separately.

6. Why is the Ministry of Finance doing a financial analysis of the report?

This is a multi-billion-dollar project that was started by the previous government without proper regulatory oversight. It fell to our Government to give the project the scrutiny it should have received years ago, including a detailed economic analysis.

Our decision on Site C, whether to proceed or terminate, will have a significant and long-term impact on BC Hydro's debt and financing, and on the Province's books as well. As such, it is the responsibility of the Ministry of Finance to take a close look at the numbers and ensure the impacts on the fiscal plan of continuing or terminating Site C are clearly understood.

7. Does this mean that Government is looking at moving the costs of cancelling Site C from BC Hydro to the provincial debt?

Government is exercising due diligence and working towards a decision on Site C that keeps rates affordable for B.C. families and businesses in the long term.

I don't want to pre-judge that decision in anyway so I cannot provide comment at this time on what Government may or may not do in relation to the costs associated with cancelling the project.

8. Will your requests to the BCUC and the financial analysis delay your decision on Site C?

We have asked the BCUC to respond to Government's questions in a timely manner, and we still anticipate a decision on the project by the end of the year.