SUBMISSION OF PVLA AND PVEA TO
BRITISH COLUMBIA UTILITIES COMMISSION SITE C INQUIRY PANEL

SAVINGS FROM TERMINATION OF SITE C WILL BE $2.08 TO $4.37 BILLION

OCTOBER 11TH, 2017

1. This submission is made by Rob Botterell on behalf of the Peace Valley Landowner Association and Peace Valley Environment Association to the Site C Inquiry.

2. We wish to thank the Panel for its extraordinary efforts to fulfill the terms of reference for this inquiry.

3. British Columbia Order in Council No. 244 ("OIC") sets out the specific issues to be addressed and questions to be answered by the Panel. Ultimately however, the fundamental question for the Panel is this:

   > Before spending another $7.3+ billion dollars on Site C dam construction over the next 7 years, is there another less costly, viable option?
   >
   > If the answer to that question is yes, then BC Hydro ratepayers are best served by the cancellation of Site C.

4. In our view the Panel already has the information and analysis it needs to answer this question and to advise the BC Cabinet on the impact on ratepayers of Site C.

5. This is not to understate the importance of other Site C impacts - First Nations impacts and loss of agricultural land to name two - and these impacts will be for Cabinet to also consider.

6. This is also not to understate the important perspectives, issues and analysis in the over 7,700 pages of submissions and the soon to be completed 11 community sessions, 3 First Nations sessions, and 2 days of expert technical presentations.

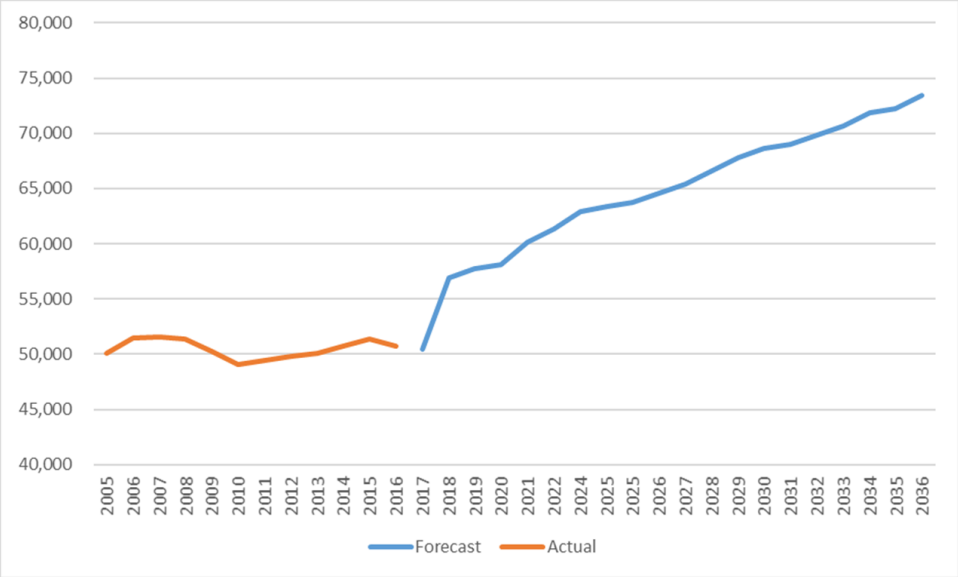
7. Ultimately though the question of whether or not to continue building Site C comes down to 4 questions which can be unequivocally answered based on the information we now have.

8. Let me put it another way. While the Panel made 37 interim findings and posed 73 questions for BC Hydro response and third-party comment, the final answers to these questions will not ultimately affect the ability of the Panel to conclude:

   Yes, ratepayers are best served by the cancellation of Site C.

9. Whether or not there is another less expensive viable alternative to Site C comes down to four questions:

   1. What is the cost to complete Site C?
   2. What is the cost to terminate Site C?
   3. What is the cost of a viable alternative to Site C?
   4. What adjustments are required for the most likely further cost over-runs on Site C and the most likely level of load forecast?



10. Key points:

   - Sunk costs are excluded from the analysis based on the universally accepted economic theory that they should not affect future decisions.

   - There are likely to be additional cost over-runs. We have estimated those cost overruns at the next higher level from the Deloitte report since current overruns have already passed the lower estimates.

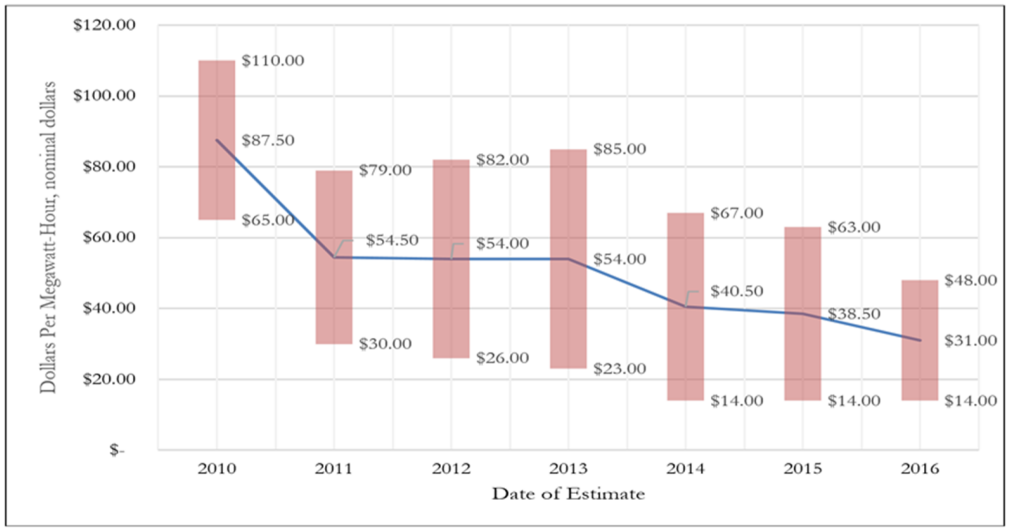
As Chris O'Riley says:

> Due to the project's complexity, we expect to continue to face risks in other areas, including our second largest procurement (i.e. the Generating Station and Spillway) that remains open and the highway realignment. We will work to mitigate those challenges.

- Deloitte found that BC Hydro overstate demand by 30%.

- We have used wind for the base case because wind is lowest cost and is readily deployed when needed compared to Site C. BC Hydro and others may wish to propose other mixes of renewable, for example geothermal, solar, etc.

- We have used the industry standard reference Lazard for wind costs.



11. The answers to the four questions are summarized in Table 1. The savings from termination of Site C range from $2.08 Billion in the base case to $ 4.37 Billion in the most likely case.

Description	Site C	Alternative Portfolio Wind 100% based on BC Hydro Site C cost and demand forecast	Alternative Portfolio Wind 100% Based on Deloitte Site C cost and demand forecast[i]
Annual Generation (GWh)	5,100[ii]	5,100	3,570[iii]
Nameplate Capacity (MW)[iv]	1,100[v]	1,700[vi]	1,150[vii]
Total Capital Costs (Billion $)	$10.5 (Deloitte prediction)[viii] $9.4 (base case)	$4.01[ix]	$2.8[x]
Sunk Cost (Billion $)	[$2.1][xi]		
Site C Construction Budget (Billion $)	$8.4 (Deloitte prediction) $7.3 (base)		
Termination of Site C (Billion $)		$1.2[xii]	$1.2
Total Future Cost (Billion $)	$8.4 (Deloitte prediction) $7.3 (base)	$5.21	$4.05
Savings to Ratepayers compared to Site C	$0	$2.08 Billion	$4.37 Billion

12. Thank you. Our energy expert Robert McCullough will be available to answer any technical questions on the savings from terminating Site C at his presentation on Friday, October 13th, 2017.

Materials submitted in the inquiry:

2017/09/10 Deloitte LLP's Two Site C Reports
2017/09/12 What we have learned about Site C
2017/09/13 BCUC Site C Inquiry Presentation
2017/09/21 Preliminary Findings
2017/09/23 BCUC Comments
2017/09/24 Question 22 Response
2017/09/24 Questions 46 and 47 Response
2017/09/26 A Reflection Sunk Costs
2017/09/29 Question 16: LNG Prospects
2017/10/02 Question 20: Electric Vehicles
2017/10/09 Problems with BC Hydro Response F1.8
2017/10/09 Problems with BC Hydro Response F1.11
2017/10/09 Problems with BC Hydro Response F1.7
2017/10/09 Problems with BC Hydro Response F1.6

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i Based on Deloitte's prediction for the cost of Site C and 30% lower electricity demand than BCH forecasts.

ii https://www.sitecproject.com/. Accessed October 10,2017.

iii 70% of the annual generation of Site-C

iv This is the absolute maximum amount of electricity that a generator can produce at a given time. Generally, generators are operating well below this limit.

v Ibid.

vi We expect wind to generate 34.7% of its nameplate capacity on average. To generate 5,100 GWh in a year, the average power will be about 600 MW, and the nameplate capacity is simply 600/0.347 MW = 1,700 MW. If this number seems high, it's because more nameplate capacity is necessary to make up for the fact that the wind isn't blowing at full intensity at all hours. EIA. Capacity Factors for Utility Scale Generators Not Primarily Using Fossil Fuels <https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_6_07_b>. Accessed October 10, 2017

vii To generate 3,570 GWh in a year, the average power will be about 400 MW, and the nameplate capacity is 400/0.347 MW = 1,150 MW. See endnote vi. EIA. Capacity Factors for Utility Scale Generators Not Primarily Using Fossil Fuels. <https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_6_07_b>. Accessed October 10, 2017

viii Deloitte. BCUC submission: Sites C Construction Review. September 8, 2017. Page 2.

ix Based on capital costs detailed in Lazard LCOE Analysis 10.0. December 2016. page 11 and the capacity factor of Site-C and wind. See appendix A in the "What we Have Learned About Site C" link.

x Ibid. page 11.

xi Preliminary Report to the Government of British Columbia, September 20, 2017, page iv.