Site C: Behind the Decision to Proceed

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Site C is a 1100-MW hydro-electric dam on the Peace River in northern British Columbia. It is being developed by BC Hydro, a British Columbia crown corporation, and has been under construction since 2014. It is costly – at the time of BC Hydro's Final Investment Decision, Site C was estimated to cost $8.34B, with a further $400M reserve fund held by the Province to cover unanticipated contingencies.

Site C has also been controversial, arousing substantial opposition from affected First Nations, environmental groups and local landowners.

With the election, in June 2017, of a new NDP government in British Columbia, Site C was referred to the British Columbia Utilities Commission, or BCUC. The BCUC was tasked to conduct an Inquiry into the costs of completing Site C as well as the costs and benefits of cancelling it. For general background on Site C and the Site C Inquiry, see our earlier post: Site C: To Be or Not To Be

Following the BCUC Inquiry, in early December 2017, the BC Government decided to proceed with Site C. The Government's rationale was neatly summarized in the initial paragraph of its Site C Press Release:

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

To further understand the rationale for the Government's decision to proceed with Site C, it is useful to review the final BCUC Report on the Site C Inquiry (the "BCUC Report") and certain supplemental information on the Site C Inquiry website, including in particular the BCUC's Response to the Deputy Ministers of Finance and Energy ("BCUC Supplemental Material"). Each sheds material light on the facts and economics that helped shape the Government's final decision.

"An Immediate $4B Bill"

The roughly $4B bill referred to in the Site C Press Release comprises roughly $2.1B in sunk costs and roughly $1.8B in termination costs, identified in the BCUC Report (at p.127):

Sunk Costs	$2.1B
Termination Costs	$1.8B

	$3.9B

The $2.1B in sunk costs were expenditures already made or committed to be made to construct and develop Site C. Of these sunk costs, a full $500M was related to the regulatory approval process, including all environmental, engineering, design and legal costs required to study the project, make the necessary regulatory filings and prosecute BC Hydro's case for the issuance of all permits and approvals. The balance of $1.6B in sunk costs were actual construction costs already incurred or committed to be incurred prior to December 31, 2017, the deadline for the Government to announce its decision on Site C.

The termination costs of $1.8B were payments for contract cancellations and remediation that would be unavoidably incurred if Site C was cancelled. BC Hydro initially estimated that contract cancellations would cost just over $300M, while remediation would cost just over $700M, for a total of just over $1B. However all of these estimates were very preliminary – known as Class 5 estimates by professional engineers and cost accountants. These estimates were subject to a significant degree of uncertainty: by their terms they could be expected to vary by as much as +100% / -35%.

Various commentators involved in the Site C Inquiry indicated that these estimates for termination costs could be expected to range between $750M at the low end to as much as $2.3B at the high end. In light of this significant variance and the uncertainty of these various estimates, the BCUC Report settled (p.128) on an estimate of $1.8B for termination costs. This estimate lay between the high and low estimates presented to the Site C Inquiry and was also close to the figure used by BC Hydro as its most conservative ("P90") estimate for these costs.

The sunk costs were generally knowable and reliably calculable. Potential remediation costs though, would have been subject to potential escalation due to the preliminary nature of the estimates. Also, those costs had the potential to escalate even further because the estimate of remediation costs was to restore the site to the point where there was no further risk to public health, safety or the environment as opposed to restoring the status quo of the site prior to any project-related work. Remediation to that level was not estimated by BC Hydro or by the BCUC but was generally acknowledged to require considerably greater expense. We think it unlikely that, had Site C been cancelled, affected stakeholders would have been satisfied with any remediation effort that fell short of restoring the full status quo or something substantially resembling it. The potential for remediation costs to climb well above the final BCUC estimate would accordingly have been a very real one, in our view.

It is this $3.9B in sunk and termination costs that became the "$4B Site C debt" referred to in the Site C Press Release and in virtually all subsequent Government public comments on Site C.

"With Nothing in Return"

As noted in the Site C Press Release, the crux of the issue was incurring or at least recognizing $4B in Site C debt – "with nothing in return".

The Government was referring to the fact that, if Site C was cancelled, then even after paying for the Site C debt, British Columbians would still need to build replacement power generation and/or storage facilities or otherwise meet or manage expected increases in demand for power. The development of this alternative portfolio (in the BCUC's terms an "Illustrative Alternative Portfolio") would clearly cost more money on top of the Site C debt.

Formulating, costing and evaluating an Illustrative Alternative Portfolio was a difficult and controversial enterprise. The BCUC however posited that a cut-down portfolio consisting of some renewables, principally wind and if necessary geothermal, could be combined with more aggressive demand-side

management techniques to provide a competitive alternative to completing Site C. Suffice it to say that, after accounting for the $4B Site C debt, the economics of the Illustrative Alternative Portfolio were, even under the most favourable conditions, hardly compelling. At worst, if BC Hydro experienced higher than expected natural load growth, or if the Province consciously adopted electrification initiatives to cut carbon emissions, the Illustrative Alternative Portfolio could be much more costly than simply completing Site C. For examples of the relative cost and sensitivities of completing Site C or the Illustrative Alternative Portfolio, see the BCUC Report at p.153 to p.172 and the BCUC Supplemental Material at p.5.

In any event, the proof was in the pudding – the Government had obviously seen enough just looking at the $4B Site C debt if Site C was not completed. There was clearly no need, in the Government's view, to get into the complexities, uncertainties and sensitivities of the BCUC's Illustrative Alternative Portfolio or to try to precisely weigh those costs against the costs of completing Site C – which appeared to have escalated from $8.34B prior to the Inquiry to something in the $10B range by the end. In the Site C Press Release we can find little if any mention of, or even any reference to, the Illustrative Alternative Portfolio – and its modelling by BCUC appeared to have little if any discernable impact on the actual decision to complete Site C.

Financial Consequences of Cancellation

In analyzing the financial impact of cancelling Site C, the Government focused on the $4B Site C debt and noted there were essentially three options:

- the Site C debt could be passed on to BC Hydro ratepayers, with the approval of the BCUC:
- BC Hydro could absorb the Site C debt; or
- the Province could take over the Site C debt from BC Hydro and assume the repayment responsibility itself.

If the $4B Site C debt were passed on to ratepayers it would result in rate hikes. The size of these rate hikes would largely depend on the period for amortizing or recovering the debt. If amortized over a relatively short period (say 10 years), any rate hike could be up to 12.1% each year for a decade. If amortized over a much longer period (say up to 70 years), there would be a relatively smaller short-term rate impact. But generations of future ratepayers would then be responsible for funding, in the words of the Government, a "valueless asset from which they receive no benefits". To see the impact of amortizing repayment of the Site C debt over different amortization periods, see the BCUC Supplemental Material at p.7.

If the $4B Site C debt could not be passed on to the BC Hydro ratepayers, the Government noted it could either be left for BC Hydro to pay out of its own resources or it could be assumed by the Government. At a minimum, either of these choices:

- would directly or indirectly affect the treatment of both the Province and BC Hydro by credit rating agencies;
- could adversely affect both their ratings and their borrowing costs; and
- could affect the Province's ability to finance other key infrastructure.

In either case the Government noted that its annual budget available for key priority spending, including schools, hospitals, highways and bridges could have been materially and adversely affected if Site C had been cancelled.

From the tone of the Site C Press Release, none of these alternatives appeared remotely acceptable to the Government.

Conclusion

These, then, are the key elements behind the BC Government's decision to proceed with Site C. Cancellation would have resulted in the incurrence or recognition of the $4B Site C debt with no hard assets to show for it. Passing this Site C debt on to BC Hydro's ratepayers would have resulted either in significant rate hikes or unfairly burdening future generations. Absorbing the Site C debt by BC Hydro or the Province would have affected the credit ratings of BC Hydro and/or the Province and could have adversely affected the Province's plans to fund key infrastructure. In the circumstances the pain of recognizing and dealing with the sunk and termination costs of Site C was too great to bear.

Substantially similar calculations also appeared to have driven the recent decisions to proceed with each of the Keeyask Dam in Manitoba and the Muskrat Falls Dam in Newfoundland. While each of these projects had its own particular issues and concerns, the similarities between each of them and Site C are striking. Each of these projects was a storage dam projected to cost in the $5B - $10B range; each was sponsored by a provincial crown corporation; during construction, each suffered some degree of material cost over-runs; each aroused substantial environmental and local opposition; and each became an election issue.

One other similarity: after some degree of public inquiry or investigation as to whether to complete or cancel each project, each was ultimately authorized to proceed. In some significant measure, the underlying reason for the decision to proceed in each case has been that to cancel would entail recognizing and dealing with the unpleasant financial consequences of sunk and termination costs. For a mega-project in the $5B - $10B range, these costs can reach the billion dollar mark once as little as 10% to 20% of the project has been completed. The bills for cancellation just keep going up from there.

As we have seen with Site C, these costs can simply be too big a bill – and too big a pill – to swallow.