

BCUC Site C Review: Talking Points on BC Hydro's submission

There are more than a few matters which BC Hydro's 866-page submission to the Site C Review Panel does not make apparent to the casual reader. They are nevertheless important, and include:

On time, on Budget?: BC Hydro maintains (on P. 2) that the Site C project is both on-time and on-budget. The recently published Deloitte report suggests that, while that may be the case at present, the contractor (Peace River Hydro Partnership) have admitted a serious risk that it will miss a critical milestone (low-water diversion of the Peace river in September of 2019). If that critical milestone is missed, it will inevitably cause cost and time overruns. The Deloitte report also points out that the project has already dipped into its contingency budget much more than would be expected at this early stage of the project.

Power demand is flat – not growing – in BC: BC Hydro's stated need for Site C is anchored in its forecast that BC's demand for electricity will increase by 30-40% over the next 20 years. This is based on its econometric models showing continued GDP and population growth, greater (and greener) electrification of the economy and the advent of electric (rather than oil-based) transportation.

The problem it does not explain is that demand over the past 16 years has been flat – i.e. no increase – despite all of the above factors being in force during that period. BC's population increased by 540,000 and its economy grew by 47% between 2001 and 2017.

There are a number of reasons – mostly unacknowledged in BC Hydro's submission – why the forecasted growth did not materialize, nor is likely to. They include the effectiveness of conservation programs like Demand Side Management (DSM) and Powersmart, the decline of BC's forestry and mining industries, much greater energy efficiencies of household electrical appliances and the demand-killing effects of a 86% hike in power rates over the 2001-17 interval. The Site C submission from the Clean Energy Association points out that large-user electricity rates in BC, at one time the cheapest in Canada, are now 8th (out of 12) most expensive, further discouraging industry from locating here.

BC Hydro's demand forecasting does not fully recognize these trends. Nor does it offer any convincing arguments as to why the next 20 years should result in a 30-40% increase in electricity demand when the past 16 have not. But – according to Deloitte's report - this forecast follows a chronic pattern of over-estimation at BC Hydro and calls the accuracy of Hydro's forecasting, and consequently the need for Site C, into serious question.

BC Hydro exports its surplus power: BC Hydro is currently exporting energy that is surplus to BC's provincial needs. For each of the past 5 years (2013-2017), BC Hydro has exported surplus power – mostly to the U.S. Northwest. Net of imported power purchases, these surplus exports have averaged 5,051GWh annually. That is over 99% of Site C's 5,100 GWh projected output.

For these “trade” exports BC Hydro earned less than \$35/MWh. The trade rate is currently less than \$30/MWh, partly reflecting the glut of power available in the U.S. Northwest. Should we ultimately need the power, BC Hydro can readily stop those exports.

In its submission (P.104 and graph on P.73), BC Hydro states that *“The expected prices for short-term energy sales from 2024 to 2030 are estimated to be around CAD\$48/MWh. This view of increasing market prices is based upon the current overbuilt electricity markets returning to a more balanced position”*.

Among the several problems with this statement is that the wholesale price of spot electricity in the Mid-C market (closest to BC Hydro) is currently around US\$20/MWh and has been declining – not increasing - for the past decade. Should, as is expected, Site C’s energy be surplus to domestic needs, selling it at this price in the Mid-Columbian hub will be at a substantial loss (estimated at \$25 Billion if all of Site C’s 5,100GWh energy is surplus to needs).

BC Hydro has access to much more power without building Site C: BC Hydro’s submission dismisses alternative energy technologies – wind, solar, geothermal, biomass - as being impractical and uneconomic. But BC Hydro is ignoring several sources of additional power in its current energy portfolio. These include BC’s entitlement under the Columbia River Treaty (CRT - about 85% of Site C’s output), an additional turbine at the Revelstoke dam, generators at the Keenleyside and Duncan dams and the outputs of the gas-fired Burrard and Island Generation “peaking” plants.

The CRT entitlement is currently received and sold back to the U.S. at market prices (~\$35/MWh) well below the planned \$83/MWh cost of Site C power. Changes to the Clean Energy Act, which required that BC Hydro have access to locally produced power sufficient to meet BC’s demand, have been cited by BC Hydro as a key reason for ignoring this source. However, two simple changes to the act would, if needed, liberate BC Hydro from the CRT and thermal-power restrictions.

Payments to IPPs: BC Hydro has over \$56.3 Billion in contracts with Independent Power Producers (IPPs, sometimes lumped together as “run-of-river” operators). At the same time as exporting around 5,100 GWh of surplus power for less than \$35/MWh, BC Hydro pays these 120-plus IPPs over \$88/ MWh for supplying about 17,000 GWh of power - about 1/3rd of its electricity supply needs. Buying power for \$88 and selling it for \$35 is not a sustainable business proposition.

A specific example will serve to illustrate this folly. Singapore’s Woodfibre LNG bought a site near Squamish with a small existing run-of-river installation. BC Hydro pays Woodfibre about \$1.7 Million annually for its 11 GWh of power – a rate of \$158/MWh, whether or not BC Hydro actually uses or needs the power. In November of 2016, then-Premier Clark announced that Woodfibre LNG could buy virtually-unlimited power from BC Hydro at the “e-drive” rate of \$56/MWh – a change costing BC Hydro’s ratepayers an estimated \$34 Million per year. That too is not a sustainable business proposition.

BC Hydro is reducing its DSM (Demand-Side Management) efforts: BC Hydro is required by statute to meet half of any new power demand through conservation initiatives directed toward its 1.8 Million Customers. This is known as DSM - Powersmart is one such initiative. However, in the face of a growing surplus of power, which must be sold at a

loss, BC Hydro has curtailed – rather than increased - its DSM efforts. And is planning further cuts in the program’s budget.

There are 5 levels of DSM initiatives, each level yielding more power conservation. BC Hydro is barely at DSM-2, but is clearly capable, with some urging required, of stepping up its DSM efforts and results. This point was recently emphasized in Deloitte’s report, which urged greater DSM efforts in line with those in peer-group utilities.

BC Hydro Debt: Despite charging its 1.8M residential customers over \$110/MWh, BC Hydro has rapidly run up its credit card debt, which is now an eye-popping \$22 Billion (up from \$8 Billion since 2008). That’s not counting either of \$56.3 Billion of IPP contractual amounts owing nor any of Site C’s costs.

How bad is this? Debt-to-equity ratio is a common measure of financial health. BC Hydro’s is 4.55 to1, meaning that it owes \$4.55 for every \$1 of equity (assets net of debts – currently around \$4.9B) it owns outright. That is by far the worst of any major utility in Canada or the U.S. and is well beyond the BC Government’s guidance of 1.5 to 1. Restoring the debt to more normal levels (from 4.55:1 to 1.5:1 – i.e. shrinking it by \$14.5 Billion) over, say, 20 years, would require a permanent rate hike of over 14%.

Accounting “standard”: BC Hydro, like many utilities, uses multiple deferral counts, but in a most unusual way. Deferral accounts are intended to fluctuate, in good years and bad, between a positive and negative balance to help smooth power rates for Customers and guarantee steady returns for investors. But BC Hydro’s have steadily grown in one direction only - into the red. A whopping \$5.9 Billion in the red. This controversial practice defers expenses into the future, and borrows against future rate increases.

BC Hydro’s accounting system is one of a kind. It follows neither Canadian-standard GAAP (Generally Accepted Accounting Principles) nor the more utility-standard IFRS (International Financial Reporting Standards), which requires prior approval by a regulator such as BCUC. BC Hydro is absolved from seeking that approval from BCUC. Its current deferral accounts total a negative \$5.9 Billion – more than a whole year’s gross revenue. The effect of the this government-ordered misuse of these accounts is to mask from current Customers the true costs of their power and to allow the Government to manipulate BC Hydro’s accounting to receive \$300M dividend payments annually from an unprofitable BC Hydro that has to borrow to pay them. It does not change the project costs – it merely defers them to future customers.

This deception, long objected to by BC’s Auditor General, has to end of course. However, restoring that \$5.9B deferral accounts to balance over even 10 years will require a permanent hike in power rates of around 12%. In the meantime, it is entirely fair to question whether BC Hydro is in any shape to indulge in a risky \$9 Billion project on the twin gambles that the power will eventually be needed and that Site C is the cheapest way to generate it.

Budget overruns on similar dam projects:

In its submission (Appendix M), BC Hydro disparaged the “UBC Site C Report”, claiming that the authors had cherry-picked recent dam-building projects around the world to show how often and how badly they had gone off the rails (the World Bank reported an average overrun of 27%). It made an argument to show that it (BC Hydro) had a splendid

record of coming in on-budget on small-scale capital projects. This despite not having built a dam since the mid-80's – 30 years ago. And the submission omits any mention of two Canadian dam projects currently in big trouble – Newfoundland's Muskrat Falls (original budget \$6.7 Billion, estimate to complete \$12.7 Billion) and Manitoba's Keeyask dam (original budget \$6.5 Billion, estimate to complete \$8.7 Billion). No mention either of the overrun on BC Hydro's own Northwest Transmission line (original budget \$395 Million, cost to complete \$736 Million).

Dam projects are hugely prone to going well over budget, and BC Hydro's head-in-the-sand suggestions that it is somehow exempt from such errors do not bode well for its staying on Site C's \$8.8 Billion budget.

No return to the public on its Site C investment: This point requires a background explanation. Back when W.A.C. Bennett formed BC Hydro, the Government of the day established that, in return for being gifted its assets by the public who paid for them, BC Hydro would pay the public (via the Government) a rate of return on the value of in-service assets, the rate to be set based on comparable private-sector return rates. Fortis is often used as a reference. That rate is currently about 11.8%, levied on 30% of BC Hydro's assets. For Site C, that return to the public would amount to over \$280 Million annually.

But... BC Hydro's 2013 10-year rate plan changed all that - the charge has been forgiven and the costs eliminated from Site C's budget. In essence, the Government is declaring that it no longer requires a return on the \$8.9 Billion Site C investment – a luxury no private-sector investment can afford. The effect of this largesse on BC Hydro's projected cost for Site C power is significant – a reduction of \$26 per MWh (from BC Hydro's estimated -and much-disputed - figure of \$83/MWh).

The BC Government also declared recently that it would not require a dividend annually - – recently around \$300 Million annually - from BC Hydro until it was profitable and its debt-to-equity ratio returned to a more normal 1.5:1. It is currently a sky-high 4.55:1. Clearly, that normalization won't happen anytime soon.

The problem with these "deals" is that they don't change Site C's cost of energy one iota – they merely transfer the risk of the investment from BC Hydro's ratepayers to BC's taxpayers – pretty much the same group of people. They also act as a subsidy, which deters alternative energy producers from competing with BC Hydro/ Site C.

No valuation placed on Natural Capital/ ecosystem services: The Peace River Valley contains some of the best agricultural land in BC, capable of growing food sufficient for a million people. The submission from David Suzuki estimates the value of the ecosystem services (such as food production) ecological services provided by farmland and from nature in the Peace River Watershed are conservatively worth an estimated \$7.9 billion to \$8.6 billion a year (through the cumulative contribution of services such as water supply, air filtration, flood and erosion control, habitat for wildlife and agricultural pollinators, carbon storage and other benefits

None of this is included in the costing of Site C.

As the recent submission from futurist Guy Dauncey states: *"The numbers show that even with the rapid electrification of transportation and heat, we do not need to flood precious*

farmland in the Peace River valley to generate hydropower. We can get all the energy we need in an affordable manner from a portfolio of demand-side management, wind, solar and geothermal, and we can handle the need for dispatchability”.

Site C restoration costs are not included: The costing for term projects such as mines and dams usually include the costs of restoring the site to near its pre-project condition at the end of its useful life. The costing for the Site C dam does not do this.