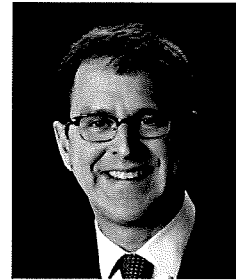


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Jessica McDonald  
President and CEO  
BC Hydro and Power Authority  
6911 Southpoint Drive  
Burnaby, BC V3N 4X8

January 14, 2016

Dear Ms. McDonald,

I am writing with respect to BC Hydro's Smart Metering and Infrastructure (SMI) Program ("the Smart Meter Program" or "the Program") and the achievement of the Crown Corporation's commitments and goals in its 2011 SMI Program Business Case for the expenditure of more than \$1 billion of ratepayer's money. The Smart Meter Program was exempted by the Liberal Cabinet from BCUC review and approval.

At the time, BC Hydro claimed over \$1.5 billion in total benefits in current dollars and more than \$500 million in net benefits from the Program. These extraordinary numbers, as of today, are still being used on the BC Hydro website.

In particular, BC Hydro claimed in its business case that smart meters would reduce \$732 million dollars in electricity theft in BC Hydro territory as a direct result of the Program over existing methods of detection, from marijuana grow-op facilities.

In fact, reducing electricity theft from grow-ops was by far the largest single benefit of the Program presented in the business plan. Without this \$732 million, the Program would have moved from a net \$500 million in benefits to a net \$212 million in costs.

However, there are serious questions about whether these benefits are being realized and about the credibility of the business case. As I will note below, BC Hydro claimed in 2004 that total electricity theft from grow-ops was \$12 million. This magically became \$50 million in 2006 according to the Hon. Rich Coleman then in 2011 \$100 million in the Program's business case, based apparently on one study.

BC Hydro, like the Liberal cabinet which ordered the smart meters, is not shy about trumpeting its success and yet, there is no evidence of any significant reduction in electricity theft three full years into the initiative. There is no public claims of a reduction in the availability or production of marijuana in that time. That evidence is pretty plain.

This is no small matter. This represented the underpinning for a massive and costly program for the ratepayer. Those same ratepayers who pay the bill have some right to know that BC Hydro is keeping its ongoing promises to them about the Program. This is particularly true when projects are exempted from proper regulatory review and smart meters and government claims about Site-C are first to come to mind.

As you may be aware, other major Program claims advertised by BC Hydro, have been abandoned. BC Hydro produced ads some years ago, that claimed customers would no longer need to inform BC Hydro of power outages as a result of the new system. However, during the major incident this August 2015, it was plain that that was not the case.

Have the \$732 million in electricity theft benefits over the past 3 years and the next 17 years from the Program gone missing?

### 1. BC Hydro's Business Case

The January 2011, the "Smart Metering and Infrastructure (SMI) Program Business Case" was released by BC Hydro. Its claims of financial benefits continue to be presented on the BC Hydro website.

The largest single benefit in the summary table found on Page 9 of the business case was theft detection. BC Hydro claimed an expected benefit of \$732 million with a "Sensitivity Range" between \$632 million and \$832 million. According to the business case, "the ranges are based on an assessment of the upside and downside in variability associated with the key drivers behind each benefit."

In justifying this number, BC Hydro claimed \$100 million in annual electricity theft from grow-ops and argued that theft from BC marijuana had increased from 500 GWh/yr to 850 GWh/yr between 2007 and 2012. BC Hydro claimed that "realization of theft benefits is estimate at an initial 75 per cent, declining to about 67 per cent in F2027."

The main variability however, appeared to be BC Hydro's communication needs at any given time. In sworn evidence before BC Utilities Commission in 2004, BC Hydro executive Bev van Ruyven claimed "Now, we know that grow-ops are a problem in British Columbia, but our estimate is more in the 12 million range." She added "interestingly enough, we've been quite successful in recovering the electricity theft. Usually, the grow-ops are quite interested in paying their bill and so we have been quite successful in recovering a lot of the theft."

A further study cited by journalist Stephen Hume concluded that electricity left from marijuana growing operations "had actually declined by half between 2000 and 2003."

In 2006, the Liberal government introduced the Safety Standards Act to support local authorities and BC Hydro reduce electricity thefts and "target and shut down marijuana grow operations." The Minister responsible Rich Coleman claimed that electricity theft from grow-ops at BC Hydro was now \$50 million annually.

In 2011, the same BC Hydro executive Bev van Ruyven – now in charge of the Smart Meter Program – was claiming electricity theft from marijuana grow-ops was actually a \$100 million problem.

This estimate was largely based on two reports, by Jordan Diplock and Darryl Plecas in 2010 and 2011 that guessed electricity theft was costing BC Hydro, both with markedly different estimates, the second of which estimated electricity theft cost BC Hydro \$109 million annually. The first report, cited above by Hume had very different results.

In a subsequent article, referring to smart meters, the authors write "this technology was viewed by some as having the potential to reduce some of the harms caused by indoor marijuana production by identifying electricity theft and other dangerous consumption earlier... Further research will need to be

done to determine if smart metering has been able to achieve any reductions in the theft of electricity by growing operations....” On this, BC Hydro claims a benefit of between \$632 and \$832 million over 20 years.

Of these varying and escalating claims, four points should be made:

1. The \$100 million figure doesn't appear as any separate entry in a BC Hydro's Annual Report from 2004 to the present. BC Hydro claims it is included in the Annual Report under "Unaccounted for energy and line losses." This item is where BC Hydro records the losses that occur when electricity moves through the wires and other electrical devices such as transformers. If BC Hydro was losing a \$100 million a year to grow operators, one would expect it would have told the public about this other than when it needed to justify the Smart Meter Program.
2. BC Hydro's "Transmission and Distribution Losses as a Percentage of Total Energy 2011" contradicts BC Hydro's own claims. It shows flat and declining distribution losses (that includes distribution-level electricity theft) during the very period when they were arguing that electricity theft was growing like wildfire.  
[https://www.bchydro.com/about/accountability\\_reports/2011\\_gri/f2011\\_economic/f2011\\_economic\\_EU12.html](https://www.bchydro.com/about/accountability_reports/2011_gri/f2011_economic/f2011_economic_EU12.html)
3. The average house uses \$850 per year in electricity. \$100 million divided by \$850 is about 113,000 homes. BC Hydro says the average grow-op uses 3 to 10 times as much electricity as an average house. Dividing 113,000 by 10 equals 13,000 grow ops. Dividing 113,000 by 3 equals about 38,000 grow ops. There aren't 13,000 to 38,000 grow ops in B.C.
4. BC Hydro's business case for the Smart Meter Program changed in 2010. In the document prepared for the 2011 RRA, the Program benefits included prominently "time of use" and "critical peak" pricing. Major benefits of the initiative such as a telecommunication network and the ability of customers to monitor energy consumption were also abandoned. And the emphasis with respect to theft detection was on the safety risk of the public. When the business case was re-written after the purpose of the Smart Meter Program was changed even as the Liberal cabinet forced BC Hydro to proceed, the claims with respect to the recovery of electricity theft grew.
5. The main variable in these estimates appears to be BC Hydro's communication needs. In 2004, BC Hydro was refuting a report by the BC Chamber of Commerce and showing it was on top of the problem. In 2006, justification was needed for legislation. In 2011, a financial rationale was needed for \$1 billion plus program.

Table 1 of the BC Hydro SMI Program Business Case asserts a \$732 million savings from "Revenue Protection Theft Detection" that all relates to supposed theft of electricity by owners of grow-ops. The \$100 million per year figure which translates into the \$732 million seems to be at best highly dubious. And if this figure is subtracted from the Business Case summary figure of \$1,629 the value of expected benefits from the Smart Meter Program drops to \$897 million which is below the cost of \$1,109 billion.

The key issue of course is not just the credibility of BC Hydro's estimates but whether the targets that justified the program spending are being achieved. Are smart meters doing what BC Hydro continues to advertise them doing?

After all, regardless of estimates BC Hydro needed to show how smart meters would reduce electricity theft. According to BC Hydro, in the five years prior to the introduction of the Smart Meter Program "we've identified and shut down over 2,600 thefts." Other than exaggerated claims, where is the evidence of an action plan to meet BC Hydro's goals?

## **2. Three years in, are BC Hydro's claims of saving credible?**

If BC Hydro is to achieve its financial goals with respect to smart meters, we should see clear evidence of success three years into the program. And yet, there is nothing in subsequent annual reports, public filings or on BC Hydro's website to indicate any major reduction in electricity theft. None.

In the SMI Program Business Case, the Liberal government and BC Hydro claimed the following: there was a \$100 million of electricity theft due to marijuana grow-ops in BC Hydro territory and that this involved the theft of 850 GWh/yr in fiscal 2012. BC Hydro then claimed that "realization of theft benefit is estimated at an initial 75%, declining to about 67% by 2027."

There is little evidence of any realization of these promises – no media articles and no BC Hydro public reports. And there is little evidence of an increase in the number of marijuana growing operations shut down by police. Nor is there any evidence of a significant difference between New Westminster, an electricity system without smart meters and Burnaby, which has since had them installed.

We do know that while BC Hydro followed the Liberal cabinet order that 90 per cent of residences have a smart meter by the end of 2012, the "Smart Grid" side of the initiative was delayed significantly.

Have the IT and business analytics software even been implemented? Has BC Hydro abandoned the more advanced methodology (software based) to identify theft of electricity?

My questions are simple:

1. BC Hydro continues to publicly stand-by the exaggerated claim of \$732 million in net benefits of the Smart Meter Program to reduce electricity theft compared to the pre-2012 system. What money has been saved to date? Is the realization of theft benefits anywhere near the claimed "initial" 75%? And if not, why does BC Hydro continue to mislead the public about the benefits of its investment? What impact will this have on rates should this initial failure continue?
2. Has BC Hydro fully implemented all of its so-called "Smart Grid" theft detection investments?
3. What impact will change in Federal regulation of marijuana have on BC Hydro's SMI Program Business Case?

The Liberal cabinet, not BC Hydro, made the decision to proceed with smart meter spending. It refused to see those assumptions tested before the BCUC. And now, after the Northwest Transmission Line, deferral account, IT investments and the Clean Energy Act, it is ratepayers that are forced to pay the price. Similar claims are being made about the Site C dam, also exempted from legal review by the BCUC.

The customers who paid for smart meters deserve to know the truth about BC Hydro claims about the program, whether the business case presented was credible or not, whether BC Hydro advertising was truthful or not. It appears that \$732 million of BC Hydro claimed benefits of smart meters may be missing. I look forward to an explanation as to what has happened to date.

Sincerely,

Original Signed

Adrian Dix MLA  
Vancouver Kingsway

AD/ex

Enclosed:

1. BC Hydro "Smart Metering and Infrastructure Program Business Case", January 18, 2011.
2. BC Hydro Revenue Review Hearing, Testimony of BC Hydro Vice President Bev Van Ruyven, May 19, 2004.
3. BC Hydro Q and A on Electricity Theft (last up-dated November 16, 2010)
4. "This Week at BC Hydro" posting by Bev Van Ruyven, January 18, 2011.
5. "EU Transmission and Distribution Losses as a Percentage of Total Energy" BC Hydro Document, 2011.
6. F2011 Revenue Requirement Application Appendix J

