

SUBMISSION to the BC UTILITIES COMMISSION

SITE C INQUIRY

Submitted by Richard McCandless

August 21, 2017

GENERAL:

My submission consists of two papers/articles on how the BC government should direct some of the new carbon tax revenue to BC Hydro to cover the anticipated annual operating deficit resulting from operating the Site C dam.

A third paper reviews the current projects under construction in Newfoundland and Labrador and Manitoba, with a focus on the anticipated impact on electricity rates.

The fourth document is my June 8, 2017 final submission on BC Hydro's F17 to F19 rate request.

Also included for information is my "Rate Suppression and Debt Transformation: The Political Use of BC Hydro, 2008 to 2014," published in November 2016.

Document 1 "Options for Financing Site C," June 24, 2017.

<http://www.bcpolicyperspectives.com/>

This paper reviews estimated preliminary costs of either proceeding or suspending the Site C project, and provides some financing options. The government has a difficult decision to make regarding the go/no go status, and little time to make that decision, as an extended delay will add significantly to the ultimate cost of a cancel/suspend decision.

Document 2 "How Much Will It Cost to Cover the Liberals' Site C Gambling Debt?"

The Tyee, July 13, 2017.

Summarizes the main points in the "Options for Financing Site C" paper.

https://theyee.ca/Opinion/2017/07/13/How-Much-Will-Site-C-Gambling-Debt-Cost/?utm_source=daily&utm_medium=email&utm_campaign=130717

Document 3 “The Impact of Massive Hydroelectric Infrastructure Projects on Electricity Rates in Newfoundland and Labrador, Manitoba and British Columbia,” July 5, 2017. <http://www.bcpolicyperspectives.com/>

In developing its recommendations, the Commission should not consider the deferral of the anticipated Site C operating cost deficits. The net deferral balance is already too high, and artificially inflates BC Hydro’s assets and equity. Deferring operating costs (and unbilled future revenue) places an unfair burden on future generations of customers.

My June 8, 2017 final submission to the Commission in the review of BC Hydro’s F17 to F19 rate request application is attached for information.

http://www.bccuc.com/Documents/Arguments/2017/DOC_49422_06-08-2017-McCandless-Final-Argument.pdf

“Rate Suppression and Debt Transformation: The Political Use of BC Hydro, 2008 to 2014,” *BC Studies*, Autumn, 2016.

<https://bcstudies.com/?q=keywords/bc-hydro>

RELATED ARTICLES

“Electricity Rates in Ontario,” May 26, 2017.

How the Ontario government transferred some of the rate burden to the taxpayer to lower planned electricity price increases.

http://www.bcpolicyperspectives.com/media/attachments/view/doc/occasional_paper_no_31_26_may_2017/pdf

DOCUMENT 4 “Manitoba Hydro Seeks Five-year 46 Percent Rate Increase – Lessons for British Columbia?” June 2, 2017.

Manitoba Hydro forecasts annual rate increases of 7.9 percent for the next five years to keep its debt to equity ratio at 75/25 as major capital projects increase borrowing costs.

http://www.bcpolicyperspectives.com/media/attachments/view/doc/occasional_paper_no_32_manitoba_hydro_2_june_2017/pdf

“How BC Politicized Electricity Rates,” *Policy Options*, March 3, 2017.

Comparing independent electricity rate setting in Ontario with rate manipulation in British Columbia.

<http://policyoptions.irpp.org/magazines/march-2017/how-bc-politicized-electricity-rates/>

DOCUMENT 1

OCCASIONAL PAPER NO. 33 BC HYDRO

OPTIONS FOR FINANCING SITE C

This paper reviews estimated preliminary costs of either proceeding or suspending the Site C project, and provides some financing options. The government has a difficult decision to make regarding the go/no go status, and little time to make that decision, as an extended delay will add significantly to the ultimate cost of a cancel/suspend decision.

But the decision on the future of Site C must be made in the broader context of restoring BC Hydro's finances to a healthy condition. Essentially, the choice of a mechanism to fund the cost of the decision on Site C should not preempt what fiscal capacity remains at BC Hydro to moderate the growth in debt, improve the solvency of the pension fund, and reduce BC Hydro's reliance on dubious regulatory/deferral accounts to inflate its net income.

1.0 THE BROADER CONTEXT

Using generally accepted accounting principles (GAAP) for the private sector, BC Hydro would have become insolvent sometime in 2013. Its balance sheet liabilities would have exceeded its assets, resulting in negative shareholder equity.

BC Hydro, however, has used the regulatory (or deferral) accounting rules to convert some of its liabilities into assets, thereby inflating equity. All regulated power utilities use regulatory accounting to help smooth significant annual fluctuations in costs, thereby keeping changes in the rates charged to customers more stable and predictable.

Since the 2008/09 recession, the provincial government has abused the accounting opportunities made available by regulatory accounting to artificially increase BC Hydro's net income, and allow dividends to be paid. It also allowed the corporation to seriously underfund its pension obligations to inflate the equity.¹ By year-end 2015/16, the net balance in the regulatory accounts (\$5.9 billion) represented some 131% of BC Hydro's recorded equity (\$4.5 billion).

The Liberal government hollowed out of the finances of our public power corporation by reducing the role of the formerly independent regulator, the BC Utilities Commission, to that of an agent of the government.² Detailed prescriptive cabinet orders expanded the number and scope of the deferral accounts and, since the 10-year plan of 2014, have even required BC Hydro to record unapproved and unbilled revenue to suppress rate increases and still produce record profits.³

These practices (including paying dividends from borrowed funds) have increased BC Hydro's debt to the point that Moody's is warning that this trend may threaten the province's credit rating.

¹ http://www.bcpolicyperspectives.com/media/attachments/view/doc/occasioal_paper_no_20_january_14_2017/pdf

² See

http://www.bcpolicyperspectives.com/media/attachments/view/doc/occasional_paper_no_15_bcuc_independence_27_october_2016/pdf

³ http://www.bcpolicyperspectives.com/media/attachments/view/doc/occasional_paper_no_15_bcuc_independence_27_october_2016/pdf

The government's reckless decision to proceed with the \$8.8 billion Site C dam project, without a proven medium term domestic need for the additional power, will seriously weaken BC Hydro's already poor financial outlook.

Possible options to finance the dam must not preclude the fiscal capacity of BC Hydro to reform and restore its existing financial situation, within the context of future affordable rate increases.

2.0 WHAT WILL SITE C COST?

The following is in two parts; the first assumes that the dam will come onstream in 2024/25, while the second assumes that a decision is made to suspend all work for an indefinite period. These scenarios focus on the operating budget.

2.1 COMPLETE SCENARIO

BC Hydro has not released any detailed calculations of the annual operating impact; therefore, the following has been inferred from the information available. BC Hydro has said that the all the cost will be borrowed, and that the financing (amortization) period will be 70 years at an assumed 5% rate.

BC Hydro has also stated that there will not be a positive return until Year 71,⁴ which I have interpreted as there will be a significant number of years of net operating losses followed by annual operating profits, which eventually net to zero by Year 70. Including estimated debt service, water rental fees, grants in lieu and operating costs, the annual gross increase in BC Hydro's annual operating cost is estimated at \$500 million.

Appendix A shows the detail of the calculation, where the net losses for the first 10 years of operation are estimated at \$3.0 billion, while the second 10-year period would losses would total \$1.125 billion.

Who will pay the \$4.125 billion in BC Hydro's operating losses during the first 20 years?

Ratepayer Option

A rate increase of 7% (2016 dollars) would be required on April 1, 2024 to cover the \$300 million annual net cost for 10 years. The scenario assumes improved domestic sales revenue during the second decade, which allows for an approximate 4% reduction in the rates to reflect the improved revenue.

This option would prevent BC Hydro's debt from increasing, but a 7% shock would likely cause financial hardship, and may result in some mines and wood product plants becoming uncompetitive.

⁴ This is important, as the net operating losses in the early years of operation will not be fully recovered until year 70, see <https://thetyee.ca/Opinion/2016/10/12/Christy-Clark-Site-C/>

Ratepayer Option with Deferral

The scenario described in Appendix A assumes that Site C power would generate net operating profits from Year 26 to Year 70. Deferring the net losses incurred in the first two decades (\$4.125 billion) to be repaid from the anticipated future profits is not recommended, as it transfers an undue burden to future ratepayers, and clearly violates the intent of the regulatory accounting rules (to recover variances in the next rate period).

Taxpayer Grant

The government could fund the net operating shortfall for the first 20 years, thereby avoiding the 7% rate increase. Over the period, this option would increase the taxpayer direct debt by \$4.125 billion, and likely result in a downgrade of the province's credit rating.

Carbon Tax and 1% Rate Increase

Under this option, rates would increase by 1% on April 1, 2018, and the province would dedicate \$2.50 of the planned 2018 increase to the Carbon Tax (with a further \$2.50 of the 2021 increase) directed to BC Hydro. These funds would be accumulated in a liability account and paid out over the first 10 years to avoid the 7% rate shock. In this option BC Hydro would raise rates by 1% beginning in April 2018.

2.2 SUSPEND/CANCEL SCENARIO

The financing impact of this scenario is more difficult to estimate, because the individual cancellation cost (if any) in each of the construction and supply contracts has not been made public.

For the sake of simplicity, I have assumed that an indefinite suspension or cancellation will entail the same cost, which I have assumed at \$4.0 billion. This includes some site remediation.

While it is probable that some of the work to date will be a credit to the project budget if the project is later restarted, I have assumed that an indefinite postponement will be treated as a write-off for accounting purposes.

Since there is no asset that may produce some future income stream, the \$4.0 billion would not qualify as a regulatory asset. It would be equivalent to a debt, which would be paid-off over 10 or 20 years. Since the decision to suspend or cancel would be made within the next 10 months, the borrowing cost should be less than the 5% used to calculate the cost of borrowing in 2023, when Site C is planned to enter service and amortization of the capital cost begins.

The annual payment on the loan would begin in 2018/19.

Table 1 shows the total annual principal and interest cost using a 4% borrowing rate paid over 10 years, and over 20 years, at a total loan of \$4.0 and \$4.5 billion.

**TABLE 1 Impact of 10 and 20 Year Debt Cost at 4 Percent
(Cost=millions)**

| | ----- 10 Year Plan ----- | | ----- 20 Year Plan ----- | |
|-----------------------|--------------------------|---------------|--------------------------|---------------|
| | ANNUAL COST | RATE Δ | ANNUAL COST | RATE Δ |
| Debt of \$4.0 Billion | 486 | 11.3 | 290 | 6.7 |
| Debt of \$4.5 Billion | 546 | 12.7 | 328 | 7.6 |

Table 1 shows that paying down a suspension/cancellation cost of \$4.0 billion over 20 years only saves \$10 million per year, assuming 20 years financing, compared to the net annual cost of \$300 million if the project proceeds to completion. Total savings over 20 years is \$200 million.

Repaying the suspension/cancellation cost over 10 years (\$486 million/year) would result in annual costs much higher than proceeding, although the debt obligation would be cleared much sooner.

The Rate Δ is the increase in BC Hydro rates that would be required to pay the principal and interest, based on the 2016 average of a 1% rate increase generating \$43 million in new revenue. Excluding the deferral option, the funding options outlined in Section 2.1, such as rate increases or dedicating some of the planned Carbon Tax increase, would apply.

3.0 OTHER CONSIDERATIONS

The liberal government’s budget for 2017/18 included the phase-out of the provincial tax on electricity sales to major corporate users. This elimination would be phased in over two years, ultimately saving businesses and large industrial users 7%, or approximately \$150 million by 2019/20.⁵ Residential customers do not pay the sales tax on electricity.

The government must also consider the impact that a decision on whether to proceed or cancel/suspend will have on its reputation in the major financial markets.

Ultimately, it is the responsibility of the provincial government to decide. The NDP intends to refer the question to the BC Utilities Commission for an expedited financial

⁵ See page 73 in http://bcbudget.gov.bc.ca/2017/bfp/2017_Budget_and_Fiscal_Plan.pdf

review of Site C. It is hoped that the review will include the total cost of the proceed or cancel/suspend options.

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The writer is a retired senior BC government public servant whose paper describing the BC government's manipulation of the finances of BC Hydro from 2008 to 2014 was published by *BC Studies* in November 2016. *BC Studies* published his paper on the 40-year financial history of ICBC in 2013. He has been an intervener in the BC Utilities Commission's recent reviews of ICBC's rate requests, and is an intervener in the Commission's current review BC Hydro's rate requests.

DOCUMENT 2 THE TYEE

[Opinion](#)

How Much Will It Cost to Cover the Liberals' Site C Gambling Debt?

Whether the project goes ahead or is cancelled, British Columbians are on the hook for billions.

By [Richard McCandless](#) 13 Jul 2017 | TheTyee.ca

Richard McCandless, a retired B.C. government senior manager, was an intervener in the BC Utilities Commission's current reviews of the rate increase requests for both the Insurance Corporation of BC and BC Hydro. More information is available on his [website](#).

The new NDP government plans to ask the BC Utilities Commission to review the economic viability of the \$8.8-billion Site C hydroelectric dam. **With, presumably, the project's shutdown a possible outcome.**

Incoming premier John Horgan has [said](#) he wants answers within six weeks. If the utilities commission can provide a preliminary report that quickly, the recommendations will likely focus on tangible financial matters, like the relative costs of continuing or halting work.

The ultimate decision by cabinet will also consider issues like the province's reputation in international financial markets and the likelihood of a credit rating downgrade.

With some assumptions, it is possible to construct a ballpark estimate of the financial costs of shutting down the Site C project, or going ahead. (More detailed information is available in my paper "[Options for Financing Site C.](#)")

And it's clear that either option means hundreds of millions in added annual costs for BC Hydro customers, taxpayers, or both.

The cost of completing Site C

Most regulated power utilities are expected to [cover](#) 30 to 40 per cent of the cost of a big capital project with shareholder equity — **money that's been stashed away from prior years accumulated surpluses.**

But after years of financial [manipulation](#) by the Liberal government, BC Hydro has little equity. It must borrow to cover all the Site C costs.

To lower the annual cost of interest and amortization on the \$8.8-billion debt, BC Hydro has [planned](#) to pay back the money over 70 years.

Assuming a five-per-cent interest rate (rates are expected to rise during construction), the Crown corporation will face annual principal and interest payments of about \$465 million. When provincial water rental fees (approximately \$32 million) and other operating costs are included, the increase to **BC Hydro's annual expenditures would be approximately \$500 million.**

Estimating the potential sales revenue is more contentious, as many critics [believe](#) that all the new power will be surplus to domestic requirements for many years or even decades and sold at low rates to other utilities. BC Hydro has [stated](#) that the losses in the early years of operation will be recouped in the later decades, resulting in no return to the shareholder for the first 70 years.

Using BC Hydro's vague numbers, my model suggests net operating losses of \$3 billion in the first 10 years of operation, and a further net loss of \$1.25 billion in the second decade. As domestic sales grow — generating much more revenue for BC Hydro than surplus sales — the \$4.25 billion in losses are eliminated by year 70.

The cost of cancelling or suspending construction

The cost of this option depends on when the decision is made and the cost of cancelling contracts and remediating the site. BC Hydro would be forced to borrow all those funds. (Deferring the costs — pushing them into the future — would not be possible as there is no expectation of an income-producing asset.)

Assuming a total cost of \$4 billion, borrowed at four per cent for 20 years, the annual increase to **BC Hydro's operating cost is \$290 million. This is similar to the net cost of the proceed option for the first 10 years.**

So whether Site C is suspended or goes ahead, taxpayers or customers are going to be paying some big bills.

In 2016, BC Hydro estimated a one-per-cent rate increase produced \$43 million in revenue. So a \$300-million increase in net operating costs would require a seven-per-cent rate increase for customers.

This rate surcharge would be in addition to the increase that BC Hydro would require to cover other operating cost increases, including payments on its existing large debt. The surcharge would be **slowly eliminated if Site C goes ahead. If it's suspended or cancelled, the surcharge would end after 20 years.**

Such an increase would be **contrary to the NDP's promise to keep electricity rates affordable, and** would probably result in the closure of some marginal mines and wood product plants. (Anticipated big rate increases for costly hydroelectric projects in Newfoundland and Labrador and Manitoba may [cripple](#) the economies in those two provinces.)

If the decision is to proceed with Site C, deferring the net losses of the first two decades would be in **keeping with the previous Liberal government's kick the can down the road [approach](#)** to financial management at BC Hydro. However, this accounting legerdemain would place an unfair burden on **future BC Hydro customers, and may trigger a downgrade to the province's credit rating.**

The government could provide a direct taxpayer subsidy to cover the operating losses of Site C, or **lower BC Hydro's government-mandated net income requirement**. The latter option is not **recommended, as it would reduce the government's ability to reform the public power utility's deteriorating financial condition**.

Perhaps a more palatable option would see the government earmark a portion of the revenue from [carbon tax increases](#) planned to begin in April to avoid or reduce the Site C surcharge on electricity rates. A \$300-million subsidy would equate to \$7.50 of the announced \$20 increase (over four years). **This could be accumulated on BC Hydro's books until Site C is commissioned** sometime in 2024, or payment could begin in 2018 if the decision is to cancel or suspend the project.

The NDP had [promised](#) that a majority of the new carbon tax revenue would be returned to taxpayers in the form of a rebate. It also promised to tackle the growing financial problems at BC Hydro.

Dedicating a portion of the new tax revenue would help accomplish these objectives, and lessen the risk of a (provincial) credit downgrade soon after taking office.

Given the lack of information available about the contract cancellation costs and other unknowns, it is difficult to form a conclusion as to whether construction on Site C should proceed or be suspended. Clearly, the 2013 decision to proceed was at least a decade premature.

The Liberal government gambled that the decision to proceed with the Site C project would pay off. Now the NDP and the Green Party must find a palatable way to cover the gambling debt, while repairing the underlying financial damage at BC Hydro resulting from the Liberal years of financial manipulation. 🐸

DOCUMENT 3

OCCASIONAL PAPER No. 34

BC HYDRO

IMPACT OF MASSIVE HYDROELECTRIC INFRASTRUCTURE PROJECTS ON ELECTRICITY RATES IN NEWFOUNDLAND and LABRADOR, MANITOBA AND BRITISH COLUMBIA.

Three large and expensive hydroelectric infrastructure projects are currently under construction in Newfoundland and Labrador (Muskrat Falls), Manitoba (Keeyask) and British Columbia (Site C). Two of the projects are significantly behind schedule and over budget, while the Site C project is facing a financial review by the new government of British Columbia.

The new government of BC plans to review the finances of BC Hydro, but the decision as to proceed or suspend the \$8.8 billion Site C dam project requires immediate action to minimize future costs. Regardless of the review, which will help quantify the cost of the suspension/cancellation option, customers of the publicly-owned power utility will be facing a significant increase in their electricity rates to pay for the losses.

I had previously estimated that either option will result in a rate increase of some 7% for the first decade of operation to cover an \$300 million net increase in operating costs.⁶ This estimate depends on many assumptions, including the demand forecast for the additional 5,100 GWh of power.

Opponents of the Site C project cite several reasons for their belief that this expensive project is either premature or entirely unnecessary. These include the loss of agriculture land, aboriginal rights, less expensive alternatives, and a distrust of BC Hydro's demand forecasts.

A recent Angus Reid public opinion survey found that 40% of those questioned believe that the project should proceed, while 29% said the project needs further study and 20% supported immediate cancellation (without knowing the cancellation cost).⁷

This paper provides a high-level review of the two other hydroelectric infrastructure projects currently under construction, with an emphasis on the impact on the finances of the public hydro corporations, and the rates that will face future customers.

MUSKRAT FALLS and the MARITIME LINK

The Churchill River in Labrador is the location of the massive 5,400 MW Upper Churchill hydroelectric dam, which was commissioned in 1974 to supply electricity to Hydro Quebec. Under the terms of the joint funding agreement, Hydro Quebec found itself in the enviable position of purchasing inexpensive power for 65 years, while the price realized on the sale of the power to users (including power exported to the United States) rose dramatically.

During the following decades, the government of Newfoundland and Labrador has failed in its repeated attempts to force Hydro Quebec to re-negotiate the original deal to share in the windfall profits.⁸ In 2016, for example, the power from Upper Churchill comprised 11% of Hydro Quebec's total power capacity, and the utility paid the Quebec government approximately \$2.15 billion as a dividend on a net income of \$2.86 billion.⁹

Danny Williams, the premier of Newfoundland and Labrador from 2003 to 2010, saw the development of the balance of the Churchill River potential (some 3,000 GWh capacity) as an opportunity to stabilize power rates and to generate revenue from the export of surplus power. The Muskrat Falls project, in conjunction with transmission

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http://www.bcpolicy Perspectives.com/media/attachments/view/doc/occasional_paper_no_33_cost_estimates_of_site_c_24_june_2017/pdf

⁷ https://www.scribd.com/document/351803973/06-20-17-Angus-Reid-Institute-Poll-Snap-Elections#from_embed

⁸ <http://www.releases.gov.nl.ca/releases/1996/exec/1119n06.htm>

⁹ <http://www.hydroquebec.com/publications/en/docs/annual-report/annual-report-2016.pdf>

lines to the island of Newfoundland and to Nova Scotia, would allow this concept to become a reality.

In 2010, a joint agreement between Nalcor Energy (the province's power generator) and Emera Power (the owner of Nova Scotia Power) provided the financing arrangement for the 824 MW Muskrat dam, and the transmission lines linking the power to the island and to connect by the Maritime Link to the Nova Scotia and New England grid. Premier Williams hailed the agreement to develop the hydroelectric potential of the Lower Churchill River, "on our own terms and free of the geographic stranglehold of Quebec which has for too long determined the fate of the most attractive clean energy project in North America."

In exchange for contributing about half the capital cost of the transmission link to the island, Nova Scotia Power would receive 20% of the 4,500 GWh annual power for 35 years. The construction of the \$1.6 billion Maritime Link to Nova Scotia was the responsibility of Nova Scotia Power.

The federal government helped to make the project financially viable by agreeing to guarantee the loans of Nalcor and Nova Scotia Power, which substantially reduced the cost of borrowing (and of the increase to future electricity rates faced by the consumers of both utilities).

For a variety of reasons, the initial construction estimates of the Muskrat Falls project proved to be highly optimistic. By June 2016, Nalcor revised the total cost estimate to \$11.4 billion. The new Liberal federal government subsequently increased its loan guarantee by \$2.9 billion in the fall of 2016.¹⁰ This again proved beneficial to the new Liberal government of Newfoundland and Labrador, which had defeated the Progressive Conservatives in December 2015 after 12 years in power.¹¹

The latest revision to the project estimates came on June 23, 2017, when Nalcor stated that the project would cost \$12.7 billion, and full power would not be available until early 2020.¹² The Maritime Link, built and financed by Emera Power, was generally on time and on budget.

Table 1 shows the capital cost estimates for the dam, the transmission lines to the Upper Churchill and the link to the island, as well as the financing and other costs.

¹⁰ The Quebec government, having recently exercised the option to extend the highly profitable Upper Churchill agreement until 2039, objected to the federal decision and asked for compensation.

¹¹ The drop in oil prices had a devastating effect on the provinces finances, forcing the Dwight Ball government to bring in an austerity budget in April 2016.

¹² http://muskratfalls.nalcorenergy.com/wp-content/uploads/2017/06/Muskrat-Falls-Project-Update-Presentation-June-23_Final.pdf

Table 1 MUSKRAT FALLS CAPITAL COST ESTIMATES (\$=billion)

| | Generation | Transmission | Finance Etc. | Total |
|------------------|-------------------|---------------------|---------------------|--------------|
| 2012 Sanctioned | 2.9 | 3.3 | 1.2 | 7.4 |
| 2015 August | 3.7 | 3.9 | 1.2 | 8.6 |
| 2016 June | 4.8 | 4.3 | 2.3 | 11.4 |
| 2017 June | 5.5 | 4.6 | 2.6 | 12.7 |
| Percent Increase | 90% | 39% | 117% | 72% |

Source: Nalcor Energy project updates.

Impact on Rates

Electricity pricing in Newfoundland and Labrador is regulated based on the cost of service model, where Nalcor is entitled to rates that cover its prudently incurred expenditures plus a return on investment. In 2016, the residential cost was \$119.60 per GWh (compared to \$72.30 per GWh for Montreal).¹³

In 2012, Nalcor estimated that residential rates would increase to \$158.40 per GWh by 2030 to finance the Muskrat Falls infrastructure project. The latest estimate now forecasts the 2030 residential rates jumping to \$253.40 per GWh, and increase of 60% over the 2012 forecast. The rate projected for 2030 would be more than double the 2016 rate.

This has prompted some to suggest that the financial burden of the Muskrat Falls project, when combined with the much lower oil and gas royalties, is too great for the province or its ratepayers, and that some form of federal bail-out will be required.¹⁴

KEEYASK and BIOPOLAR III

Unlike the situation in Newfoundland and Labrador and Nova Scotia, Manitoba does not rely on oil or coal to generate most of its electricity. In fact, in 2016 Manitoba Hydro reported that approximately 97% of its electricity production (30,000 GWh) was produced by clean hydroelectric sources. Manitoba Hydro also operates a natural gas distribution system within the province.

Exporting electricity, mainly to the midwestern United States, has been an important source of revenue for the public power utility.¹⁵ The New Democratic government, in power from 1999 to 2016, saw the generation and transmission of hydroelectric power

¹³ http://www.hydroquebec.com/publications/en/docs/comparaison-electricity-prices/comp_2016_en.pdf

¹⁴ <http://www.cbc.ca/news/canada/newfoundland-labrador/doubling-electricity-rates-no-way-to-pay-for-muskrat-falls-mun-economist-1.3696024> and <http://www.cbc.ca/news/canada/newfoundland-labrador/muskrat-falls-will-need-bailout-says-professor-1.3925582>

¹⁵ In 2007/08 electricity export revenue accounted for 41% of all revenue; this fell to 19% for 2009/10 and 18% for 2015/16.

as a way to profit from the desire to reduce greenhouse gas emissions in the midwestern United States.

The Keeyask dam project would provide 695 MW of additional capacity (about 4,400 GWh annually). In partnership with four northern first nations, Manitoba Hydro began construction in July 2014, with completion expected in late 2019. Construction costs were estimated at \$6.5 billion.

The Bipole III (east) transmission line, estimated at \$4.6 billion, was intended to add reliability to Manitoba Hydro's electricity grid, and to facilitate the transmission of more power to southern markets, including the United States.

Construction cost overruns added to the estimated price and extended the completion date. The sharp decline in the price of natural gas made gas fired generated electricity cheaper than hydro-generated power, which significantly altered the economics of exporting the electricity to the American market.

In May 2016, the Progressive Conservatives were elected, and immediately dismissed the president of Manitoba Hydro, and replaced the board of directors as well. The Boston Consulting Group (BCG) was hired to review both capital projects to determine whether cancellation would be a viable option.

The BCG report, released in September 2016, concluded that the decision to build Keeyask was imprudent, but the cost of proceeding with both projects was less than the cost of cancellation or suspension.¹⁶ The total cost of the Keeyask project was estimated at \$7.8 billion, and the completion date was delayed by 21 to 31 months. Based on the report, the government of Premier Brian Pallister agreed to proceed with the two projects.

In early March 2017, Manitoba Hydro increase its forecast of the Keeyask project to \$8.7 billion, including a \$900 million contingency fund.¹⁷

Impact on Rates

Manitoba Hydro customers have enjoyed some of the lowest electricity rates in North America. In 2016, the residential rate at 1,000 KWh per month was \$8.43 per MWh. But many observers became nervous about the impact of the Keeyask and Bipole III on future rates.

The new board of Manitoba Hydro asked the provincial government for financial aid, but when this was rejected it announced the layoff of 900 staff and other operating reductions. The board was concerned about the financial condition of the public utility, where the 2015/16 debt to equity ratio had climbed to 83/17 (it was 74/26 in 2011/12).

¹⁶ <http://s3.documentcloud.org/documents/3111718/Bipole-III-Keeyask-and-Tie-Line-Review-Report.pdf>

¹⁷ <https://www.hydro.mb.ca/NewsReleases/GetDetail?hdnID=252>

The debt of Manitoba Hydro was expected to rise to \$25 billion (from \$13 billion) by 2020.¹⁸

The high debt threatened a further downgrade in the province's credit rating¹⁹, and the board believed that double digit rate increases would be needed to meet the 75/25 debt to equity target.²⁰

On May 5, 2017, Manitoba Hydro asked the Public Utilities Commission for a 7.9% rate increase for 2017 and 2018, and indicated that the same level of increase would also be required for the next three years. If approved, the five-year cumulative increase would be 46%. The board chair blamed the steep increases on cost over-runs at Keeyask and Bipolar III, coupled with lower demand for electricity and sluggish electricity prices in the export market. He said that it was necessary for Manitoba Hydro to become more financially stable to avoid future rate shocks.²¹

LESSONS FOR BRITISH COLUMBIA?

The Liberal government of BC gambled that the new power from Site C would be required for domestic use within a few years of it augmenting BC Hydro's capacity. The provinces of Newfoundland and Labrador and Manitoba also gambled that clean, renewable hydroelectric power could be provided to help meet provincial and federal emission requirements, and provide new revenue from sales to the American market.

Cost overruns and the growth in natural gas-fired generators changed the economics, leaving the domestic customers facing massive rate increases to keep the public power utilities solvent.

Site C is an expensive project which will probably result in net losses during the first 10 to 20 years of operation. But given the relative size of the populations and economies of the three provinces, the anticipated losses from Site C are more manageable. A rate increase of 7% to 8% may be required to fund the Site C loss, but the increases planned in the other two provinces pose a significant threat to their economic future, not to mention the longevity of the current governments.

The BC government can minimize the potential rate increase by dedicating a portion of the new carbon tax increase to cover BC Hydro's operating deficit when Site C becomes operational.²²

¹⁸ <http://www.cbc.ca/news/canada/manitoba/manitoba-hydro-bipole-transmission-line-1.3811316>

¹⁹ Moody's downgraded the province's credit rating in July 2015.

²⁰ <http://www.cbc.ca/news/canada/manitoba/manitoba-hydro-rate-increase-pallister-business-low-income-1.3969221>

²¹ <http://www.winnipegssun.com/2017/05/05/hydro-seeks-significant-rate-hikes>

²² The NDP government has said that the tax will increase by \$20 from 2018 to 2021. A \$300 million Site C deficit would require approximately \$7.50 of this \$20 increase, while a \$400 million deficit would require about \$10 dollars.

DOCUMENT 4

OCCASIONAL PAPER No. 32

BC HYDRO

MANITOBA HYDRO SEEKS FIVE-YEAR 46 PERCENT RATE INCREASE – LESSONS FOR BRITISH COLUMBIA?

After months of review by the new Conservative government, Manitoba Hydro recently asked its regulator to approve a 7.9% rate increase for 2017 and 2018, and expects to request the same increase for the next three years.²³ The cumulative increase of some 46% is still less than what would have been required to meet the corporation's 75/25 net debt to equity target by 2022.

Crown services minister Ron Schuler, who had previously said that the publicly owned power utility was bankrupt, blamed the previous NDP government (which was in power for 17 years until defeated in April 2016), for the large rate increases: "Hydro's proposed 7.9 per cent rate increase is a direct result of the previous NDP government's mismanagement of what was once Manitoba's crown jewel," Schuler said. "It is no secret that Manitoba Hydro is facing serious financial problems as a result of 17 years of politically motivated decisions by the previous NDP government."²⁴

There are many parallels between the financial situation of the public power utility that confronted the newly elected government in Manitoba, and the situation in this province with respect to BC Hydro, including the

²³ For various articles on Manitoba Hydro see <http://www.bipoleiicoalition.ca/News/Index.html>

²⁴ <http://www.winnipegfreepress.com/local/manitoba-hydro-seeks-8-hike-in-rates-every-year-for-next-5-years-421482283.html>

characterization of the power utility as the crown jewel of the province's public corporations.

GAMBLING ON GREEN POWER

In the 2000's the government of Manitoba, anticipating a growing US market for "green" hydroelectricity, authorized Manitoba Hydro to proceed with three major capital projects. The Bipole III transmission line would carry electricity from the north to the southern population centres, and into the US market.

The Keeyask and Conawapa projects would expand the generating capacity, with most of the new power destined for the American market. Lower than anticipated domestic demand, combined with relatively cheap natural gas generated electricity in the American mid-west, reduced the demand for hydroelectricity. The \$4.6 billion Bipole III transmission project will add to the province's transmission reliability, but the full benefit of additional transmission capacity to the US markets is now doubtful. The Conawapa project was deferred as lower electricity demand projections developed, but the previous government pressed ahead with the \$6.5 billion Keeyask power generation project.

The two projects, combined with other capital refurbishment projects, are expected to increase Manitoba Hydro's debt from \$17.1 billion in 2015/16 to up to \$25 billion by 2020/21.

The gamble to sell additional hydro power to an American market seems to have failed, leaving Manitoba ratepayers to keep the Crown power utility solvent through large rate increases over the next five years. As one critic of the Bipole III commented:

We have a flattening domestic demand and a U.S. export market that is willing to pay an average of only four cents per KWh for energy from an expansion which, if amortized over a reasonable period of time, costs about 10 cents in the north or 14 cents once transmitted to the south.

We justify selling that energy at an average of four cents and, on some days, at a little over one cent, on the basis that, if we didn't, the expansion still has to be paid for and the incremental cost in producing

it is small, less than one cent. We say that we would get no revenue if we just let the water run over the spillway so better to get some revenue than none at all.²⁵

When the Conservative government took office, it replaced the board of directors of Manitoba Hydro, which in turn engaged the Boston Consulting Group to review the corporation's financial, operating and capital plans. In a September report, the consultant stated that although the decision to proceed with the \$6.5 billion Keeyask project had been imprudent, the best approach was to proceed with Keeyask and the Bipole III transmission project.

The new board ordered major staffing reductions and other cost saving measures, and approached the government for a major cash injection. The government rejected the bail-out, leaving the board no option except to seek approval of major rate increases.

Reducing the rapid increase in Manitoba Hydro's debt was considered a priority, as it was likely that the province's credit rating would be downgraded in the absence of additional equity.²⁶

LESSONS FOR BRITISH COLUMBIA

In many respects, the finances at BC Hydro are significantly worse than those of Manitoba Hydro. The government has been directly suppressing the annual rate increases since 2012, and resorting to an excessive use of deferral/regulatory accounts to inflate the net income and the equity. These practices, combined with annual capital expenditures in excess of \$2.0 billion, have resulted in a \$5.2 billion (40%) increase in the net debt from 2012 to 2016.²⁷

BC Hydro, like Manitoba Hydro, has a large unfunded pension liability, but the Manitoba utility does not defer this liability in a regulatory account. BC Hydro has far more deferral/regulatory accounts than Manitoba Hydro. In 2015/16, the net

²⁵ Winnipeg Free Press, May 26, 2017; reprinted in <http://www.bipoleiiiicoalition.ca/News/Index.html>

²⁶

https://www.hydro.mb.ca/regulatory_affairs/pdf/electric/general_rate_application_2017/04.4_appendix_4.4_credit_rating_agency_reports.pdf

²⁷ <https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/accountability-reports/financial-reports/annual-reports/bchydro-2015-16-annual-service-plan-report.pdf>, p. 99.

assets in the regulatory accounts represented some 130% of BC Hydro's equity, but the net regulatory assets comprised only 19% of Manitoba Hydro's equity.

BC Hydro is some two years into the \$8.8 billion Site C dam project, which will produce some 5,100 GWh of additional electricity. Yet domestic demand has been relatively flat for a decade, and the export price of surplus power is far below the average cost of production from the contracted independent power producers.

The government's 2014, 10-year financing plan (updated in 2016) relies on the recording of unbilled revenue to inflate the net income, while distorting the true representation of the financial condition of the public power utility.²⁸

As a Crown corporation, BC Hydro benefits through lower borrowing costs, but its growing debt is a concern to the credit rating agencies.²⁹ The larger the debt grows the greater is the risk to the province's high credit rating.

Yet, in its July 2016 three-year rates plan, BC Hydro has been limited to rate increases well below the cost of service for 2016 to 2018, and it has advised that average increases of only 2.6% will be required from 2019 to 2013. This level of increase is well below the 28% (\$1.2 billion) revenue loss resulting from a four-year rate freeze, as estimated by the Liberal Party during the recent election.³⁰

It seems clear that if the New Democratic Party becomes government in the next few weeks it will replace the BC Hydro board, and require a thorough review of the corporations' finances and capital plans. This review will likely conclude that the current 10-year rate plan is not sustainable, and significant cost reductions and revenue enhancements will be required.

One hopes that the review will also recommend that BC Hydro reduce its dependence on deferral/regulatory accounts and other aggressive accounting measures, as it returns to a healthy financial condition.

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²⁸ http://www.bcpolicyperspectives.com/media/attachments/view/doc/occasional_paper_no_25_12_march_2017/pdf

²⁹ <http://vancouver.sun.com/news/politics/b-c-s-credit-rating-at-risk-as-hydro-debt-grows>

³⁰ http://www.bcpolicyperspectives.com/media/attachments/view/doc/fact_check_bc_hydro_20_april_2017/pdf