



POLICY SERIES

NO. 153 • JUNE 2013
FRONTIER CENTRE FOR PUBLIC POLICY

Dam-Nation

Rolling the Dice on Manitoba's Future

Graham Lane



About the author

Graham Lane a retired CA, has had a multifaceted career spanning almost 50 years in the public and private sectors of seven provinces as a Senior Executive and Consultant. In the public sector, before concluding his career as the Chairman of the PUB, he consulted for three provincial governments and was employed by four provinces. In Manitoba, he was the CEO of Credit Union Central, bringing in online banking, a Vice-President of Public Investments of Manitoba, the interim President of MPI, reorganizing the corporation after its massive losses of 1986, a Vice-President of the University of Winnipeg, and the CEO of the WCB, restructuring the insurer and returning it to solvency. His experience with Crown Corporations go well beyond Manitoba, he was the Comptroller of Saskatchewan's Crown Investments Corporation, and a consultant reviewing government auto insurance in BC and workers compensation in Nova Scotia. He received the gold medal in Philosophy as an undergraduate, and a Paul Harris Fellowship from Rotary International for excellence in vocational service. Throughout his career, and wherever he worked, consulted or volunteered, he maintained an external objectivity. In June 2013, Graham Lane joined the Frontier Centre for Public Policy's Expert Advisory Panel.



MB: 203-2727 Portage Avenue,
Winnipeg, Manitoba Canada R3J 0R2
Tel: 204-957-1567
Email: manitoba@fcpp.org

SK: 2353 McIntyre Street,
Regina, Saskatchewan Canada S4P 2S3
Tel: 306-352-2915
Email: saskatchewan@fcpp.org

AB: Ste. 603, 734-7th Avenue SW,
Calgary, Alberta Canada T2P 3P8
Tel: 403-995-9916
Email: alberta@fcpp.org

The Frontier Centre for Public Policy is an independent, non-profit organization that undertakes research and education in support of economic growth and social outcomes that will enhance the quality of life in our communities. Through a variety of publications and public forums, the Centre explores policy innovations required to make the prairies region a winner in the open economy. It also provides new insights into solving important issues facing our cities, towns and provinces. These include improving the performance of public expenditures in important areas like local government, education, health and social policy. The author of this study has worked independently and the opinions expressed are therefore their own, and do not necessarily reflect the opinions of the board of the Frontier Centre for Public Policy.

Copyright © MMXIII by the Frontier Centre for Public Policy.

Date of First Issue: June 2013.

Reproduced here with permission of the author. Any errors or omissions and the accuracy and completeness of this paper remain the responsibility of the author.

ISSN 1491-78

Ideas for a better tomorrow
www.fcpp.org

Dam-Nation

Rolling the Dice on Manitoba's Future

Graham Lane

Table of Contents

Title	Page
Executive Summary	4
Introduction	6
Oversight	12
Hydro, an overweight elephant	17
The gamble	19
Wuskwatim is a financial disaster	20
Winners and losers	21
What can go wrong?	23
Financial impacts—results fail to meet Hydro forecasts	25
Timing is crucial	26
Now the reality is different	27
Questions unanswered	28

Executive Summary

While many Manitobans are aware of the provincial government's planned massive expansion of Manitoba Hydro's (Hydro) northern hydroelectric generation and transmission facilities, few understand the negative implications for their own pocketbooks. Recently, Manitoba's NDP government has unleashed a barrage of propaganda in support of the planned costly development, including the repeating of an implausible claim originally made by former Manitoba Premier Doer that hydroelectric power is "Manitoba's oil" (in essence, equating Manitoba's hydroelectricity prospects with Alberta's oil and gas opportunities).

Having spent a significant part of my career associated with Crown Corporations and governments, culminating as the Former Chairman of the Public Utilities Board (PUB) of Manitoba, I am uniquely enabled to comment on these plans.

In this paper, which is based on a speech delivered at a Frontier Centre luncheon on June 5, 2013, I explore the governments' plans to spend a (presently) forecast of \$33-billion, based on borrowing tens of billions. The overall capital development plan includes the construction of BiPole III and two new northern dams, the refurbishment of a dilapidated dam on the Winnipeg River (acquired in Hydro's purchase of Winnipeg Hydro), the renewing of assets at or past normal service lives, and the undertaking of 'normal' capital asset projects.

Despite the fact that Hydro's ratepayers will be required to meet the full rate implications of the government's direction, the level of openness and transparency with respect to these plans have been woefully and long absent. Hydro has already spent billions and made commitments to First Nations, American utilities, contractors, manufacturers, employees and trainees, all before an independent and expert review of the plans and options has been undertaken and final approvals for proceeding secured.

I make the case that the revenue, cost, demand and export price forecasts provided by Hydro (often cited by the government in support of its plans) are not worth 'a grain of salt'—as every major forecast made by Hydro over the past decade has been widely off the mark. There have been major cost over-runs and other forecasting errors, and circumstances have changed following the inauguration of the plans.

I recommend that Hydro's non-performing assets be written down, if not off, asserting that the reason the deductions from reported equity haven't been done is the implications for the Province's deficit situation and credit rating, and note that both Hydro and the Province's financial positions are very weak.

The challenges faced by Hydro do not exist in a vacuum—the Province's own Balance Sheet is laden with debt, with annual deficits in the past as well as in the future outlook (without even considering the prospects of future restraint by the federal government as to the transfer grants that keep this Province 'alive'). This paper supports the position that the underlying financial position and prospects

of the Province and Hydro, and the risk inherent in the government's Hydro expansion plans, doesn't support a gamble of tens of billions.

While the government's motivation, at this point, is political, it is also difficult to ignore the challenge the government would have in curtailing commitments made, and the magnitude of the revenue stream that would flow from an expanded Hydro for the government.

There is a high risk that if the government implements plans for Hydro, within twenty years domestic ratepayers will be paying, in total, \$2.5- to \$3.0-billion for their annual electricity bills (current aggregate Manitoba electricity bills are \$1-billion), with close to \$750-million of that (leaving out the provincial sales tax) flowing into the provincial government's pocket. Today's roughly 7 cents per kWh price for residential consumers could rise to 20 cents within Hydro's forecast horizon, bringing major problems for lower income households, rural and northern residences (unable to access natural gas for heating), industry and the general economy.

I hold that the bodies presently providing 'oversight' with Hydro are conflicted and unable to properly protect ratepayers. The planned Public Utilities Board Needs For and Alternatives To (NFAT) Review is, unfortunately, a sham. Other matters associated with Manitoba Hydro's actions clearly require independent audits, along with a proper independent review and reconsideration of the present plans.

The broader interests of all Manitobans are best served by slowing the planned development, while a major reform of both the development plans and Hydro is undertaken. The ratepayer communities, which, in the end pay the bills, must be truly involved in the process.

Introduction

A primer on utility regulation

Some background is provided in order for readers to fully comprehend the seriousness and urgency of the risk to Manitoba's electricity ratepayers, that lie with the provincial government's determination to expand Hydro's generation and transmission, a plan based on the faulty premise that export contracts and 'profits' will be sufficient to keep rates down. I begin this paper with a short primer on Manitoba Hydro and utilities in general.

First on rates

While the government regularly boasts of Manitoba Hydro's low rates, Hydro's present rates are similar to two other provinces reliant on hydro generation (British Columbia and Quebec), and are not due to operational efficiency, far from it.

The 8 per cent increase over the thirteen months ending May 1, 2013, which was implemented for all customer classes (ignoring cost of service differentials existing between customer classes) has provided Hydro with at least an additional \$80 million on an annual basis, that representing a present value in the range of Wuskwatim's (Hydro's first new hydro plant since Limestone) bloated cost of \$1.8-billion.

In comparing Manitoba Hydro's rates against other jurisdictions, it is important to realize that comparisons with other jurisdictions are fraught with the risk of misunderstanding the reasons for differences.

Systems based on hydroelectric generation tend to have older and more highly amortized infrastructure than other provincial systems (such as Alberta and Saskatchewan, based on coal and gas generation). Other jurisdictions have experienced higher domestic growth demand—from industry as well as residential—than Manitoba, driving their new plant development, which brings higher attendant costs and rates.

New plant development 'push up' rates in all jurisdictions, regardless of the means of production. In the case of Manitoba, and at least, also with British Columbia, both served by Crown Corporations, the practice of deferring large amounts of current period expenses holds down rates, pushing rate-recognition of the costs into the future. Private utilities are much more likely to write off period costs in the year of incurrence, and also to recognize non-performing assets with write downs than Crown Corporations. The results of Crown Corporations, like Hydro, flow into the summary accounts of their respective governments, providing a reason for the governments to want to defer the recognition of utility costs as much as possible.

Rate models also differ by provincial jurisdiction, driven by differences of approaches to matters such as: attributing costs to customer classes, time of use rates, the level of basic monthly charges, the distribution of rate requirements between energy consumption and capacity demand, the employment of marginal cost rates for new and expanded high consumption customers, service extension policies, to varying discounts from the average rates of other jurisdictions for the various customer classes.

In Manitoba Hydro's 2012 rate application to the Public Utilities Board (PUB), the Utility ignored a previous PUB directive to provide rate proposals recognizing PUB's identification of cost of service differences between customer classes, thus, among other matters, failing to highlight prospective losses on export sales to American utilities and very low large industry rates, as factors in rising Manitoba consumer rates.

The availability of various forms of electricity generation plays a major role in rate differentials between provincial electricity supply (natural gas plants have much lower construction costs than hydroelectric generation, but have annual fuel costs which vary with market price swings; nuclear plants have low annual input costs but massive construction costs and liability risks).

Finally, for the customers of electricity utilities, bills are affected not only by rates and rate models, but also by weather, 'degree days'. The lower the average temperature (or the higher the temperature in the summer) is, in a jurisdiction, the higher the bills. (Residential customers of the provincial utilities of British Columbia and Quebec pay, on average, less than Manitoba ratepayers, assisted by temperature differentials).

In summary, the efficiency of an electricity utility cannot be assessed by a simple comparison of rates between it and the utilities of other provinces.

Manitoba Hydro's rates:

- Are based on historical cost, both annual operating costs and the amortization of capital expenditures;
- Financing costs associated with the capital expenditures are a major factor with high initial cost hydro plants; and
- Are not based on wholesale market prices (which, in any case, only apply to imports and exports, which differ widely by jurisdiction).

The bulk of Hydro's major assets are old, up to 100 years old, and depreciation is based on historic cost and estimated service lives. In the PUB's 2011 Rate Hearing, Dr. Kurbursi (an independent expert engaged by the PUB) opined that given the major risks associated with Hydro's planned new capital expenditures (risks involving not only cost escalation but market demand fluctuations and prices), the annual depreciation rate should be accelerated, doubled (this approach to reduce the risk that technology and/or market changes reduce the economic

service life of newly constructed hydroelectric plant).

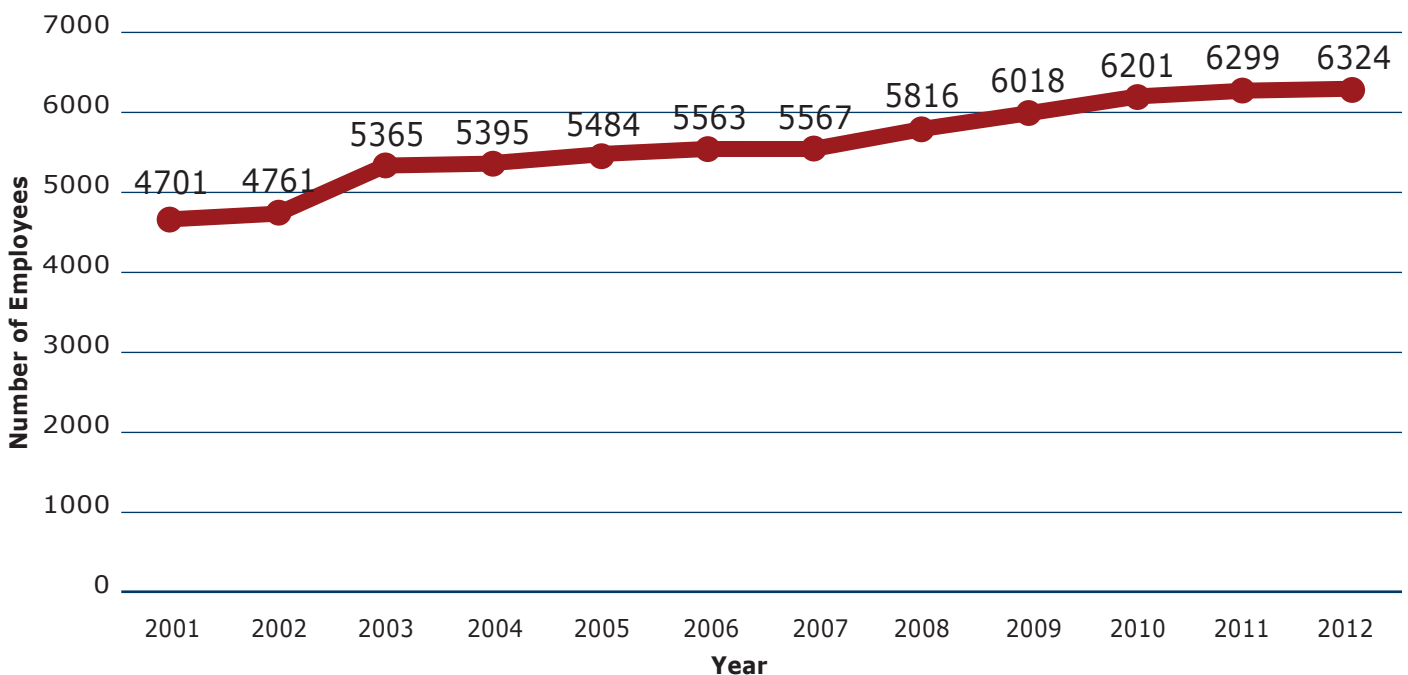
As it is, Hydro’s annual depreciation expense is presently low, due to the high average age of the assets; and, the finance costs associated with debts incurred in acquiring or constructing the assets are also low, at least in comparison with new higher cost plants (reflecting the fact that the debts related to older plants have been paid down to various extents).

Another major accounting factor in rate setting arises from Manitoba Hydro’s practice of deferring what has been about one-third of Hydro’s annual operating, maintenance and administration costs (OM&A), every year for a decade or more. These costs will ‘come home to roost’ when the new assets come into service and costs now deferred begin to be recognized in Hydro’s Income Statements.

OM&A costs are primarily composed of personnel costs, and Hydro’s personnel complement has soared from about 3,600 when Limestone was finished to now well in excess of 6,400, with, according to the government, thousands more to be added as the ‘build scenario’ is fully implemented.

The chart below reports the number of employees from 2001 to 2012, representing a 35 per cent increase in the number of employees working for Manitoba Hydro. The cost of the massive personnel build-up, plus consulting, engineering and other development related costs have been deferred or capitalized in each and every year now for a decade or more, moving cost and rate recognition pressure out in time.

CHART 1 Manitoba Hydro’s Total Number of Employees 2001 to 2012



Source: Manitoba Hydro Annual Reports



The growth of electricity consumption by large industry, which now accounts for about one-third of Hydro’s annual domestic sales, has been slow, with no new major industry coming to Manitoba since the 1990s, leaving about 30 per cent of Hydro’s generation to be sold on the export market.

As for the personnel build-up, the acquisition of Centra Gas and Winnipeg Hydro by Manitoba Hydro accounts for only a small part of the personnel complement explosion.

It is reasonable to assume that a good proportion of now-deferred costs would have long been written off if Hydro was a private company. As it is, accounting embellishes the Utility’s annual net income, while transferring costs and further rate hikes into the future.

It is an interesting fact that while Hydro is deferring period costs, including the provincial government’s annually levied capital taxes and debt guarantees associated with plans for new construction, the government is taking that income into its accounts upon receipt. By the time the new major assets come into service, deferred and capitalized costs start being recognized in the period, the Province will have already recorded them as income, billions of dollars of income.

In previous PUB approved rate increases, only ‘recognized’ costs (not costs deferred) affected rates, with new and refurbished assets driving up costs and rates only after lengthy deferral periods ahead of the assets coming into service. While this has been, and still largely is the practice, an exception occurred with PUB’s latest rate order, where a 1.5 per cent rate increase was put in place expressly to pre-fund BiPole III, despite the planned major transmission line still awaiting final approval let alone coming into service. With this exceptional change in approach, the anticipated cost, of at least that planned new asset, is already affecting current rates.

Increased demand/consumption drives the construction of a new plant, with demand coming not only from Manitoba’s residential, commercial, industrial and institutional sectors but, also export contracts. The growth of electricity consumption by large industry, which now accounts for about one-third of Hydro’s annual domestic sales, has been slow, with no new major industry coming to Manitoba since the 1990s, leaving about 30 per cent of Hydro’s generation to be sold on the export market.

Of overall export sales, less than 50 per cent of the volume of power sold is being sold at fixed contract prices; the rest is sold on the wholesale market, and the much lower, spot market.

The government's reference to increasing residential use in defense of its expansion plans for Hydro fails to acknowledge that annual residential consumption is below the annual consumption of industry and exports, both of which are lagging.

Because of the slowness (if not outright resistance) of Hydro, Government and the PUB, the risk that a new or expanded energy intensive industry will consume massive amounts of electricity (while providing few jobs) will require the advancement of capital asset expansion, resulting in high marginal costs associated with the new assets pushing up general rates is continually present.

What should happen, is that recognizing the high cost of new production, new and expanded power hogs (the term used for industry demanding high levels of electricity but offering few jobs) should be assessed at much higher rates, rates that reflect the cost of constructing and operating new plant and transmission. Otherwise, current ratepayers will subsidize the new entrants, server farms require considerable power.

As reported in the media, Facebook contemplated operating a major computing centre in Manitoba, presumably expected to draw enormous power, at low industry rates. The same situation, but at a lower level, likely is in place with the Canadian Tire computing centre announcement. It may well be that the government is trying to attract large power consuming industry, using existing low industry rates as a draw, ignoring the subsidy existing ratepayers would end up paying if the industry comes.

While power from the Winnipeg River generating stations comes in at, say, as low as 1 cent per kWhr—the present cost rate does not take into account the \$2.4-billion now expected to be required to refurbish Pointe de Bois, that being testimony to Manitoba Hydro having massively overpaid for Winnipeg Hydro. And, the cost of power derived from Hydro's new Wuskwatim Dam will come in at a price of 10 cents+ per kWhr.

So, unless a special rate is established for new major industrial demand, which could come if the governments' sales effort manages to attract a 'power hog', existing ratepayers will end up subsidizing the new entrant, as existing large industry rates are only one-third of new marginal costs.

While requiring new construction and higher rates from new industry is a major factor in restraining demand and rates, one allowing for the deferral of new construction lies with increasing energy efficiency, an attractive factor for all demand segments. And, as to meeting increased demand, other options from the current build dams and new transmission line approach exist and have been identified.

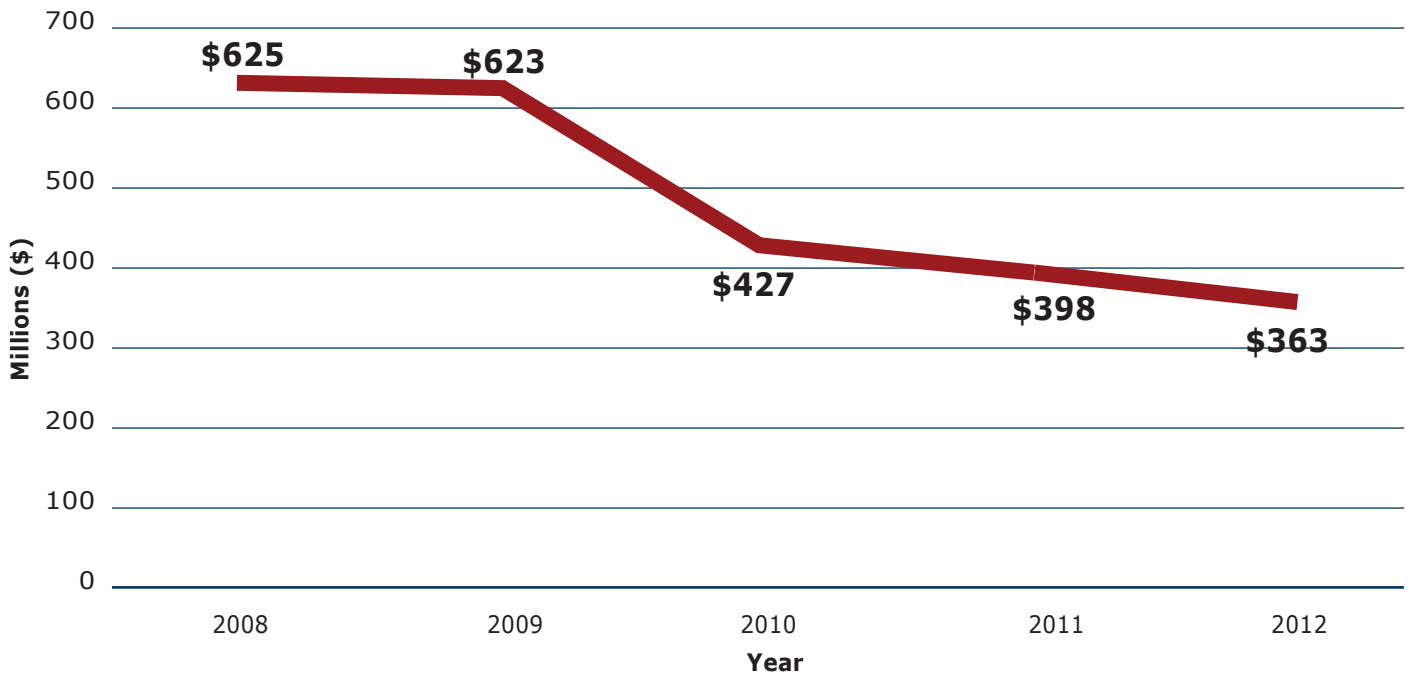
A combined cycle natural gas fired plant would cost a fraction of Keeyask and Conawapa's estimated costs; and the province would not require BiPole III. Such an investment would provide diversity of supply, which is an important asset by virtually all other utilities, and would also allow for Hydro to better meet a future drought caused challenge. As it now stands, only coal-fired, so-called 'dirty', imported power from the United States is available to meet a drought or

equipment failure caused hydro power shortage, and the risk of using this power would continue with the governments' plans for BiPole III.

Hydro's current rates still assume export profits, reducing otherwise required rates by about 15 per cent (again, if deferred costs and uneconomic assets were written down or off, rates would be even higher). Nevertheless, since 2008, Hydro has been losing money on exports, which has contributed to domestic rate increases. Thus, on a full-cost basis, American utilities are being subsidized by Manitoba Hydro (and its ratepayers).

CHART 2

Manitoba Hydro's extra-provincial revenue 2008 to 2012



Source: Manitoba Hydro Annual Reports

“ ...since 2008, Hydro has been losing money on exports, which has contributed to domestic rate increases. Thus, on a full-cost basis, American utilities are being subsidized by Manitoba Hydro (and its ratepayers).

Oversight

This section serves as an introduction of the oversight authorities that ratepayers rely upon to regulate Hydro, regulation necessary given Hydro’s undeniable history of habitually making poor forecasts well beyond any normal margin of error.

Ratepayers have only the provincial government, the provincial legislature, Hydro’s Board of Directors, the PUB, and the Auditor General for protection. Regulation is the proxy for competition, with competition absent in the case of a monopoly like Manitoba Hydro. Unfortunately, ratepayers have not been able to rely on any of these oversight bodies. Conflicted, diverted, and recused, there is no body to ensure an efficient Hydro, one operating on solid plans to avoid risky gambles, with ratepayers the only backstop.

Government, driven by ideology, commitments, a desire to avoid admitting mistakes, and looking forward to a torrent of new revenue that will come its way if and when Hydro builds its planned dams and transmission (with the government borrowing the money for Hydro), directs Hydro’s actions.

As for the PUB, it has a limited mandate (unlike its Centra Gas mandate, where the agency reviews and approves capital expenditures), and has no authority over Hydro’s capital development.

Recently, the PUB let the public down by approving large across the board rate increases without substantiating the presence of just and reasonable costs, by withdrawing its subpoena demanding production of Hydro’s export contracts, and by agreeing to hold, in my considered opinion, a sham NFAT (Needs For and Alternatives To) Hearing.

Capital expenditures drive costs and rates, and should not be ignored when setting rates. The PUB, lacking the mandate to prevent foolishly built facilities, can’t even evaluate the available options. It could do this, but it has not withheld rate increases or disallowed costs from being reflected in rates—actions open to the rate regulator, actions taken when it dealt with Centra Gas, when it was a privately owned monopoly.

As for the Auditor General, she recused herself, walking away from investigating Hydro to avoid the perception of a conflict of interest due to her previous involvement as a Board and Audit Committee member of Hydro when the development plans were established. With the Auditor General on the sidelines, no audits and reviews of Hydro by her Office have occurred. Thus, the Province’s largest economic gamble in history is taking place with the Auditor General on the sidelines.

As for Hydro’s Board of Directors, a review of the roster will likely conclude that industry expertise and experience, independence and the avoidance of conflicts of interest, are now missing. Each member of Hydro’s Board of Directors was appointed by the government, without competition, with no relevant experience required, and all Board members serve at the pleasure of the Government. When has the Chair of Hydro’s Board of Directors even spoken in public on Hydro’s



Each member of Hydro’s Board of Directors

was appointed by the government, without competition, with no relevant experience required, and all Board members serve at the pleasure of the Government.

development plans? Never.

And if ratepayers were to attempt to assess Hydro on their own, unfortunately, with information scanty and regularly withheld, they would not be able to assign accountability.

More on utilities

Generally, public utilities serve a particular geographical area, operating as monopolies. Why a monopoly? This is to both recognize the high cost of entry required and the presumption that a monopoly will bring about economies of scale. Where a monopoly exists, consumers have no choice of supply. When the monopoly provides a necessary service, dealing with the monopoly is required.

In most countries, the ‘owner’ of monopoly utilities are usually private stock companies, with shareholders carrying the risk and providing the capital. In Canada, while utilities are often owned by private stock companies, in a number of jurisdictions, such as Manitoba, Crown or Municipal Corporations prevail. Regardless of whether the owner is a Crown Corporation, a municipality or a private firm, rate setting, virtually universally, involves an administrative tribunal, like Manitoba’s PUB.

The basis for rates set for private firms are allowable costs plus a regulated rate of return on the capital invested. For a Crown Corporation, rates are also based on allowable costs, plus a provision for establishing and maintaining reasonable reserves of capital. Allowable costs are costs that the Regulator has determined to be reasonable.

What does the owner receive for providing the service and taking on the risks? Again, for private firms their return is restricted to the regulated rate of return on its capital, set by a Regulator guided by industry and market standards. The reserves allowed for Crowns (retained earnings in the case of Hydro) are required to meet the expectations of the bond market as to the amount of ‘equity’ (as opposed to borrowed money) that must be available to ensure that bondholders are properly compensated. The other reason is to avoid future rate shocks (occasions where an unexpected event, say equipment failure or an elongated expected event, such as drought, occurs, driving down the utility’s reserves resulting in a sharp rise in rates).

For Crowns, the definition of equity is more generous than is found with private firms. Besides retained earnings, Manitoba Hydro considers capital contributions by industry to partially fund service extensions and the balance of Other Accumulated Comprehensive Income as equity components (neither is really equity, the former, if anything, is a credit against plant and equipment, the latter representing unrealized gains on currency with respect to American dollar debt, a gain that will likely be fully offset by less export revenue in the future, as exports are also priced in American dollars).

Bondholders of provincial debt issues for Hydro purposes rely not on Hydro but the Government, while the government fully intends not to invest a cent in Hydro, and relies entirely on the ratepayer and rate increases (a view shared by the credit rating agencies). While the government 'guarantees' Hydro's debt, the reality is that the ratepayers stand behind the debt, the government has no intention to, and never has picked up any costs arising out of Manitoba Hydro's operations, even when Hydro has spent money pursuing the government's wider objectives.

As to the financial benefits of 'owning' Manitoba Hydro, besides the development of retained earnings (as Hydro's net income is included in the government's summary accounts), the government levies a bevy of cash charges on Manitoba Hydro: water rentals, capital tax, and a debt guarantee fee.

As well, the government has Hydro undertaking projects and meeting the costs of what would, in the absence of a ready payer in Hydro, be picked up by the government itself. Responsibility, accountability, transparency, and openness are all missing in the approach foisted on ratepayers by both the government and Manitoba Hydro.

If Hydro was a private firm, government would garner provincial corporate income tax, and, likely, collect other levies against the firm, levies consistent with the approach taken with private industries. In the case of the levies of government on Crown Corporations, the levies can exceed what would arise for private owners through the mechanism of a regulated rate of return.

Levies by the government on Hydro are independent of Hydro's profitability, and government fully expects Hydro to recoup the costs it imposes on Hydro through rates. In fact, the government's annual levies on Hydro have regularly exceeded not only Hydro's net income, but the profit that would have been allowed to a private owner.

Privately owned utilities run risks that usually don't face Crown owned utilities. The risk is that some of the costs incurred by the private utilities will not be 'allowed' to be reflected in their rates. The disallowance of costs for private firms results in a 'hit' on shareholders, there being a prohibition of disallowed costs being recovered from ratepayers. However, in the case of Crown Corporations, disallowing costs are problematic. The end 'owner' is the ratepayer. To disallow costs either requires the government to reimburse the corporation (never observed) or have the Crown's reserves and capital base weaken. Of course, the market and the utility will not react well to a decline in its reserves, and will



Taxpayers bear indirect risk from the economic woes of a Crown Corporation, as the production of lower than anticipated utility net income reduces the overall summary accounts of government, and that could result in pressure for tax increases or reduced expenditures for other government services.

simply seek rate increases.

The problem of 'no' disallowed costs for a Crown Corporation, such as Hydro, can be illustrated by an examination of the provincial government's commitment to rebate ratepayers any excess cost incurred by them when the cost of a so-called basket of Crown services (electricity, natural gas and car insurance premiums) exceed the costs of a similar basket of another province.

Even if one could figure out whether Manitoba's basket of services exceeded the basket in say, Saskatchewan, with differences in terminology and weather, just for a start, any rebate that would be issued would simply become an input cost affecting rates in the next rate increase application. Too often governments' promises and commitments are but shams, taking advantage of the gullibility of the ratepayers and taxpayers.

In summary, while the party at risk for private firms are their shareholders, for Crown Corporations they are the ratepayers. Taxpayers bear indirect risk from the economic woes of a Crown Corporation, as the production of lower than anticipated utility net income reduces the overall summary accounts of government, and that could result in pressure for tax increases or reduced expenditures for other government services. Because of that risk, even more pressure is placed on the PUB to keep the Crown 'in the black'.

As for rate setting itself, it is an art, not a science, and both the attribution of cost responsibilities to the various customer classes and the objectives of rate setting differ widely between the utilities.

In the case of Manitoba Hydro, the rate model involves a considerable number of factors, including: the distribution of customers/ratepayers into various classes based on their consumption and capacity; the costs of generating the power; the transmission and distribution of the power between the various classes of users; the division of cost responsibilities between energy consumption and 'demand' or required capacity; basic monthly charges; service extension policies; judgments as to the reasonableness of differences between the classes with respect to the ratio of costs allocated to revenue required from the class, etc.

In the PUB orders, previous to the most recent rate order, (Order 43-13 for which

an application for a review and vary has been made), the PUB commented that in rate setting it was neither 'driven' solely by the ratio of costs allocated to revenue required from the various classes, nor by its consideration of other factors, which could include:

Affordability (lower income households, particularly those employing electricity for heating, are known to cut back on the thermometer, risking their health and bringing high medical and hospitalization costs for the government to meet);

As well:

- a. The risk of rates so high that ratepayers leave (remember, 30 per cent of domestic electricity usage is by industry); and,
- b. General and environmental factors.

The structure of rates can be affected by the Regulator (and the utility's) interest in reducing demands through enhanced energy efficiency, to be achieved through the use of the rate model. In many jurisdictions, rate models are employed to improve energy efficiency and reduce consumption and demand.

Reducing energy consumption and demand allows for deferrals/delays in building new generation and transmission lines (which can be very useful, particularly in times of low export demand), or, in the case of jurisdictions that have excess supply, enhancing exports and incremental export revenues. Reducing energy consumption also assists in environmental objectives, which even in the case of Manitoba Hydro are furthered by energy efficiency, particularly when it is due to extreme cold, extreme heat, equipment failure, or a drought, the utility is required to import power, with most of the power coming from coal fired generation in the United States.

Hydro, an overweight elephant

Controlled by Government, Hydro is Manitoba's largest corporation, enjoying a monopoly, providing both electricity and natural gas to Manitobans (with 550,000 electric and 250,000 gas accounts).

The Board of Directors is government appointed, its members appointed without a competition and not required to have industry experience. The Utility follows government's objectives, and, in recent years, the main objective has not been maintaining the lowest electric rates possible for domestic consumers, let alone concern for lower income households and future industrial demands and growth.

Hydro lacks capital stock and has no cash reserves. The majority of its retained earnings are illiquid, non-performing assets, including more than \$200-million a year of operating costs being deferred and not expensed. As indicated earlier, if write downs, proper expensing and recording of all liabilities takes place, Hydro would have no equity. This is a position that does not support a massive development gamble involving billions more in debt and unnecessarily higher electricity rates.

One third of overall government debt in Manitoba is the result of Hydro, which borrows through the Province. This debt would grow substantially if the development plans were fully implemented.

To produce an annual profit, which is required by the bond market, Hydro is now fully reliant on both rate increases and its accounting practices. Since 2008, Hydro has lost money on exported power, and there is no certainty that the situation will change if the development and export contract plans are implemented. Far from it, the plans will most likely require massive new borrowings and rate increases.

The Utility's latest estimate of \$33-billion for capital expenditures over the next twenty years is up 60% over the forecast provided in 2011. And the prior \$20-billion forecast was up sharply from the forecast before that forecast. The existing plans involve risky export commitments, no diversification of supply, and partnership with First Nations is supported by questionable policies and accounting.

As noted already, the Utility's personnel complement has soared and would continue to grow with its ill fated and risky expansion. Yet, Hydro has resisted benchmarking

“ ***...the Utility's personnel complement has soared and would continue to grow with its ill fated and risky expansion. Yet, Hydro has resisted benchmarking its operations against other utilities in other provinces.*** ”

its operations against other utilities in other provinces. Benchmarking is a critical necessity for any proper review of the agency's efficiency, without benchmarking against other similar utilities a regulator cannot make a proper assessment of what should be considered allowable costs for rate setting. Consider the difficulty for the PUB, charged with regulating Hydro's rates with little information, a restricted mandate, and a long history of Hydro's poor forecasting.

And, this observer also holds that Hydro over paid for both Centra Gas and Winnipeg Hydro. For those acquisitions, Hydro had no cash reserves, and relied on debt. Significant support for the assertion that Hydro over paid for Winnipeg Hydro may be found in several events and plans.

A few examples may assist the understanding. Hydro was committed to upgrade the City's energy efficiency, with limits on how much Hydro needed to spend. In fact, Hydro far exceeded its obligation, and the power that was saved was sold on the export market at half or less of what it was earning from the City. And, while the terms of the purchase required Hydro to build a new head office downtown, it didn't require a \$283-million 'palace'.

Since that time, Hydro has undertaken a media campaign indicating its capital assets are old and need refurbishing, yet it has failed to provide the PUB with an Asset Condition Report, one that would likely highlight the poor condition of generators and transmission and distribution assets it purchased from Winnipeg Hydro. Hydro's plans for refurbishing Pointe de Bois at a cost of \$2.4-billion, when at the time of the acquisition there were no major expenses anticipated for the plant's refurbishment, further highlights the problems and underscores the failure of the Crown Corporation's claim to 'buy smart'.

The major risks for ratepayers arising out of Hydro's plans include:

- a) Drought with large export contract commitments;
- b) Continuation of forecasting errors;
- c) Future non-renewal of export contracts;
- d) Lower volumes and prices for exports;
- e) Further increases in construction costs;
- f) The arrival or expansion of power hogs before marginal pricing is in place;
- g) Rising interest rates; and,
- h) Fluctuating currency levels (Hydro has a 'natural hedge' but it is inadequate.

The results of any of the major risks actualizing could well include:

- a) Major rate increases, far above the two times current rate now forecast by Hydro;
- b) Increased energy poverty; and,
- c) A credit downgrade, to affect all provincial borrowing, not just for Hydro.

The gamble

Hydro's latest estimate of its capital cost expenditures over the next twenty years is \$33-billion (an amount more than Manitoba's overall current debt, and about 60 per cent more than Hydro's development plan of only a few years ago).

The plans are based on questionable projections of not only construction costs, but also of export sales and revenue, and represent the largest gamble in the Province's history.

Ahead of final approvals, Hydro has already incurred a billion or two of costs, with much more to come, and has made commitments with First Nations, American utilities and employees that would be difficult to unwind.

Sufficient questions and doubt surround Hydro's negotiating skills, not only do the export contract provisions need a public review, so do the legal, training, and other development expenditures and contracts associated with a number of First Nations.

It is probable that Manitoba's future domestic electricity demand growth can be met more safely and less expensively, and bring lower rate increases, than the current plan. The other options that are less costly are reduce drought-related financial risks, and don't involve 'betting the farm'.

“ ***The plans are based on questionable projections of not only construction costs, but also of export sales and revenue, and represent the largest gamble in the Province's history.*** ”

Wuskwatim is a financial disaster (and not a useful template)

A recent experience involving poor forecasting leading to terrible results is useful in considering the merits of Hydro's massive development plan.

The recent construction of Hydro's Wuskwatim generating station was 'sold' through the auspices of a NFAT Hearing conducted by the Clean Environment Commission. The project was to cost \$900-million, with the production to be sold on the export market at a price of approximately 8 cents per kWhr.

Unfortunately for ratepayers, the new dam's now-reported actual cost was \$1.8-billion, while spot export prices have been 3 cents per kWhr or less. On the basis of 1.5 GW of annual generation, an economic loss of \$100-million a year is expected for years to come. A loss of that level is equivalent to about an overall domestic rate increase of 10 per cent.

Recently, Hydro has reframed the project as a necessity to meet growing domestic demand, ignoring the actual plan that has the plant built for export; less than 70 per cent of Hydro's current generation capacity is, now, required for domestic load.

The Wuskwatim project is a partnership involving Hydro and the Nisichawayasihk Cree Nation (NCN), the First Nation to hold one third of the ownership for a contribution largely borrowed from Hydro. The terms provide for annual payments to NCN, even in "loss years". The corporate vehicle employed to divide the partnership's net income or loss does not involve Hydro allocating a share of its overall administrative and operating. Expenses allocated to the partnership, meaning the results to be shared by the two partners are to be overstated to the benefit of NCN.

So, even with the benefits of questionable accounting, the economics of the partnership is in trouble. Accordingly, Hydro has entered into negotiations towards a revised contract with NCN, presumably one that will allow for NCN to generate a return on its investments regardless of the actual economics of the project.

Hydro and government have asserted that the NCN deal should serve as a template for the deal with Tataskweyak Cree Nation (TCN), for the construction and operation of the planned Keeyask project.

It is no surprise that the government has directed the PUB not to review the Wuskwatim experience or the terms of partnerships with First Nations when it holds a NFAT Hearing to consider the plans to construct Keeyask and Conawapa. (As well, in that review the construction of BiPole III is to be assumed as a given).

An independent audit and review of the Wuskwatim experience needs to occur, before the Wuskwatim partnership is amended, let alone a NFAT Hearing be held or the development plan pursued further.

Winners and losers

Follow the money is an often used recommendation when one is attempting to discern motives and actions, specifically of large corporations and governments. If the governments' plans for Hydro are implemented, and in the timeframe projected by Hydro, the biggest winner, at least for the short-term, will be the present government:

1. More economic activity will result as new dams and transmission lines are constructed and present assets refurbished, generating higher personal and corporate tax revenues, a stimulated economy and political talking points before the next election;
2. As for the massive borrowing required, it should not be forgotten that for every dollar borrowed by Hydro, the provincial government gains an additional 1 cent each year from its loan guarantee fee, every \$10-billion borrowed generates another \$100-million a year for government;
3. Every dollar increase in Hydro's capital base, which includes borrowings, also generates additional capital tax revenues for the government, and with a tripling of Hydro's Balance Sheet, government's annual capital tax from Hydro would also triple;
4. And, for every kilowatt produced through water flow, for every dam the water flows through, government earns additional water rental fees.

Better still for government, whatever rate hikes are required to keep Hydro in the black will be met by ratepayers, not by the government. And, while the government rakes in hundreds of millions of dollars from increased capital tax and debt guarantee fees, as the projects are undertaken, Hydro will defer the costs until the assets are in service.

Consequently, while government will 'enjoy' the increased flow of the charges it will make against Hydro as the capital tax and debt guarantee fees are levied and received, ratepayers will not pick up the tab until long after the projects are finished, perhaps two or more elections from now.

As well, there will be benefits for other parties:

1. As Hydro and contractor personnel complements increase, more jobs will be created;
2. Increased employment and contracts;

“ Follow the money is an often used recommendation when one is attempting to discern motives and actions, specifically of large corporations and governments.

3. Profits for contractors and other businesses during the construction phase;
4. American utilities will receive relatively cheap power from Hydro; and,
5. Energy intensive new or expanded industry, in the absence of a new and higher rate recognizing marginal costs, will enjoy rate subsidization by other ratepayers.

Unfortunately, there will also be losers, and the losses will not be just for the short term:

1. *Hydro consumers*—rates are already rising ahead of the construction phase, so much for Hydro's previous assurances that current consumers would not pay for benefits to be derived by future consumers;
2. *Households depending on electric heat* will pay through much higher rates, much higher bills, this to be particularly problematic for lower income households; and,
3. *Taxpayers*—the building of large hydro projects results in massive debts for the government's balance sheet, bringing the potential for economic harm to the economy, credit downgrades affecting all provincial government debt, potentially bringing higher taxes and or reduced services.

With little diversity of supply, and full reliance on water flow, a drought could, as it has in the past, devastate Hydro's already weak finances. Hydro has been fortunate in 15 of the last 17 years because there has been median or higher water flow, but in the future, drought is a certainty, to bring potentially high losses and even more pressure on domestic rates.

The most widespread risk to the Manitoba economy will be the extraction of disposable income from ratepayers of all customer classes, and the less attractiveness of Manitoba to industry.

What can go wrong?

As suggested above, while the NDP government is already enthusiastically selling its plans through Hydro paid advertisements, there is much that could go wrong. Construction cost estimates could be too low, which has, over the years, been a consistent problem for both Hydro and the government. See if you can remember, when was the last time a government or Hydro cost forecast proved accurate?

Consider the following cost forecasts:

- Hydro Head Office, the initial ‘place-marker’ of \$75-million became an eventual cost of \$283-million;
- Wuskwatim, estimated to cost \$900-million, actual \$1.8-billion;
- Pointe de Bois, from an initial ‘repair bill’ to a \$2.4-billion make-over;
- BiPole III, the cost estimate has gone from \$1.9-billion to \$3.3-billion;
- Keeyask, from \$3.7-billion to \$5.2-billion; and,
- Conawapa, from \$5-billion to \$10-billion.

Equally likely are that export demand and pricing will be lower than projected, which has been a common experience in recent years. As for export sale prices 60 per cent of export sales are at spot prices, which have averaged from below 1 cent/kWh to 4 cents. Over the past four or five years while the marginal cost of new Hydro supplies is now estimated to exceed 10 cents a kWh.

Recently, the government has been citing as a major advantage of its plans the expectation of Hydro receiving billions of export contract revenues in the years ahead. Claiming that to be sufficient to hold down domestic rates below the level rates would be without the new developments and export contracts.

Leaving aside amortization and operating costs, and the share of the export revenues that would flow to Hydro’s First Nation partners, the annual interest and debt guarantee fees on the estimated \$20-billion of major new capital projects and \$33-billion of overall planned capital expenditures will exceed the expected export revenue.

In 2011, Hydro defended a twenty-year forecast for export revenue of \$12-billion. One to two years later, with no major change in real-time export conditions, Hydro cut the forecast by half. And, not only export revenues can be lower, domestic demand can be lower than projected—there have been no major new industries for Manitoba since the 1990s, and none are on the horizon.

“ ***Construction cost estimates could be too low, which has, over the years, been a consistent problem for both Hydro and the government.*** ”



...there have been no major new industries for Manitoba since the 1990s, and none are on the horizon.

Meanwhile, Tembec has shut their pulp and paper mill. Hudson Bay Mining & Smelting has closed its smelter. And, Vale plans to close its smelter and refinery. As a result, almost fifteen years' worth of forecasted industrial demand growth has evaporated.

A drought is overdue, and in the history of the utility there has been both five and seven year droughts. Imagine what that would do to a utility dependent on water flow, without a gas plant as a back-up.

Higher interest rates are, eventually, inevitable. Hydro has and will have even more debt going forward. A credit downgrade would mean a higher interest rate spread over Canadian bonds, pushing up Hydro's and the provincial government's cost of borrowing.

There could be plant or transmission and distribution failures; increases in the Canadian dollar (Hydro's original plans assumed an 85 cent dollar). And, of course, there are potentially unknowable events that could affect the transmission of power. A hundred years, the projected service life of a dam, is a long time, far longer than the average term of a bond issued to finance a project or the length of an export contract.

Another risk lies with Hydro's rate model. It may fail to adequately share the cost burden between the various customer classes, and, as well, it may well now be failing to adequately motivate customer behaviour to become more energy efficient to lower consumption, which, if achieved, would slow the timeframe for needed new capacity.

Hydro's 20-year forecasts are much too short, and thousands if not millions of simulation models are needed to test for potential outcomes, and these models have either not been done or not disclosed.

Financial impacts—results fail to meet Hydro forecasts

What will be the financial impacts if Hydro’s forecasts are not realized, as is likely to be the case?

1. Hydro rates will rise more than the 4% per year for twenty years as they are now projected. It is not known how an average rate that could be three times the current average rate would affect consumers and the economy.
2. Assuming the PUB continues to approve rate increases to keep Hydro’s debt to equity ratio at ‘acceptable’ limits, increased rates could well be twice the 4% a year now forecasted.
3. While the 1.5% deferral of ratepayer revenue directed by the PUB doesn’t save ratepayers a dime, it does give Hydro another excuse for a further rate hike, with the Utility cited an inadequate capital base.
4. Lower income households could easily end up paying more than 10% of their disposable incomes for their energy, and people in rural and northern areas who do not have access to gas will probably pay far more than urban customers.
5. New industries may avoid Manitoba if or when the Manitoba Advantage shrinks or disappears.

Higher rate hikes will be met by ratepayers, not by the government. More capital tax, debt guarantee fees, water rental charges, and personal and corporate taxes are likely the result for government.

And, there is a strong likelihood American utilities will continue to be subsidized by Manitoban ratepayers, while First Nations, through beneficial contract terms, will also gain regardless of what happens.

Twenty years from now, if the government implements its full Hydro plan, it seems to me that residential rates of 20 cents per kWhr or more, three times current level will be the result.

What would be the rate and demand prospects be if low cost and reliable power for domestic customers returned as the primary objective? Neither the Government nor Manitoba Hydro will say.

“ ***...there is a strong likelihood American utilities will continue to be subsidized by Manitoban ratepayers, while First Nations, through beneficial contract terms, will also gain regardless of what happens.*** ”

Timing is crucial

Government's plans for Hydro were developed before 2008 when the economic environment was different. At that time, Premier Doer stated: "hydroelectricity is Manitoba's oil".

At that time, both Hydro and Government expected:

- Natural gas prices would stay high and increase (not \$4 per GJ, but \$10 or more);
- There would be a price on carbon, providing for a premium price for hydro power;
- Rather than industrial closures, new and expanded industry would develop to drive demand growth;
- Higher spot and fixed export prices would develop, not the three cents and under for spot sales of recent years;
- Construction costs to increase with inflation—now, the initial forecasts are recognized as being far too low;
- An eastern route for BiPole III would save a billion dollars and reduce troublesome engineering concerns;
- A lower Canadian dollar; and,
- A much higher rate would be in place for new or expanded energy intensive industry.

Now the reality is different

Since that time, the global credit crisis and recession led to an industrial slow down, the Americans focused on their economy, not on climate change. In addition, Americans began using more renewable energy by subsidizing wind and solar power. Furthermore, new technology reduced the cost of wind and solar power, while Americans moved to generate jobs in the United States.

New production technology unlocked a torrent of shale gas, which drove natural gas prices much lower, providing increased use of gas turbine generating stations.

The Canadian dollar is at or near par, construction costs have skyrocketed, the model first dam, Wuskwatim, has proved an economic disaster, and the government forces a western BiPole III route while ignoring opportunities to diversify supply.

The strategy that is unfolding involves spending a considerable amount of money ahead of final approval of the projects, which will force up rates to keep Hydro's bottom line in the black. The government has also restricted the terms of the planned NFAT Hearing after delaying it as much as possible, while moving ahead with BiPole III.

BiPole III will require either new net revenue or a 30 per cent rate hike when it comes into service. So, regardless of the weakness of Hydro's new revenue forecast, it counts on more export revenue to justify the building of Keeyask and Conawapa, while also planning to rebuild Pointe de Bois—'doubling down' the bet.

To assist these plans, the government has allowed Hydro to withhold critical information from the PUB as the costs and risks of their development plan grows. In essence, the strategy appears to be one hiding the real rate cost to consumers by gradual increasing rates.

We are already seeing the plan unfold, rates are climbing and forecasts of further rate increases are gradually being accepted, while costs incurred are being deferred, allowing for the 'feathering in' of the rate increases to consumers.

Who backstops the risk for Hydro blunders? Only ratepayers. Who protects ratepayers? Not Hydro. Not the PUB. Not the Auditor General. And, certainly not the provincial government.

“ ...the government has allowed Hydro to withhold critical information from the PUB as the costs and risks of their development plan grows. In essence, the strategy appears to be one hiding the real rate cost to consumers by gradual increasing rates.



Proceeding without a truly adequate dialogue represents an unnecessary and foolhardy process, one that could very well bring economic and social pain to a province that lacks the financial base to 'gamble'.

Questions unanswered (while Hydro's spending intensifies)

Before more massive expenditures of ratepayers' money are expended, there are a great number of questions that need to be asked and truthfully responded to, these questions include the following:

1. What are the provisions in the export contracts—volumes, prices, relief from export commitments in the case of drought, penalties for withdrawal from contracts, etc?
2. What renewal provisions are in place? While dams are built for a century, and amortized over many decades, export customers are not tethered to Manitoba Hydro;
3. Has the American utilities built or even committed to build, the necessary additional transmission to the Manitoba border?
4. If Keeyask or Conawapa are not built, what is the cost to domestic ratepayers to meet costs of BiPole III?
5. What are the projected results for Hydro, and in comparison to current projections based on the build of BiPole III, Keeyask and Conawapa, for a scenario, which has no BiPole III? No Keeyask and or Conawapa? But the construction of a gas plant?
6. What is the value of diversification, the reduction in risk, of the construction of a modern high efficiency gas plant, in the case of drought?
7. What, if any, are the implications for a gas plant in Manitoba if the conversion of an existing TCPL gas pipeline to the east to carry oil is realized?
8. What is the present value cost to non-First Nation ratepayers of contracts with First Nations? How much has been spent on training in the north? Are wages subject to income tax?
9. If Hydro's intangible and deferred costs—as much as one-third of the Utility's operating, maintenance and administrative were written off against Hydro's retained earnings, would any retained earnings be left?
10. If Hydro's uneconomic assets were written down—existing single cycle gas turbines, una mortised coal plant assets and Wuskwatim, what then would

be left in retained earnings? Nothing? Possibly.

11. What are the implications for the Provinces' books if Hydro expensed intangibles and deferred costs and wrote down uneconomic assets?
12. Hydro failed to file regulator ordered risk reports, including those of the Whistleblower, which didn't surface until the Whistleblower blew the whistle—what other reports have been buried or left in draft form, perhaps because the findings were contrary to the views sought by Hydro? Climate change scenarios that raised the prospect of more droughts in the future, perhaps?
13. How much has Hydro spent already on BiPole III, Keeyask, Conawapa, and First Nation negotiations? Has it exceeded \$2-billion already (what would be the write-off if the development plan is shelved)?
14. What is the economic loss on Pointe de Bois?
15. Why is there no Energy Intensive Industry rate?
16. What plans do Hydro and the PUB have for reviewing Hydro's current rate model, towards ensuring fairness between customer classes and customers, and motivating customers to achieve improved energy efficiency and reduced consumption, allowing for 'bill' savings for all customers?
17. What happened to setting rates based on a PUB approved distribution of utility revenues and costs between rate classes, assisted by consideration of other factors such as consumer affordability, retention of industry, the environment and the avoidance of rate shock?
18. If future Hydro rate increases were held to no more than inflation, how would Hydro's 20-year financial forecasts look? (Losses, most likely, so rates must rise);
19. Since the route of BiPole III and the building of new dams to meet export and First Nation commitments come by way of provincial edict, should not the government be accountable and meet any losses incurred by Hydro in the future? Would this approach provide for accountability? Since taxpayers are also ratepayers, is there any point in transferring the cost to taxpayers? (Perhaps there is protection of lower income households and the industrial base); and lastly,
20. At the peak of the "pre-in-service" period, how much revenue will the Province have recorded in its accounts, accumulated, for increased capital tax and debt guarantee fees (over current revenue levels for both levies) as compared to how much of that total Hydro will have expensed in its books? How large is the 'kite'?

The 'development bus' needs to slow down. The party that is truly at risk is required to be brought to a full understanding of the merits and risks of the present plans. Reviews and audits need to be undertaken, options need to be examined, risks need to be adequately addressed. Proceeding without a truly adequate dialogue represents an unnecessary and foolhardy process, one that could very well bring economic and social pain to a province that lacks the financial base to 'gamble'.

Further Reading

August 2012

Wuskatim Under Water and Sinking

By Tom Adams

<http://www.fcpp.org/publication.php/4273>

May 2013

Manitoba Hydro: Worst Transparency in Canada

Charticle FC082

<http://www.fcpp.org/publication.php/4597>

February 2011

Manitoba Hydro: Reforming the Jurassic Crown

By Bryan Schwartz

<http://www.fcpp.org/publication.php/3615>

For more see

www.fcpp.org