

From: [REDACTED]
Sent: January-22-19 7:12 PM
To: NL Public Utilities Board
Cc: Dennis Browne
Subject: Management of Excess Costs from Muskrat Falls

The Newfoundland Public Utility Board (PUB) has recently been requested by the Newfoundland & Labrador (NL) government to find solutions to reduce the burden on ratepayers from the Muskrat Falls project cost overruns. In turn the PUB has requested the support of two consultant corporations, the Liberty Consulting Group and Synapse Energy Economics. From reading their preliminary reports, my opinion is that it is unlikely that a sufficiently strong solution is found by those two corporations. A solution however exists but to find it, one has to think outside the Muskrat Falls' box. The idea is to use the large future revenues from Churchill Falls' electricity production owned by NL during approximately 10 years after 2041 to service the Muskrat Falls's debt. Using Churchill Falls, an action plan can be developed to generate a funding level of the order of \$300 millions per year. This can be achieved with little rate or tax increases to ratepayers and taxpayers of Newfoundland & Labrador. It does not involve selling of large capital assets such as Muskrat Falls, Churchill Falls or other power lines or power production assets to potential buyers.

With a yearly production of 34.8 TWh, the Churchill Falls (CF) facilities produce 7 times more electricity than Muskrat Falls at a planned 4.9 TWh production per year. Newfoundland & Labrador possess 65.8% of the CF production, corresponding to 23 TWh per year. This is 3 times more than what is consumed in NL and that electricity can only to be sold to customers external to NL. Using a current commercial value of electricity of 5 cents (Can.) per kW-hour, the future production could generate net revenues of the order of \$1 billion per year after 2041. The idea is to use this large value of the future production of Churchill Falls after August 31, 2041 to resolve the imminent cash flow difficulties generated by Muskrat Falls and associated power lines. The difficulty is to find a practical way of transferring those future revenues to generate present revenues to service the debts incurred on Muskrat Falls and related operating expenses.

The funding scheme consists of using two methods in parallel.

1. The first method involves the delayed exchange of electricity with NALCOR receiving electricity from Churchill Falls at no immediate charge once the Labrador Link (LIL) is operational in autumn 2018. This electricity is in supplement to the recall power. This scheme would also resolve the water right issue as extra power deliveries into the Labrador Island Link (LIL) can be made when required to supplement a seasonal reduced production at Muskrat Falls. Before Muskrat Falls becomes operational, this method implies the supplies of large quantities of electricity to NL that can be sold to Nova-Scotia.
2. The second and principal method involves Hydro-Québec (HQ) immediately purchasing some of the future electricity produced at Churchill Falls with deliveries made only after 2041 and with payments made immediately to NALCOR.

When a 10 years period is foreseen for return of the electricity, approximately \$300 millions per year can be generated in total, slightly less than \$100 millions a year from delayed electricity exchanges and slightly more than \$200 millions from delayed electricity purchases. Larger annual funds can be provided to NL if the period is extended beyond a return period of 10 years. For both methods, the quantity of electricity exchanged or pre-purchased is accumulated in an electricity debt account. Similarly to a mortgage account, the electricity debt account would be accrued by a yearly percentage (such as 3% per year) until the debt is cleared. This rate would represent the necessary commercial profits for supplying goods (electricity and funds) ahead of time.

This 3% rate is the same as used on the Maritime Link for temporarily owed seasonal energy from either Nova-Scotia or NL. The electricity supplied over the years would be physically returned to Hydro-Québec only after 2041 over a number of years.

The exchange method can bring several hundred millions in value over the next few years to NALCOR, until Muskrat Falls finally reaches its in-service date with the reservoir at its rated height and the North Spur operating safely. The potential for exchange then significantly drops following the nominal turbine production, resulting in an average of approximately \$100 per year over the period, or about \$2 billions up to 2041. The electricity exchange method is specifically important for Nova-Scotia as it can supply ample supplementary Churchill Falls power through the Maritime Link at a cost lower than from its coal fired plants. All in all, a value in electricity and direct funding of approximately \$6 billions to \$9 billions can be obtained by Newfoundland & Labrador from 2019 to 2041 to help repay the Muskrat Falls debt, its interests and other operating costs. The application of the two proposed method will not result in a loss of equity in Churchill Falls, Muskrat Falls or other electrical or non-electrical assets of the Newfoundland & Labrador province.

The two above methods are described in more details in a 59 pages assessment I produced over the last several months. It is titled "*Management of Muskrat Falls Excess Costs Using Future Electricity from Churchill Falls after 2041*". The complete document has recently been transmitted (at no charge) to the federal government's Parliamentary Budget Office (PBO) and to Hydro-Québec. The methods I have proposed ensures that the NL province would not be expected to be adversely down rated by the bond rating institutions. This is because the debt is not a dollar debt but an electricity debt account labelled in Tera Watts-hours and that NL possesses the asset (Churchill Falls) to return the owed electricity. The scheme can be also be seen as a method of transferring the Muskrat Falls debt (labelled in dollars) to an electricity debt that can be quickly repaid by Churchill Falls' production in about 10 years after 2041.

Hydro-Québec is currently evaluating those schemes as large surpluses of electricity have to be managed and that a cost effective strategic planning has to be developed to compensate for the loss of the low cost Churchill Falls' electricity by 2041. NALCOR and Newfoundland's government are eager to obtain sufficient funding to manage the MF debt without much increase in the province's debt. The federal government will be pleased to obtain confidence that the two Federal Loan Guarantees will be paid back without harming Newfoundland & Labrador economics. The Muskrat Falls debt problem can thus be resolved quite simply without much political interventions. It uses contractual agreements between two neighbouring Canadian Utilities that would simply exchange, purchase and deliver electricity over the years as it is done on a day to day basis between most neighbouring electrical Utilities worldwide.

I would find it quite fitting that the NL's Public Utility Board would communicate and get the above ideas implement in NL. I can provide the assessment I made at no charge. However, before sending the assessment to the PUB, I would like to first discuss the methodology with one of your senior personnel. This would provide me the assurance that the document is received by a person that has the capabilities and responsibilities necessary to understand and manage those financial arrangements.

I would thus like to have one of your senior staff to call me back at [REDACTED] to discuss about the technical and financial parameters.

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