

HARRIS CENTRE PRESENTATION

JULY 30, 2019

1. LUEC - LEVELIZED UNIT ENERGY COST

In 2012 Nalcor estimated the total cost of Muskrat Falls (MF) at \$0.361 per kwh with a capital cost of \$6.2B. This number represents the total cost of project capital and operating costs spread over 50 yrs. It is used for comparative purposes to evaluate project economics for competitive projects.

Nalcor was requested for a revised LUEC with a capital cost of \$12.7B and responded on February 12, 2018 (PB-31-2018) that it “does not compute LUEC on an ongoing basis and therefore has no comparable LUEC for the \$12.7B cost update.”

Simple extrapolation produces a revised LUEC in the range of \$0.70 per kwh. Nalcor should be required to provide a revised LUEC for the \$12.7B revised cost.

2. PROJECT ECONOMICS GET BETTER OVER TIME

This is false. Revenue Requirements (RR) increase over time. The RR in the first full year of operation is approximately \$726M (NL Government Press Release - April 15, 2019) The RR rises to \$2.5B in 50 years as a consequence of the back end-loading of the Power Purchase Agreement (PPA). The PPA covers the financing costs of the Muskrat Falls Dam and Labrador Transmission Assets.

RR	2021	2069
PPA	\$345M	\$2.2B
LIL	\$380M	\$0.3B
TOTAL	\$726M	\$2.5B

Note that under the PPA the RR for the MF/LTA increases by a factor of 6.4. The increasing RR is a result of the deferral of return on equity (ROE) and associated interest payments under the PPA from current to future ratepayers. This will result in a huge transfer of costs to future

ratepayers. It is unfair. It imposes a huge financial burden on the future to the benefit of the present.

RR should be allocated fairly over time such that consumers do not pay in the future for present consumption. The PPA is an extremely regressive attempt to “sell” the project to present voters vs. future voters. It is also a requirement under the FLG. Those who have said that “it gets better,” (Williams, Ball et al) should be called to account for misleading the public as to the reality of what we are facing as a consequence of the approval of the MF project.

3. RELIABILITY ISSUES

A number of Nalcor witnesses testified at the Inquiry that reliability on the system would be enhanced by the Maritime Link (ML). This is false. Here is the reality of what we are facing after spending some \$14B on MF.

An October 30, 2011 - System Planning Report of Nalcor stated that; “the Maritime Link is equivalent to a 300MW generator with high availability for the IIS. The Maritime Link is thus a critical feature for the operation and reliability of the LIL. Approximately 70% of the island power demand is on the Avalon Peninsula. Outages of one month or greater in remote areas are possible.”

On December 1, 2018 an Atipp request was filed with Nalcor requesting answers to the following questions and reports:

- i) Provide the reports from Nalcor which show the 300MW of Nova Scotia backup power via the Maritime Link is available for NL if needed in an outage.
- ii) Has Nalcor asked Emera directly if they can supply the 300MW of backup power over the ML to NL if the LIL has an extended outage of over one month?

The Nalcor response contained in PB-946-2018 stated inter alia “there are no reports specifically addressing 300MW of backup supply via the Maritime Link in the event of an extended LIL outage.” And “No, Nalcor has not asked Emera directly if it can supply 300MW of backup power over the Maritime Link in the event of an extended LIL outage.”

A related issue concerns the matter of transmission capacity into the Avalon Peninsula for Nova Scotia power transmitted to NL by the ML. In response to an ATIPP request of December 15, 2018 the Nalcor response (PB-947-2018) stated “please note that there are currently no records responsive to your request.”

In response to an ATIPP request of October 29, 2018 as to why the matter was only under study now, the Nalcor response of PB-812-2018 stated “that with the retirement of generation on the Avalon Peninsula, the remaining capacity provided by the 230KV transmission network will not be adequate to supply peak loads on the Avalon Peninsula with the LIL bi-pole out of service. In such a scenario, load shedding would be required to ensure stable system operation.”

In other words this means rolling blackouts in the event of a prolonged outage.

The following questions must be answered by the Inquiry if we are to get a full understanding of the monumental waste that is the MF project.

- i) Why was the 300 MW included in the 2011 Report if there was no agreement or discussion with Emera their partner on the LIL with respect to the provision of same?
- ii) How was it possible that the System Planning Department did not know that there was no transmission capacity into the Avalon Peninsula for Nova Power?
- iii) Why did Nalcor witnesses (Clift, Martin and Harrington) testify that reliability would be enhanced with the Maritime Link?
- iv) Why did Harrington testify that Dark NL would not have happened if there had been a Maritime Link in 2014?

4. THE MISSING 76MW OF FREE POWER ON THE LIL

Nalcor has stated that no cost Churchill Falls recall power was assumed for 50yrs (PB-30-2018) for 76MW to fill the LIL to 900MW capacity (MF 824MW plus 76MW recall.) However, this recall power is committed to economic development in Labrador. The Dunderdale Government promoted the availability of this power as attraction for prospective mineral development in Labrador. (Dr. Wade Locke - Economic Impact Analysis of Iron Ore Mining in Labrador - September 23, 2012-CIMP). Clearly it was not available for both activities. And with the revival of economic activity in Labrador it will clearly not be available when needed for winter peak consumption.

In response to an ATIPP request as to whether the cost to purchase the 76MW to fill the LIL has been costed in MF power rates, Nalcor responded in PB-972-2018 that “There is no public report which is responsive to your request.” (December 12, 2018)

- i) Why was the public not informed of the use of this free 76MW in the original MF estimate?
- ii) By what amount was the original estimate reduced as a consequence of the usage of this free 76MW?
- iii) How does Nalcor propose to replace this 76MW deficiency when it will be needed for winter peak demand?
- iv) Will Nalcor be forced to buy power from Hydro-Quebec to meet winter peak demand?
- v) Will export sales be adversely impacted by this till now hidden supply deficiency?

5. INFLATED ISOLATED ISLAND COSTS

The Inquiry must consider whether there was a deliberate attempt by Nalcor to artificially inflate the costs of the IIS beyond what was necessary for efficient system operation. Included in IIS costs was \$680M for the costs of scrubbers to be installed at the HGS. Manitoba Hydro noted in an earlier report to PUB that with the switching to a low sulphur fuel at Holyrood Generating Station (HGS), it met provincial environmental standards for SO and the \$680M was therefore an unnecessary expense. However, in its DG3 CPW analysis for Nalcor (CIMP-P00121), MH did not exclude this \$680M from its analysis.

Why did MH deliberately omit any reference to this unnecessary expense in its DG3 report which concluded that MF was the preferred option when compared to the IIS?

6. SMALL HYDRO/PEAKING CAPACITY/WIND/23KVBDE TL 267

A 1986 study identified a total of some 235MW IN 30 locations (run of river hydro) as economically viable because it could be used as peak capacity addition to reservoirs at Bay d’Espoir (BDE) and Cat Arm(CA) which had been designed to handle a total of 222.9MW of peak capacity at a cost of \$329M.

Integrating wind (a discontinuous energy source) with this additional peak capacity would contribute substantial cost saving on the system in fuel savings at HGS and would also contribute to more efficient hydraulic (water) usage as spilling water (money) would be avoided.

Stored peak hydraulic capacity can be used when peak demand is highest i.e. winter resulting in lower thermal costs or when the wind is not generating.

Additional further savings can be found in the application by NLH for a new BDE TL to the Avalon filed with PUB on September 29, 2017. Originally filed on October 4, 2013 but subsequently withdrawn, it “can transmit 176MW of existing hydro generation to the Avalon where it is needed...allows for improved fuel efficiency at HGS...and reduces the potential for spills at hydro sites.” (Report to PUB September 2011) This 176MW represents 22% of the rated capacity of MF at 824MW and at current cost estimates for the latter is a \$1.3B asset. This power is now wasted, i.e. “spilled” while fuel is being burned at HGS.

Why did Nalcor not pursue the use of run-of-river hydro integrated with wind and peak capacity expansion of BDE and CA in 2011?

Why did NLH delay construction of the 230kV BDE TL-267 to the Avalon?

What would the estimated cost vs savings of these projects have been as compared to MF costs?

7. INCREASED CONSERVATION/RISING CUSTOMER RATES

Nalcor has forecast an island residential rate of \$0.2632 kWh (GRA-2017 GRA V.1.P1.11) It estimates that a reduction of 10% of energy demand would increase customer rates by a further 8%. The Inquiry must examine the implications of the relationship between conservation measures and consequent rate increases.

8. SYSTEM RELIABILITY/CLOSURE OF HGS/RATE MITIGATION

Stan Marshall, in testimony to the Inquiry on July 2, 2019 said: “The best way to deal with uncertainty over MF is to keep HGS operating for a few years.”

The Inquiry must document the additional costs to ratepayers every year that HGS remains open.

As well, Marshall must explain how concerns about system reliability will disappear after “a few years” and HGS is closed as the issue of a prolonged outage is a permanent concern re: the LIL and do not disappear after ‘a few years.’”

The reality of our electric power system is that in order to ensure reliability on the system and avoid the drastic consequences of a prolonged outage, 400-600MW of reliable fossil fuel backup power is required on the Avalon Peninsula. In other words, an HGS or equivalent.

This begs an obvious question: What was the rationale for the MF project and the expenditure of some \$14B if HGS or equivalent is necessary?

9. INCREASE IN CAPACITY

A final question arises in the context of the matters raised above. What will be the increase in capacity on the system when MF comes online? On February 15, 2018 Stan Marshall in a media report stated: “So replacing a thermal plant with a hydro plant. Net you’re probably only getting about 100MW in terms of capacity.” Together this thermal replacement and the 76MW deficiency on the LIL may well result in a zero increase in capacity. A simple question arises. What is the increase in capacity? The Inquiry must provide an answer. It may well be zero.

10. THE ABSURDITY OF THE MUSKRAT FALLS PROJECT

Nothing illustrates the absurdity of the MF project better than the statement by Derrick Sturge to the Inquiry (October 31, 2018) that he “was out of the loop on MF cost estimates.” Mr. Sturge was/is Vice-President of Finance and was responsible for negotiations related to the FLG.

11. ASTALDI DISQUALIFIED IN BRITISH COLUMBIA

Nalcor AGM 2014 questions Astaldi - Q2 and is Nalcor aware that they did not qualify to bid on a hydro project in BC? A2. Astaldi Canada Inc. was selected as the contractor for this work based on the best technical

execution plan combined with the best commercial bid, which ultimately provides the best overall value for the Muskrat Falls Project and Newfoundlanders and Labradorians. Nalcor does not get involved in the procurement decisions made by parties that are not directly associated with the Muskrat Falls Project. Procurement decisions made by other parties in other jurisdictions are the sole business and discretion of those entities.

12. THE STAN MARSHALL BOONDOGGLE - TOO LITTLE TOO LATE

In 2015/2016 Marshall made a public statement that the MF project was a “boondoggle.” This is too little too late. He knew right from the start of the announcement and associated approval process for the project, that it was a boondoggle.

I know from personal re-collection that this was the case, because on two occasions during this period I was told by Fortis executives that they thought it was a “crazy project” (2011/2012).

If Stan Marshall knew the “story” in 2011/2012, so did NLP and so did Peter Alteen.

He also stated on July 4, 2019, A Nalcor populated by utility experts would not have approved the Muskrat Falls project.

This is important because if the President of Fortis had taken a public stand against the project it probably would have stopped the approval process immediately. It certainly would have precipitated a badly needed public debate on the project. Instead Fortis like all the other organizations which should have called for a robust public debate on the project were silent. Narrow corporate self-interest took precedence over manifest concerns regarding the cost implications of MF.

13. THE SILENCE OF THE LAMBS

Nobody holding elected office in the provincial government, the opposition, the civil service and Nalcor, though it worthwhile to ask Fortis for their opinion on the economic viability of the Muskrat Falls project. Fortis is one of the foremost electric utility companies in North America

which has increased its dividend some 43 years in a row. It is the most outstanding corporate success story in the history of this province. It is listed on the NYSE. Nobody in a position of responsibility or influence at the provincial level asked Fortis for an opinion on the project. Fortis did not offer an opinion.

This is simply astounding.