

**A Reference from the Lieutenant-Governor in
Council on the Muskrat Falls Project (the
"Muskrat Falls Review")**

CONSUMER ADVOCATE'S INFORMATION REQUESTS

Consumer Advocate/Knight Piesold Ltd.(hereafter CA/KPL)-Nalcor-01 - 15

CA/KPL-Nalcor-01

Exhibit 16 - Generation Planning Issues (PDF page 37) mentions a number of energy conservation programs and states their success, yet no metric of the impact is indicated. It further states (pdf page 39):

"The impact of energy conservation measures resulting from the Five-Year Energy Conservation Plan will need to be evaluated to determine what, if any impact, it has on the decision for the next source. At this time, it is expected that the principal benefits will be the economic and environmental benefits of the reduced reliance on HTGS produced electricity and that the timing for the next decision will be unaffected."

Have any energy conservation measures, including demand side management, been taken into account in terms of the load forecasting that is being used to project energy demand in the future? Exhibit 16, pages 37 and 39 make reference to energy conservation plans, but there is no mention as to whether these conservation

measures have been taken into account in terms of load forecasting.

CA/KPL-Nalcor-02

MHI-Nalcor-49 at 49.1 indicates a 2010 Holyrood Projection of 1,032.8 GWh. The 2010 demand as stated in Exhibit 1 is 7,585 GWh. Table 3.1 from Exhibit 16 - Generation Planning Issues puts the cumulative firm and average supplies from Newfoundland and Labrador Hydro Assets, Newfoundland Power Assets, Corner Brook Assets, and the PPAs at 5,957 and 6,847 GWh, which puts the Holyrood supply balance at 1,628 GWh under the firm supply case and 738 GWh under the average supply case.

- a. Please explain how 1,032.8 GWh is derived and what scenario is used to determine the amount of thermal complement considered (average, firm, or a more complex seasonal statistical analysis).
- b. Please elaborate on the supplies available from Corner Brook Pulp and Paper and Newfoundland Power Inc. and the corresponding demand they supply
- c. Please confirm that the demands currently supplied by Corner Brook Pulp and Paper and Newfoundland Power Inc. are integrated in the demand projections.

CA/KPL-Nalcor-03

Nalcor has provided a set of potential hydropower and wind resource supplies for the Isolated Island Option.

- a. Please reference the documents outlining the comprehensive listing of available Island resources and opportunities. Are the listed island generation opportunities the only significant ones that can be considered? Are there additional island hydro opportunities, non-listed?
- b. What is the time frame for major upgrades or refurbishment of Newfoundland and Labrador Hydro's existing assets and are there any opportunities to increase the installed capacity of existing infrastructure at the same time?
- c. Similarly, are there any opportunities at Corner Brook Pulp and Paper and Newfoundland Power Inc.?
- d. Is there room to increase the installed capacity of the existing on island system to increase the amount of wind penetration? It was noted that under the island scenario a continued increase in thermal capacity did not seem to be accompanied by a larger wind penetration allowance.

CA/KPL-Nalcor-04

MHI-Nalcor -07 includes the updated cost estimate for the HVDC. MHI-Nalcor-19 states, "There is no definitive design report as this work was done internally however document CE 32 (Exhibit 23) HVDC System - Historical Summary outlines the sequence of events leading to the current project definition". Could a Bill of Quantities be provided to assess what has and has not been included in MHI-Nalcor-07?

CA/KPL-Nalcor-05

What is the basis for the capital cost outlined in MHI-Nalcor-07?

CA/KPL-Nalcor-06

Is the capital cost of O&M cost for the HVAC Transmission Systems described in Muskrat Falls Project - Exhibit 30, page 17 of 24 included in the HVDC?

CA/KPL-Nalcor-07

Has the transmission line from Muskrat Falls to Churchill Falls been included in the analysis and cost estimate? On what basis? (Synopsis of 2010 Generation Expansion Decision - Exhibit C, page 3 of 9 mentions the recall of 300 MW capacity from Upper Churchill as a basis for the 900 MW HDVC Link).

CA/KPL-Nalcor-08

Laying and protecting submarine cables was not included in the DC1010 - Voltage and Conductor Optimization, DC1020 - HVDC System Integration Study, DC1210 - HDVC System Sensitivity and VSC Risk Analysis scopes. Is there evidence to support the cost estimate by Nalcor? (Note in Exhibit 37, page 19, Nalcor indicates a high confidence in the seabed cost.)

CA/KPL-Nalcor-09

Several alternative "Upgrades to the Island Interconnected System" are presented in Exhibit 23. Which one was selected?

CA/KPL-Nalcor-10

Are there costs born in anticipation of the development of a Maritime HVDC Link,

that should not be included?

CA/KPL-Nalcor-11

Please confirm that Exhibit 30 - Section 6.5, 6.6 and 6.7 stands as the Design Basis for the cost estimated arrangement (both capital and operating) for the Labrador HVDC scenario.

CA/KPL-Nalcor-12

Page 3 of the “Synopsis of 2010 Generation Expansion Decision” states that the reliability criteria governing capacity requirements is a Loss of Load Hours (LOLH) target of not more than 2.8 hours per year. What is the basis for the value of “2.8 hours” in the LOLH criteria?

CA/KPL-Nalcor-13

The Island Pond 2006 study shows a capital cost estimate of \$173,592,362, the AFUDC and Escalation Calculation (Batch 06 NHI-Nalcor-49.3 AFUDC and Escalation) shows a “Cap Cost In” of \$166,220,000. Please show how these individual costs are derived.

CA/KPL-Nalcor-14

Exhibit 30 - LCP Design Progression indicates “Fish habitat will be based on compensation strategy agreed with DFO”. It also indicates a “Fish Compensation Flow will be approximately 30% of mean annual flow”. What variations in generation from Muskrat Falls could be expected as a result of changes in projected in stream flow requirements? Please show anticipated seasonal generation profile of Muskrat Falls.

CA/KPL-Nalcor-15

In Exhibit 15m why was the HVDC line cost not rolled into the cost of service pricing for Muskrat Falls?

DATED at St. John's, in the Province of Newfoundland and Labrador, this ^{7th}____ day of September, 2011.



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