O'DEA EARLE

January 4, 2012

Via email
& Courier

Nalcor Energy
Hydro Place, Columbus Drive
St. John's, NL A1B 4K7

Attention: Mr. Gilbert Bennett, P. Eng., Vice President, Lower Churchill Project

Dear Mr. Bennett:

Re: Muskrat Falls Review
Re: Requests for Information CA/KPR-65 to CA/KPR-99

In relation to the above please find enclosed one copy of the Consumer Advocate's Requests for Information numbered CA/KPL-Nalcor-65 to CA/KPL-Nalcor-99. Please note that the original of this document and ten copies have been filed with the PUB as of today's date.

We trust the foregoing is found to be in order.

Yours very truly,

O'DEA, EARLE

THOMAS JOHNSON
TJ/cel
Encl.

cc: Public Utilities Board
Attention: G. Cheryl Blundon, Board Secretary

Thomas O'Reilly, Q.C./
Denis Fleming
Solicitors for Nalcor

Reference from the Lieutenant-governor in Council
On the Muskrat Falls Project
(the "Muskrat Falls Review")
REQUESTS FOR INFORMATION

LOLH Criteria

CA/KPR-Nalcor-65 The Regional Reliability Organization criterion of one day in 10 years is more stringent than NLH's LOLH of 2.8 hours per year which equates to about one day in every five years. CA/KPL-Nalcor - 012 - Batch 49 RFI Responses of 22 November 2011 referred to Section 3.1 of the Nalcor submission where 2.8 LOLH criteria is stated (on a "one day in five years basis") and compared to other more stringent standards. How sensitive is the CPW of the two alternatives to the LOLH criteria? Has Nalcor evaluated the respective changes in CPW as a result of the more stringent and less stringent capacity criteria?

CA/KPR-Nalcor-66 Could capacity reserve margins (in the range of 15-20 percent) be used instead of a LOLH Criteria?

Planning and Forecasts

CA/KPR-Nalcor-67 The Load Forecast Cycle is presented in p. 20 of 158 of the Submission. Has any independent review of the econometric modeling undertaken annually by the planning group, including a review of the econometric equations and other modeling parameters, taken place? If so, please reference.

CA/KPR-Nalcor-68 With reference to PUB-Nalcor-45 and Exhibit 36, what are the key policy

objectives referred to?

CA/KPR-Nalcor-69 With reference to PUB-Nalcor-92, if the present value of energy in 2057 and 2067 is so small why extend the planning period to these dates?

Resource Options

CA/KPR-Nalcor-70 Please include a copy of the 1986 study undertaken for NLH by Shawmont Newfoundland on the undeveloped small hydroelectric sites on the island.

CA/KPR-Nalcor-71 CA/KPL-Nalcor – 003 indicated only minor increase in installed capacity within the existing hydropower generation pool are possible. Please share the minor options. Has pumped storage been investigated?

CA/KPR-Nalcor-72 Please show the typical anticipated monthly generation profile from run-of-river and wind power sources in Newfoundland.

Conservation

CA/KPR-Nalcor-73 Nalcor's Submission to the Board of Commissioners of Public Utilities with respect to the Reference from the Lieutenant-Governor in Council on the Muskrat Falls Project p. 27 of 159 states:

"Nalcor has not directly considered a sensitivity case to gauge the impact of CDM on the CPW for the Interconnected Island alternative because, in such an instance, NLH would have opportunities to monetize any

conserved energy through short term sales into regional export markets."

The Terms of Reference and Reference Question specifically states:

"The Board shall assume that any power from the Projects which is in excess of the needs of the Province is not monetized or utilized."

Could Nalcor indicate the sensitivity of the CPW under various Energy Conservation Scenarios? For example: Upper Achievable Estimate of 951 GWh, Lower Achievable Estimate of 556 GWh, and 750 GWh per year by 2031, as per p.26 of 159 of the submission. Please indicate the change in PPA rate of Muskrat Falls sourced energy, as a result of conservation.

Holyrood

CA/KPR-Nalcor-74 With respect to PUB-Nalcor-36, there are no existing legislative or regulatory requirements for Holyrood environmental upgrades. Please provide a CPW sensitivity analysis assuming no environmental improvements at Holyrood.

CA/KPR-Nalcor-75 Table 22 at p. 1069 of the Submission lists Holyrood's upgrades for M$ 582 in 2015, M$100 in 2016, M$20 in 2017. New CCCT based on Exhibit 5 at 1,611$/kW for 465.5 MW = 750 M$ in 2010, without any benefits for scale. Please show a side by side project unit cost of energy for a Green Field CCCT and Holyrood Energy with the upgrades.

Muskrat Falls – Energy

CA/KPR-Nalcor-76 Please provide an electronic daily streamflow file for Muskrat Falls with current upstream regulation. (Flow exceedance probability curves would be acceptable if they are seasonal)

CA/KPR-Nalcor-77 Please show the generation profile from Muskrat Falls on a monthly basis for the period of synthetic record used to determine the average generation.

CA/KPR-Nalcor-78 Please show the generation profile from Muskrat Falls on a monthly basis for the period of synthetic record used to determine the average generation, in the absence of an agreement with Churchill Falls.

CA/KPR-Nalcor-79 The Firm capability for the hydroelectric resource was defined by the most adverse three year sequence of reservoir inflows. Please indicate the anticipated Muskrat Falls generation for the most adverse year of record. Please describe the portion of FIRM energy attributable to Churchill Falls.

CA/KPR-Nalcor-80 What is the sedimentation anticipation and what is the associated loss of storage capacity and energy?

Muskrat Falls Optimization

CA/KPR-Nalcor-81 CE-27 from 1999 performs a system optimization to determine the optimal installed capacity for MF at 824 MW. This number has been carried forward but may not necessarily be optimal in the context of providing energy to the Island, a context of offsetting thermal based power, or in the context of an absence of a Gull Island Development.

Please indicate if there is an alternate layout for Muskrat Falls that could be developed at the expense of a Gull Island development that is more optimal from a cost perspective (for example an increased Dam height, with a lower design flow and higher capacity factor).

CA/KPR-Nalcor-82 Is the development of Muskrat Falls constrained in any way by the perceived future development of Gull island?

Terms of PPA for Muskrat Falls Energy

CA/KPR-Nalcor-83 PUB-Nalcor-73 seems to imply that if excess energy from Muskrat Falls could be sold, the financial terms of the PPA for the purchase of Muskrat Falls energy would not change to the benefit of customers. What opportunities will there be for the consumer to recover costs associated with the sale of surplus energy once the decision to advance the MF and LIL project has been made? Will the PPA terms be flexible, or is it envisaged that the customers will be subject to a fixed term despite the ability to sell excess energy?

Muskrat Falls – Fish

CA/KPR-Nalcor-84 What allowance for fish habitat compensation has been included?

CA/KPR-Nalcor-85 If any, please present any fisheries related ramping restrictions or emergency flow bypass requirements.

CA/KPR-Nalcor-86 What allowance for head pond clearing access has been included?

Churchill Falls Energy

CA/KPR-Nalcor-87 Starting in 2050 the current supply profile shows energy supply from Labrador (up to an average of 5,389 GWh) in excess of what is available on a FIRM basis from Muskrat Falls (4,506 MWh) and average basis (4,873 MWh). Please provide the energy supplied by Churchill Falls on an average and FIRM basis over time. Please explain the justification for merging the unit cost from energy outside of that supplied directly from Muskrat Falls.

CA/KPR-Nalcor-88 Please outline the compensation transactions during the use of Churchill Falls energy.

CA/KPR-Nalcor-89 Can the cost of the HVAC Transmission System in Labrador be deferred?

CA/KPR-Nalcor-90 As per CA/KPL-Nalcor-7, two 345 kV transmission lines between Churchill Falls and Muskrat Falls are required in order to maintain the stability of the eastern Labrador power system. How does Nalcor forsee the energy priorities between Muskrat Falls and Churchill Falls occurring since the sources are not separated. Please distinguish average energy and firm energy supplied by Muskrat Falls and Churchill Falls in the Interconnected Scenario.

CA/KPR-Nalcor-91 With respect to CA/KPL-Nalcor-7, please provide:

- A measure of the increased reliability provided by a single transmission line between Muskrat Falls and Churchill Falls
- A measure of the increased reliability provided by the twin transmission lines between Muskrat Falls and Churchill Falls

- The expected and FIRM Muskrat Falls generation in the absence of an agreement with Churchill Falls.

LIL

CA/KPR-Nalcor-92 What actions have been taken to increase the system resiliency / decrease the duration of any likely outages? Additional spare parts were mentioned. Did long term projected O&M costs include these measures?

CA/KPR-Nalcor-93 Response CA/KPL-Nalcor -15 states "Nalcor wished to ensure that future pricing for transmission services on the Labrador Island Link (LIL) would be consistent with this established model", as the reason for not including LIL in the MF PPA terms. Again with regards to the reference question, the "open market" consideration were to be neglected. Please indicate the unit cost of energy from MF and the LIL with the LIL included.

CA/KPR-Nalcor-94 P 134 of the Submission discusses a two-week anticipated repair interval after an event. Please provide a discussion of the expected duration of a curtailment event in the context of an event in the interconnected island option and isolated island scenario. Are the durations expected to be similar despite the complexity of the LIL?

Organization

CA/KPR-Nalcor-95 Figure 8: Delivery strategy p.41 of 92 of Submission shows EA works done under separate leadership from the EPC work. How will the commitments under the EA be ensured and how will the EA ensure that it

does not overcommit beyond optimal choices from an EPC perspective?

Schedule

CA/KPR-Nalcor-96 P 45 of 92 of the Submission describes the construction approach and sequencing. Can a copy of the schedule from which the description was derived be provided?

CA/KPR-Nalcor-97 According to the schedule provided in the Submission p. 89 of 92 have all the 2011 activities already taken place, and are all the 2012 activities on track to take place?

CA/KPR-Nalcor-98 What is the impact to the online power date should the WTW award not be complete by mid third quarter 2012?

Project Cost

CA/KPR-Nalcor-99 CE-13 page 156 discusses modified Churchill Falls operation to assist in lowering the construction design floods. Will there be a cost to CF associated with this and has it been accounted for (associated with the loss of generation from Churchill Falls)?

DATED at St. John's, in the Province of Newfoundland and Labrador, this 4th day of January, 2012.

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