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

CA/KPL-Nalcor-271 Consumer Question: On p. 40 of 158 of the Nalcor submission Nalcor states that, "That the price that NLH pays for power and energy on behalf of island ratepayers is a cornerstone of the Lower Churchill project". Re the price Hydro pays to Nalcor for MF power - In CA #127 states in year 1 (2017) MF on PPA basis is $87/MWH on a COS basis it is $214/MWH or 2.5 x higher on a COS basis compared to the PPA used by see answer CA #126 (e) 75% debt is not financeable for the PPA - the market is telling us something important about the PPA used by Nalcor - a higher than normal equity to debt is needed. Nalcor states, " in an escalating supply price analysis framework leverage of 75 % debt is not financeable because the initial low sale volumes and associated revenues would result in inadequate debt service coverage as required in capital markets". Can Nalcor provide a graph showing the price charged by Nalcor to Hydro from 2017 to 2067 on a PPA compared to a COS basis so the consumers of Newfoundland and Labrador can compare the impact of these 2 methods over a 50 year period ?

CA/KPL-Nalcor-272 Consumer Question: In CA#126 (c) Nalcor states, " The in service capital cost for MF assuming an AFUDC rate of 8.4% is $3.6 B " For DG 2 purposes Nalcor has assumed 100% equity with no IDC or AFUDC with an in service cost $2.9 B or $700 m. Can Nalcor advise If the extra $700m for AFUDC in the $ 3.6B in service MF cost was reviewed in the sensitivity analysis - similar to the impact of a $700 cost overrun on the in service capital costs? If not can Nalcor provide a sensitivity analysis of the impact of an extra $700 m included in 2017 in service capital costs for the MF site?

CA/KPL-Nalcor-273 Consumer Question: in 126 (a) Nalcor states that "The cost of the Labrador Island Transmission Link is not included in the $214 MWH" Can Nalcor provide in $ per MWH the cost of the TL in year 1 to be added

to the $214/MWH to give a total cost?

CA/KPL-Nalcor-274 Consumer Question: Exhibit CE-28 is a study called "Churchill River Complex: Power and Energy Modeling Study" conducted by Acres International and dated 1998. In that study, there was no AC/DC converter (and therefore no converter losses) and no transmission congestion, and the average energy reported for Muskrat was 4.4 TWh/yr at the generator (Table S-1) and 4.26 TWhyr at Quebec border (Table S-2). Firm energy at the generator was reported by Acres at 4.08 TWh (Table S-1). Now Nalcor is claiming average energy of 4.9 TWh/yr and firm energy of 4.4 TWh/yr.

(a) What is the basis for Nalcor's 4.9 TWh/yr average energy estimate? In replying, please explain all differences between the current estimate and the estimate in CE-28. In addition, include a detailed discussion of any spillage of water at both Muskrat Falls and all other interconnected hydro-electric facilities in order to accommodate production from Muskrat Fall? If full integrated spillage analysis is not available, please indicate when it will be available and provide the terms of reference for that work.

(b) Please quantify the forecasted annual spill of water that is expected at Muskrat Falls by year over the period 2017-2067. Provide the spillage estimate at Muskrat Falls by month assuming a normal water year in 2018, 2028, 2038, and 2048.

(c) Please quantify the forecasted annual spill of water that is expected at on-island generation by year over the period 2010-2067 under both the isolated island and integrated system scenarios.

CA/KPL-Nalcor-275 Consumer Question: In the exhibit "Labrador-Island HVDC Link and Island Interconnected System Reliability" (Nalcor exhibit # 106) we see at page 9 that the peak losses incurred delivering Muskrat Power to Soldier's Pond are approximately 10%. What are Nalcor's estimates for the peak and average losses incurred delivering Muskrat Power to Soldier's Pond, Cape Bretton downstream of the AC/DC converter, the

New Brunswick/Nova Scotia border, the New Brunswick/Maine border, and the Maine/New Hampshire border? (Precise estimates are not necessary.)

CA/KPL-Nalcor-276 Consumer Question: The 2009 water management agreement governs the use of provincial water resources.

(a) Does Nalcor acknowledge that the water management agreement gives priority to any contracts CFLCo has with Hydro-Quebec? If not, why not?
(b) Does Nalcor's plan for Muskrat Falls involve Nalcor drawing on more winter generation from the Upper Churchill than the 300 megawatts of Churchill Falls power that it currently has rights to? If so, what is the basis, including the contractual basis, for Nalcor's plan?
(c) How much of Nalcor's entitlement to winter generation from the Upper Churchill is used to supply local Labrador needs today and over the planning horizon out until 2041?
(d) Does Nalcor assume that all or substantially all generation at Muskrat Falls available at times when south-bound transmission facilities are congested will be stored in the reservoir above Churchill Falls? If yes, please explain the timing of return of that generation and the contractual basis for that return of generation. Explain any impacts Nalcor's plans for the use of upper Churchill storage and generation facilities will have on Hydro Quebec.

CA/KPL-Nalcor-277 Consumer Question: Reliance on a 900 MW link from Labrador to Newfoundland could substantially increase the operating reserve requirements on the island.

(a) Please explain how operating reserves are managed on the island today and how this will change under the interconnection scenario.
(b) How do Nalcor's plans with respect to operating reserve in an interconnected scenario compare with NPCC requirements?

CA/KPL-Nalcor-278 Consumer Question: Mr. Philip Raphals, in his testimony of February 23, 2012 referred to a table GRK-3, based on a table contained in the response to CA-KPL-27 Rev 1, referred to in the transcript), concerning the difference from cost of service (COS) pricing and pricing based on a power purchase agreement (PPA). Would Nalcor review the table and confirm the numbers are correct? If the numbers are not correct would Nalcor provide the correct information?

Dated at St. John's in the Province of Newfoundland and Labrador, this 24th day of February, 2012.

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