Manitoba HYDRO INTERNATIONAL

July 19, 2011

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Questions for Nalcor July 19, 2011

MHI-Nalcor-1 What are the components that make up composite costs related to the CPW's related to each the options? Please provide a step-matrix back to the source documents.

MHI-Nalcor-2 What is the sensitivity of the CPW if the time frame was reduced from 2067 to 2041?

MHI-Nalcor-3 What consideration has been given to the excess power capacity that will become available associated with the termination of the Upper Churchill Falls Agreement in 2041?

MHI-Nalcor-4 To what extent have the Isolated Island Option cost estimates been updated as related to Island Pond (2006), Portland Creek (2007), and Round Pond (1989)?

MHI-Nalcor-5 Does the costing of all project estimates include AFUDC and Escalation? Has this been incorporated in the CPW analysis and available for review?

MHI-Nalcor-6 Recognizing that all projects related to each of the Options have not been estimated at the same level of detail, what adjustments have/should be done in order to be able to evaluate them on the same basis?

MHI-Nalcor-7 What is the composition of the capital cost definition for the HVDC Capital Cost Exhibit 5 (e)?

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MHI-Nalcor-8	Have the exchange rates in the CPW analysis been revised from those initially used in the base year of the input document. For example Table 4.1a of Exhibit #5 (h) (Holyrood) indicated $1.50 CAD = $1.00 USD
MHI-Nalcor-9	Please provide a report and related documentation to support the option to allow Holyrood to continue to operate in the Isolated Island alternative? Please include all related legal, technical, environmental and economic considerations for the operation or continued operation of Holyrood. For example, this will include the potential additions for precipitators, scrubbers, NOx burners, and grade of fuel to be used throughout its planned life of the alternative and the legal and environmental drivers that guide this alternative. What constraints does Newfoundland Hydro have on Holyrood operations today?
MHI-Nalcor-10	Does Nalcor have a requirement to continue purchasing energy from the Wind farm NUGs for the foreseeable future or are the plants retired after 20 years of service?
MHI-Nalcor-11	Provide a document that clearly outlines the retirement costs to take Holyrood out of service 2017 (or beyond)? What is the cost to convert unit(s) to synchronous condenser operation? Are these costs factored into the CPW analysis?
MHI-Nalcor-12	Explain the composition of the operating costs for Labrador Island Link in Exhibit 8? What is the source document for the cable inspection costs?
MHI-Nalcor-13	With respect to Exhibit 10 (a), please provide the load balance estimate annually from 2014 to 2067 in a format similar to that provided for years 2010 to 2014.
MHI-Nalcor-14	Please identify the additional costs to provide the extended overload capacity of the HVDC system and describe the financial impact it will have on the CPW analysis.

MHI-Nalcor-15	With respect to Exhibit 11 and the plant maintenance requirements, please describe the HVDC plant performance criteria that are incorporated into the design requirements.
MHI-Nalcor-16	With respect to Exhibit 16, figure 7-3, please provide the justification and details supporting the addition of two 50 MW CTs and the 170 MW CCCT in the generation mix (years 2022, 2024 to 2027)?
MHI-Nalcor-17	As one unit at Holyrood is already capable of synchronous condenser operation; when are the other two units converted? Please provide a document that outlines the plan and timing for the synchronous condenser conversion at Holyrood.
MHI-Nalcor-18	With respect to Exhibit 15, please explain how the numbers tie to the CPW results? Why were the 75/25 D/E ratio and respective costs not incorporated in the calculation?
MHI-Nalcor-19	With respect to Exhibit 18 (HVDC), have the cost estimates and system configuration been upgraded to the current project definition? The original report had the converters at Gull Island and the transmission line was a different voltage. Please provide definitive design report(s) on the final configurations and costs for the HVDC Labrador Island Transmission System.
MHI-Nalcor-20	With respect to Exhibit 19 (Muskrat Falls), has there been any detailed analysis carried out relating to the clay spur and the effectiveness of the sump pump system under impounded conditions (tests, simulations, experience of other dam operators)? Please provide supporting documentation.
MHI-Nalcor-21	With respect to DC1010, what is the current HVDC operating voltage to be used in the Option 1 configuration? How has the capital cost been adjusted in the CPW for this configuration? Is there any provision for future capacity improvements included? Please provide supporting documentation.
MHI-Nalcor-22	With respect to MF1320, this report indicates firm generation of 515 MWc, not 824 MWc at Muskrat Falls. Why?

MHI-Nalcor-23	The +/- 320 kV was noted as the minimum operating voltage for the HVDC. Please explain the rationale for this decision; have conductor optimization studies been revised to support this; and revised cost estimates transmission lines, cables, and converter station equipment.
MHI-Nalcor-24	What assurances exist and what are the cost implications for mainland power sources to supply firm power in the event of a loss of the HVDC system?
MHI-Nalcor-25	With respect to document DC1010 " Voltage and Conductor Optimization" a. How do the costs for the various voltage options at the top of page 3-20 get factored into the CPW? b. In para 3.2.4 it is stated, "The costs estimates exclude the costs for operating and maintaining the transmission system, and also exclude the costs for laying and protecting the submarine cables, which will have a significant impact on the total project costs." Please explain the rational and elaborate.
MHI-Nalcor-26	What costs have been factored in for public consultations on either option?
MHI-Nalcor-27	What costs have been factored in for environmental assessments?
MHI-Nalcor-28	What costs have been factored in for land owner easements, expropriations, and purchases?

MHI-Nalcor-29

With respect to Document 1500 "Electrode Review – Confirmation of Type and Site Selection"

a. Where is the cost estimate of $8.2 million set out in section 6.6 on page 86 included in the CPW numbers?
b. At the bottom of page 88, several recommendations have been suggested to improve the confidence level associated with the assumptions. Have these recommendations been carried out and if not/so, what are the cost implications?

MHI-Nalcor-30

With respect to Document MF 1010 "Pre-Feed Engineering Study – Muskrat Falls – Study of Variants"

a. It is indicated the unit prices were updated to the 2007 base year from the 1999 report. Please identify where the revised numbers shown in Appendix D have been included in the CPW output?

MHI-Nalcor-31

Has Nalcor received an updated report from Global Insights relating to the estimates used in the Studies? Please provide a copy of the base Global Insights report, and any revised reports?

MHI-Nalcor-32

What is the basis for using 10 % rate of return on equity used in the studies?

MHI-Nalcor-33

Have any guarantee fees, water rentals, land grants or dividend payments been factored into the cost of the options?

MHI-Nalcor-34

With respect to Exhibit 5(b), Section 5.2, please provide details relating to the owner's costs (8.7% of Total Direct Costs) as set out in the cost estimates of Island Pond?

MHI-Nalcor-35

Have the costs of the Muskrat Falls Option been included using a PPA approach as opposed to actual capital expenditure cash flow in the CPW? If so, please explain the rationale for doing so.