Manitoba HYDRO INTERNATIONAL

July 25, 2011

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Questions for Nalcor, request 2

MHI-NALCOR-36 Please provide unredacted cost estimates for each component of the Isolated Island Options, Strait of Belle Isle and all other reports.

MHI-NALCOR-37 Please provide a document that describes the Newfoundland Hydro and Nalcor power system planning criteria.

MHI-NALCOR-38 Please provide specifications for the HVDC converter stations related to the current configuration.

MHI-NALCOR-39 Please provide the updated AC integrations studies for the 2011 HVDC configuration. This should include the AC system operational performance criteria, and any operational issues that need to be factored into the system design.

MHI-NALCOR-40 Please provide the AC Power System Integration Studies for the Isolated Island option.

MHI-NALCOR-41 Documentation is requested on which modules of Ventyx Strategist Software were used to derive the CPW? Please identify the 'objective functions' used as input and the parameters and weights given to each of the objective functions. If more than one module was used, please elaborate on how these objectives are tied together. What sensitivities were run relative to the base case and what were the results of the sensitivity runs? Please explain how the transmission capabilities, transfer limits and any system operating constraints were factored into the model.

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MHI-NALCOR-42 Please provide the detailed data inputs used in the Strategist runs for both alternative cases, with all associated source documentation describing each generation component as given to Strategist, and how all these relevant input data and parameters were derived. Provide all relevant run parameters, targets, schedules, system load characteristics, reliability and reserve criteria, generation capabilities, and constraints factored as input into Strategist for both alternatives under consideration.

MHI-NALCOR-43 Please provide the Strait of Belle Isle Feasibility Studies, appendices, and related reference reports.

MHI-NALCOR-44 Please provide the detailed Newfoundland power system reliability study for Nalcor and Newfoundland Hydro for the Muskrat Falls and Labrador Island Link HVDC system.

MHI-NALCOR-45 Please provide a detailed Newfoundland power system reliability study for the Isolated Islanded option.

MHI-NALCOR-46 Please provide all Wind farm feasibility and integration studies, associated cost estimates, additions, and replacement or refurbishment plans, including cost estimates. The documents "Exhibit 5(a), 5(i), 5(j), and 5(k)" have no information. Some documentary evidence is necessary to provide a direct linkage between costs estimated, and that embedded into the CPW model.

MHI-NALCOR-47 Please provide all CT and CCCT feasibility and integration studies, and associated cost estimates for additions, replacements, or refurbishments. "Exhibit 5(g) - Capital Cost Estimates - 50MW CT (Greenfield)", and "Exhibit 5L(ii) - Capital Cost Estimates - HTGS Environmental Improvements - Low NOX Burners" were not available in report form. Some documentary evidence is necessary to provide a direct linkage between costs estimated, and costs embedded into the CPW model.

MHI-NALCOR-48 MF1330 Report 5_filed.pdf appears to be missing from the material provided (Lower Churchill Project). Please provide this document.

MHI-NALCOR-49 Please provide a detailed schedule by year for Fuel Costs, O&M Costs, and a further breakdown of Fixed Charges for each capital project identified on pages 1 and 2 of Exhibit 14. The breakdown of Fixed Charges should identify AFUDC and escalation as separate line items. Where escalation is being applied, please identify the year for which the base dollar cost estimates were derived. Identify the specific debt/equity ratio and interest rates used in determining AFUDC.Please demonstrate in an Excel workbook how provided cost values in Exhibit 14 result in the individual PCW line-item totals in the left-most column for Fixed Charges, Fuel Costs, and O&M Costs, for both options.

MHI-NALCOR-50 Please document and describe the complete set of escalators and their values that are shown as being used in Exhibit 3.

MHI-NALCOR-51 Please provide the projected GWh/yr and $CAD(2010)/yr by fuel type that was generated by Strategist in the runs for each of the two alternative expansion scenarios.

MHI-NALCOR-52 Please provide any environmental assessment reports outlining the costs of environmental mitigation related to Muskrat Falls and the Labrador Island Link HVDC System.

MHI-NALCOR-53 What was the HVDC design voltage related to the capital costs used in the CPW calculation?

MHI-NALCOR-54 Please clarify what percentage of the total capital costs for each of the major cost elements in the MF/HVDC Project are being allocated to the calculation of the CPW in Exhibit 14, and what is the basis for determining those percentages? If the allocation is over an extended period, please elaborate.

MHI-NALCOR-55 Please provide the document "Summary of Newfoundland and Labrador Hydro 2010 Long Term Planning Forecast" dated July 2011.

Also, please provide excel spreadsheets showing the coefficients and statistical outputs from the following six regression models used to prepare the load forecast:

1. Residential - Average Use per Customer
2. Residential - Total Number of Customers
3. Residential - Percentage of New Customers Installing Electric Space Heat
4. Residential - Number of Existing Customers Converting from Non-Electric to Electric Space Heat
5. General Service - Annual Electric Energy Demand (GW.h)
6. System Peak - Winter Peak (MW)

MHI-NALCOR-56 Please provide excel files related to the load forecast that contain all the historical sales and generation data from 1969 to present. As well as a file that contains historical and forecasted values for all forecast inputs that are driving the forecast models, information on energy rates (electric, oil), demographics (population, housing), economic (GDP, disposable income, business investment, etc.) that are used as input or explanatory variables in the load forecasting equations.

MHI-NALCOR-57 The AMEC report on Thermal Generation life extensions at Holyrood.