

Requestor Name: Canadian Office and Professional Employees Union
Information Request Round No: 1
To: British Columbia Hydro and Power Authority
Date: July 17, 2008
Project Number: 3698514
Application Name: BC Hydro 2008 Long Term Acquisition Plan

1.0 Reference – Table 5-8, p. 5-36.

The table shows the total present value system costs with portfolios incorporating a range of Burrard capabilities. In the 2008 LTAP, BC Hydro reduces the firm capability of the Burrard thermal plant from 6000 GWh to 3000 GWh for planning purposes.

1.1 Please confirm that the lowest system costs are estimated for the portfolio in which the highest Burrard capability is assumed (4000 GWh) for all gas and GHG price assumptions.

1.2 Please confirm that the development impacts (indicated by affected hectares of aquatic and land or more detailed information if available) would also be lowest for the portfolio in which the highest Burrard capability is assumed.

1.3 Please provide BC Hydro's estimated present value system costs and comparative development impact (in terms of hectares of affected aquatic and land relative to the 3000 GWh case) with a portfolio assuming that the current 6000 GWh of Burrard firm capability is retained.

1.4 Please provide BC Hydro's forecast supply/demand energy balance over the next ten years, after DSM, if BC Hydro had retained the energy capability of Burrard at 6000 GWh instead of reducing it to 3000 GWh

1.5 Please provide the estimated annual amount of Burrard production that BC Hydro would expect given its gas and electricity market forecasts in each of the following scenarios—Burrard firm, for planning purposes, at 3000 GWh, 4000 GWh and 6000 GWh.

1.6 Please confirm that there is nothing preventing BC Hydro under S.D. 10 from acquiring market supplies to displace Burrard when economic to do so.

2.0 Reference – Section 2.3.11, p. 2-47

In the 2008 LTAP, BC Hydro eliminates the 2500 GWh allowance for non-firm/market purchases in establishing its supply/demand energy balance.

- 2.1 What annual amount of Alcan Tier 2 supply did BC Hydro include in calculating its existing firm supply?
- 2.2 What is BC Hydro's forecast of the average annual amount of Tier 2 supply it will purchase from Alcan?
- 2.3 What is BC Hydro's estimate of the average annual surplus that will be available from Teck Cominco?
- 2.4 What is BC Hydro's estimate of the average annual amount of non-firm and other BC energy supplies that will be available in B.C. (or supply that could be induced or diverted from other uses if offered market prices) not already included in its firm energy supply?
- 2.5 What is BC Hydro's forecast of the annual amount of Canadian entitlement energy (in GWh) that will be returned to B.C. under the Columbia River Treaty?
- 2.6 What is BC Hydro or Powerex's estimate of the annual amount of energy (in GWh) that it could receive in exchange for Canadian Entitlement energy if that latter were delivered to U.S. customers at optimal (high price) time periods in exchange for energy delivered to B.C. at optimal (low price) time periods.
- 2.7 Please provide BC Hydro's forecast supply/demand energy balance over the next ten years, after DSM, if BC Hydro had retained:
- its 2500 GWh reliance on market purchases
 - a reliance on market purchases equal to the average Tier 2 supply that will be available from Alcan (in excess of what has been included in existing firm supply)
 - a reliance on market purchases equal to the sum of i) average Alcan Tier 2 purchases (in excess of what has been included in existing firm purchases); plus ii) the average surplus at Teck Cominco; plus iii) the average amount non-firm and other BC energy supplies that will be available or could be induced from within B.C. not already included in its firm energy supply
 - a reliance on market purchases equal to the estimated amount of energy it could optimally secure for domestic use with the Canadian Entitlement in accordance with the answer to question 2.6
- 2.8 Please provide BC Hydro's estimate of the difference in present value of net system costs and indicators of development impact comparing the LTAP with the most cost-effective portfolios incorporating allowances for market purchases equal to those specified in IR 2.5 a,b,c, and d.
- 2.9 Please provide BC Hydro's forecast supply/demand energy balance over the next ten years, after DSM, if BC Hydro had retained market allowances equal to those specified in IR 2.5 a,b,c and d along with Burrard at an energy capability

of 6000 GWh.

2.8 Please provide BC Hydro's estimate of the difference in present value of net system costs and indicators of development impact comparing the LTAP with the most cost-effective portfolios incorporating allowances for market purchases equal to those specified in IR 2.5 a,b,c and d along with Burrard at 6000 GWh.

3.0 Reference – Section 5.6.4, pp. 5-63 to 5-69

In its portfolio analyses, BC Hydro compares portfolios with a Clean or Open Call.

3.1 Please provide the difference in the present value of net system costs and indicators of development impact comparing portfolios with the Clean Call as proposed, and no Call proceeding until a decision is made on whether BC Hydro can proceed with Site C.

3.2 What is the average revenue (forecast average market value) per MWh, net of all transmission and other costs, that BC Hydro expects to receive from the energy it purchases in the 2008 Clean Call if it is surplus to BC requirements in 2016 and 2020? Please provide the estimated average revenue per MWh for each quarter as well as the year as a whole.

3.3 Please provide the difference in the present value of net system costs and indicators of development impact comparing the LTAP as proposed with a portfolio where any purchases from the Clean Call and bio-energy calls are limited to sources of supply where the bid price is less than the average revenue per MWh that BC Hydro expects to receive if the purchased energy is surplus to BC requirements.

4.0 Reference – Figure 3-10, p. 3-34

BC Hydro provides estimates of supply curves for the different resources available in British Columbia.

4.1 Does BC Hydro expect (and did it assume in its portfolio analyses) that IPPs would bid low cost sources of supply at their estimated costs, or at the higher estimated cost of what are likely to be marginal sources of supply (prices that are still likely to be accepted in the Call)? If BC Hydro expects IPPs will bid low cost resources at their estimated cost, please explain why. If not please explain what BC Hydro did assume about bidding strategies.

4.2 Does BC Hydro assume that IPPs will apply a 6% real cost of capital in developing its bid price? If so, on what basis. If not, what does BC Hydro assume and what impact does that have on the estimated costs of new IPP supply to BC Hydro relative to the costs estimated at 6% real?

4.3 What assumptions does BC Hydro make about the expected useful economic life of run-of-river and other facilities in estimating unit energy costs? How does that compare to the average contract terms BC Hydro expects to secure in the Calls it is planning to undertake?

5.0 Reference – Section 2.3.5, p. 2-12

BC Hydro indicates that it does not expect some existing IPPs contracts to be renewed when they expire.

5.1 Please explain why BC Hydro does not expect these contracts to be renewed.

5.2 What pricing does BC Hydro expect for any of its IPP contracts that are renewed after the initial contracts expire – specifically does BC Hydro expect prices to be based on the remaining project costs or then prevailing market prices?

5.3 In its evaluation of alternative bids, what credit, if any, does BC Hydro provide to bidders who offer longer contract terms?

5.4 Has BC Hydro conducted any analyses of the benefits it would derive through ownership, or contract terms that secured the rights to maintain and operate facilities at cost to the end of their useful life after the expiry of initial contract periods? If so, please provide the results of such studies. If not please explain why not.

6.0 Reference – Section 3.3.14, p. 3-34

BC Hydro adjusts different sources of supply to take into account transmission, integration and other cost factors when calculating and comparing unit energy costs.

6.1 What adjustment in the unit energy cost calculations, if any, did BC Hydro make for differences in the dispatchability of different energy sources? If no adjustment was made please indicate how significant an omission BC Hydro considers this to be. More specifically, what is the average or range of value a dispatchable resource like Site C has relative to a non-dispatchable one like a run-of-river hydro?

6.2 Please provide a table showing, for each day in June of this year, broken down by LLH and HLH time period:

- a) the average real time price of energy at mid-C;
- b) the percentage of the BC-US intertie capacity that BC Hydro used to purchase imports;
- c) the amount and average price of IPP power BC Hydro purchased when the

intertie was not fully utilized.

6.3 What is BC Hydro's estimate of the magnitude of low cost import option value that is foregone because of constraints imposed by non-dispatchable, take-or-pay supply contracts for run-of-river and wind resources in B.C.?

7.0 Reference – Section 5.5, pp/ 5-46 to 5-58

This section addresses BC Hydro's DSM plans

7.1 To what extent and in what ways has BC Hydro's two tier industrial rate and planned inclining block residential rate affected the types and costs of DSM programs it is offering? Specifically, have these rate structures lessened the rationale for and therefore extent of subsidy programs that BC Hydro plans to offer?

7.2 Did BC Hydro analyze a DSM strategy for the industrial sector based more on loan than subsidy programs? If so, please provide the main findings of the analyses. If not, why not?

7.3 Please confirm that the utility cost test does not take lost revenues into account.

7.4 Please provide, broken down by sector, the estimated total financial impact on BC Hydro of its planned DSM programs and initiatives, taking lost revenues into account.

7.5 What costs has BC Hydro assumed for the Smart Meter initiative and what total financial impact on BC Hydro is it expected to have?

7.6 Please provide a 10 year forecast of BC Hydro average rates, by sector, with and without the DSM programs and initiatives BC Hydro is proposing to undertake.

7.7 What analyses has BC Hydro done on the average household income and other characteristics of participants versus non-participants in residential DSM programs? Please provide the main findings of the analyses BC Hydro has undertaken.