



BC Hydro & Power Authority  
Project No 3698354 – Order No. G-99-04  
Call for Tenders for Capacity on Vancouver Island  
Review of Electricity Purchase Agreement

Mr. Robert J. Pellatt  
British Columbia Utilities Commission  
Sixth Floor, 900 Howe Street, Box 250  
Vancouver, B.C., V6Z 2N3  
SENT BY EMAIL

December 8, 2004

Information Requests to B.C. Hydro  
Exhibit No. C-16-2

**REPLACEMENT SET OF QUESTIONS, FOR IMPROVED CLARITY**

Dear Sir,

The BC Sustainable Energy Association would like to ask the following questions of BC Hydro:

**A. QUESTIONS CONCERNING THE PRICE OF NATURAL GAS**

1. Puget Sound Energy recently put out a Request for Proposals in which they asked the bidders either to assume the risk for the future rise in the price of natural gas, or to explain why they could not assume that risk. No bidders were able to fulfil either of these requests, with the result that no natural gas bids were included in the proposals. Which forecasts does BC Hydro use to justify its confidence that the future long-term cost of natural gas will remain low over the full life of the project?
2. Can BC Hydro suggest any reasons why, if they are confident in the validity of these studies, are other North American gas suppliers not using the same forecasts to justify their bids?
3. Can BC Hydro show us the studies that it used to estimate the future price of natural gas?
4. When BC Hydro undertook to assume the risk of any future rise in the price of natural gas, what margins of error did it assume?
5. When BC Hydro undertook to assume the risk of any future rise in the price of natural gas, did it assume that the consumer will shoulder the likely incurred cost?
6. In the US, which is not a signatory to the Kyoto Protocol, the Portland-based utility PacifiCorp factored an assumed future carbon tax of \$8 US per ton of CO<sub>2</sub> into its 2003 Integrated Resources Plan, after running scenarios of a range of potential fees. The Idaho Power Company recently assumed a price of \$12 US. When BC Hydro made its estimates of the future price of natural gas, did it include a similar cost to reflect the gas plant's future carbon emissions, given that Canada is a signatory to the Kyoto Protocol?

7. If BC Hydro did not factor in an assumed carbon tax, what arguments did it use to justify its decision not to to the BCUC?
8. Assuming that BC Hydro's natural gas price forecast assumes a stable supply of natural gas for the life of the proposed plant, does it assume a 100% local North American supply, or supplementation with imported LNG?
9. If BC Hydro's price forecast assumes a 100% local North American natural gas supply, what forecasts does it use to give it the confidence that there will be a sufficient supply of natural gas, given the simultaneous demand from many other North American players?
10. Following from the above question, does BC Hydro's price forecast take into account the fact that the entire supply of natural gas coming down the McKenzie pipeline has been contracted for use in the Alberta tar sands?
11. If BC Hydro's price forecast does not assume a 100% local North American natural gas supply, what percentage of natural gas does it estimate will need to come from imported liquefied natural gas, and starting in which year?
12. Following the above question, where will BC Hydro obtain this supply of LNG, and does this assumed supply depend on the local rezoning and permitting of land for LNG terminals which have yet to be built?
13. When calculating the future price of LNG, what risk factors did BC Hydro assume for potential civil unrest or conflict in Russia, Iran and Qatar, the three main nations from which the world's future supply of LNG will come?
14. When calculating the future price of LNG, did BC Hydro take into account the fact that the United Kingdom is due to run out of its own supply of natural gas very soon, which will place a large additional demand on existing Russian supplies, causing inevitable price inflation?

## **B: QUESTIONS CONCERNING THE VANCOUVER ISLAND LOAD FORECAST**

15. When BC Hydro argued that demand management initiatives (efficiency and conservation) would not be able to meet the forthcoming 2007/8 peak load shortage, for what reasons did it dismiss Norske's offer to apply load management to its current industrial demand, in order to reduce the projected peak?
16. In a similar vein, what effort did BC Hydro make to approach other key industrial customers to explore peak load shifting options, and with what results?
17. If BC Hydro did not approach its other key industrial customers, as above, we would like to know why it did not.
18. If BC Hydro is undertaking to assume the risk for the increased price of natural gas without having fully explored the potential for peak load shifting options among its other key industrial customers, will it explain this decision to its consumers?

19. On what basis did BC Hydro decide that renewing the subsea cable to the mainland would take too long, and that it could not be achieved in time to forestall the forecast peak power shortage?
20. When BC Hydro decided that the subsea cable could not be replaced in time, did it seek information from the BC Transmission Corporation and from the various approving authorities and cable installing companies, to confirm that this decision was correct?
21. Following from the above, if BC Hydro did seek information from these people, what were their findings?
22. Following also from the above, if BC Hydro did not seek this information, how can it argue that replacing the subsea cable is not the most effective way to forestall the forecast peak demand shortage?
23. When assuming that replacing the subsea cable would take too long, did BC Hydro inquire into and calculate what additional demand side measures would be called for to postpone the forecast peak power shortage long enough for the subsea cable to be replaced?
24. Following from the above, if BC Hydro did not explore the potential of additional demand side measures to postpone the forecast peak power shortage long enough for the subsea cable to be replaced, how can it argue to the BCUC that replacing the subsea cable is not the most effective way to forestall the forecast peak demand shortage?

#### **C: QUESTIONS CONCERNING THE TIER ONE CFT APPLICANTS**

25. Why did BC Hydro reject the Sea Breeze Power Corporation wind power application for the initial CFT?
26. If the reason for the CFT rejection was in part because BC Hydro decided that Sea Breeze could not produce dependable capacity to meet the peak power needs, is it true that BC Hydro assigned a zero per cent dependable capacity factor to wind energy?
27. If this is true, why did BC Hydro assign a zero per cent dependable capacity factor to wind energy, when the accepted utility standard in North America is to assign a 20% or higher dependable capacity factor to a turbine's rated capacity?
28. Can BC Hydro confirm that they are aware that (and I quote) "Utility-based studies have laid to rest the concern that a wind plant needs to be backed up with an equal amount of dispatchable generation. Even at moderate penetrations, ancillary services to back up new wind power need not be more than is required of a system as a whole. An initial report on utility integration of wind, compiled by the Utility Wind Interest Group (UWIG), an organization of more than 50 utilities with wind power on their systems, looked at a series of studies from Xcel Energy, PacifiCorp, Bonneville Power Administration, We Energies, and consultant Eric Hirst, and concluded that the need for additional generation to compensate for wind variations by backing up with an equal amount of dispatchable generation "is substantially less than one for one, and often closer to zero". (*Backed by Wind*, by Ron Lehr, past chair and commissioner of the Colorado PUC. Public Utilities Fortnightly, December 2004)

29. When rejecting the Sea Breeze proposal, did BC Hydro calculate whether the potential existed for a wind/hydro storage partnership, using Vancouver Island's four existing hydro reservoirs to store excess power at times when the wind turbines were putting power into the grid, which could then be used to meet the peak demand?
30. If BC Hydro did not make this calculation, the BC SEA would like to ask why not?
31. If BC Hydro did make this calculation, the BC SEA would like to know the results of the calculation, as they are very relevant to the case for future wind energy projects.

Your sincerely,

Guy Dauncey  
President, BC Sustainable Energy Association