



Tom A. Loski
Chief Regulatory Officer

16705 Fraser Highway
Surrey, B.C. V4N 0E8
Tel: (604) 592-7464
Cell: (604) 250-2722
Fax: (604) 576-7074
Email: tom.loski@terasengas.com
www.terasengas.com

Regulatory Affairs Correspondence
Email: regulatory.affairs@terasengas.com

January 12, 2009

BC HYDRO – 2008 LTAP
EXHIBIT C13-4

B.C. Hydro and Power Authority
17th Floor
333 Dunsmuir Street
Vancouver, BC
V6B 5R3

Attention: Ms. Joanna Sofield, Chief Regulatory Officer

Dear Ms. Sofield:

**Re: British Columbia Hydro and Power Authority (“BC Hydro”) 2008 Long Term
Acquisition Plan (“2008 LTAP”) ~ Project No. #3698514
Terasen Utilities Information Request No. 3 to BC Hydro**

In accordance with the British Columbia Utilities Commission (the “Commission”) Order No. G-178-08 establishing the Amended Regulatory Timetable for review of the 2008 LTAP Application, attached please find the Terasen Utilities’ (on behalf of Terasen Gas Inc., Terasen Gas (Vancouver Island) Inc., and Terasen Gas (Whistler) Inc.), Information Request No. 3.

If you have any questions regarding this submission, please do not hesitate to contact Dave Perttula at (604) 592-7470.

Yours very truly,

on behalf of the TERASEN UTILITIES

Original signed:

Tom Loski

cc: Ms. Erica M. Hamilton, Commission Secretary, BCUC
Registered Parties (e-mail only)

REQUESTOR NAME: **Terasen Utilities**
INFORMATION REQUEST ROUND NO: **3**
TO: **BRITISH COLUMBIA HYDRO & POWER AUTHORITY**
DATE: January 12, 2009

PROJECT NO: 3698514

APPLICATION NAME: **2008 LTAP**

6.0 Reference: Exhibit B-10, 2008 LTAP Evidentiary Update, pages 11 and 12 and Exhibit B-4, Terasen Utilities IR 2.5.3

BC Hydro estimates the incremental amount of residential electricity load if all residential space heating load and water heating load was to migrate from other fuels to electricity by 2020 to be 22,000 GWh and 4,000 GWh respectively. This is based on the assumption that the 80% of customers that are currently non-electric space heating would, on average, consume the same amount of electricity for space heating per customer as the 20% of customers that currently have electrical space heating. Similarly, the 65% of customers without electrical water heating would consume the same amount of electricity per customer as the 35% of customers that currently have electrical water heating.

- 6.1 Please provide a breakdown of the 20% of customer accounts with electrical space heating by housing type using the housing type categories in the Appliance Saturation and Use Rate table from Exhibit B-4, Terasen Utilities IR 2.5.3 as follows:
- Number of electrical space heating accounts by housing type and total
 - % of electrical space heated accounts by housing type as a percentage of the total electrical space heated accounts
 - Average electricity use for space heating by housing type for electrical space heating accounts
- 6.2 Please provide a breakdown of the 80% of customer accounts without electrical space heating by housing type using the housing type categories in the Appliance Saturation and Use Rate table from Exhibit B-4, Terasen Utilities IR 2.5.3 as follows:
- Number of non-electrical space heating accounts by housing type and total
 - % of non-electrical space heated accounts by housing type as a percentage of the total non-electrical space heated accounts
- 6.3 Please calculate the weighted average space heating use per customer for 20% electrical space heating accounts using the data by housing type from the response to Question 6.1 above.
- 6.4 Please calculate the average space heating use per customer for the 80% non-electrical space heating accounts by multiplying the electrical space heating use by housing type from Question 6.1 above by the % of non-electrical space heating accounts by housing type from Question 6.2 above.
- 6.5 Please provide the same calculations for the 35% electric water heating accounts and 65% non-water heating accounts as requested in Questions 6.1 to 6.4 for space heating.

7.0 Reference: Exhibit B-10, 2008 LTAP Evidentiary Update, pages 11 and 12 and Exhibit A-15, Commission Panel IR 1.23.1

BC Hydro estimates the incremental amount of residential electricity load if all residential space heating load and water heating load was to migrate from other fuels to electricity by 2020 to be 22,000 GWh and 4,000 GWh respectively. Commission Panel IR 1.23.1 requests the capacity impacts of the additional load of 26,000 GWh if all residential non-electrical space and water heating were to convert to electricity by 2020. For the purposes of the following questions assume that this load migration to electric space and water heating occurs.

- 7.1 Does the 26,000 GWh of incremental space and water heating load include an allowance for line losses? If not, what additional supply would be required to accommodate an allowance for line losses?
- 7.2 Please provide an estimate of the load distribution of the 22,000 GWh of incremental energy for space heating split between Super-Peak, Peak and Off-Peak as those terms are used in the 2008 Clean Power Call.
- 7.3 Using the estimate provided in response to 7.2, please provide the weighted average time of delivery factor (in percentage) relating to the energy cost of the 22,000 GWh of incremental power required in 2020 for space heating using the time of time of delivery factors in the 2008 Clean Power Call (e.g. in January between 4:00 pm and 8:00 pm the time of delivery factor is 141%).
- 7.4 Please confirm that adding the incremental space heating and water load of 26,000 GWh would require BC Hydro to add resources that are considerably more expensive than its embedded cost of power supply and would therefore drive further rate increases beyond those already anticipated.
- 7.5 Please confirm that, in addition to the incremental electricity supply costs, adding the incremental load of 26,000 GWh for space and water heating would require upgrades and expansions of the transmission and distribution systems. If confirmed, please provide order of magnitude estimates of the transmission and distribution capital cost impacts associated with adding this load. Also, confirm that these estimates of capital costs impacts of the transmission and distribution system expansions and upgrades have not been included in capital spending forecasts filed by BC Hydro or BCTC with the Commission nor have any cost of service impacts been factored into BC Hydro's rate increase forecast.
- 7.6 Please discuss how adding incremental space and water heating load of 26,000 GWh would affect BC Hydro's obligation to meet 50% of the load-resource gap by 2020 through demand side management initiatives.
- 7.7 Please discuss the impact of adding the incremental space and water heating load on the marginal cost of new electricity supply in BC required to serve that load. As background, the cost of IPP supply is identified in the Evidentiary Update as \$120/MWh (Exhibit B-10, page 25). How much would the marginal cost of supply increase if large incremental loads such as those contemplated here were to be added to BC Hydro's overall demand?

8.0 Reference: Exhibit B-10, Section 2.8, pages 36-41 and Exhibit B-1-10, Appendix N2, Section 2.4.1, Table 2-6

8.1 Please expand the GHG emissions data in the first row of Appendix N2, Table 2-6 by filling in the blanks in the table shown below.

	GHG (tonnes/GWh)
FNG (base)	482
FNGU (case 2)	398
FNGU (case 3)	431
A new natural gas CCGT Plant	
A conventional coal plant that exists in Alberta	
Natural gas production and compression facilities in the Fort Nelson region (natural gas-driven)	
BC-based Renewable Electricity Supply	