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November 8, 2010

Commercial Energy Consumers Association of British Columbia
c/o Owen Bird Law Corporation
P.O. Box 49130
Three Bentall Centre
2900 – 595 Burrard Street
Vancouver, BC
V7X 1J5

Attention: Mr. Christopher P. Weafer

Dear Mr. Weafer:

Re: Terasen Utilities (comprised of Terasen Gas Inc., Terasen Gas (Vancouver Island) Inc. and Terasen Gas (Whistler) Inc.) 2010 Long Term Resource Plan ("LTRP")

Erratum to the Response to the Commercial Energy Consumers Association of British Columbia ("CEC") Information Request ("IR") No. 1 (Exhibit B-6) Question 22.4

On July 15, 2010, Terasen Gas filed the Application as referenced above. On October 18, 2010, in accordance with Commission Order No. G-146-10 setting out the Regulatory Timetable for the review of the Application, the Terasen Utilities submitted the response to CEC IR No. 1.

In the course of preparing the responses to IRs No. 2, the Terasen Utilities' have identified corrections necessary to the response to CEC IR 1.22.4, Exhibit B-6, on pages 41 and 42. Attached please find a blacklined version of the response identifying the corrections for insertion into the binder set volume containing the responses to IRs No. 1.

If there are any questions regarding the attached, please contact the undersigned or Ken Ross at (604) 576-7343 or ken.ross@terasengas.com for further information.

Yours very truly,

on behalf of the TERASEN UTILITIES

Original signed:

Diane Roy

Attachment

cc (e-mail only): Erica Hamilton, Commission Secretary
Registered Parties

22.3 Would there be any efficiencies achieved?

Response:

Alternative energy can achieve higher levels of efficiency compared with conventional energy technologies. For example, for a geoexchange system the Coefficient of Performance of 3 to 4 produces 3 to 4 kWh of heat for every kWh of electrical energy employed to run the heat pumps. This translates to a reduction in energy usage of up to 75 per cent.

The representative 100-unit condominium employed to develop Figure 4-19 would use 4,594 GJ/year of input energy (natural gas and electricity) if the building was configured with a conventional energy system. On the other hand the alternative energy system selected would only consume 1,891 GJ/year of input energy (mainly electricity to run the heat pumps with some natural gas use as backup in the colder winter conditions) to yield the same output. The particular AES example used in Figure 4-19 therefore results in a 58.8% efficiency improvement relative to a conventional system. The input assumptions for the representative 100 unit condominium example are described in detail in Appendix B-6 of the LTRP.

22.4 What would the effective cost of the GHG reductions achieved be?

Response:

In the course of responding to questions in the second round of LTRP information requests errors were discovered in the initial calculations for the following response of the estimated $/tonne costs of GHG emissions reductions. The results below have been revised to reflect the following changes: 1) inclusion of replacement capital at the end of initial useful life in the cost calculation of GHG emission reductions 2) the electrical cost used in the cost calculation of GHG reductions in the conventional system using in-suite electric baseboards is now based on a blend of BC Hydro RIB Step 1 and Step 2 rates instead of Step 1 alone.

It is estimated that the generic 100-unit condominium using a geoexchange system as the alternative energy system would reduce GHG emissions by 105 tonnes annually relative to a conventional system using in-suite electric baseboards and natural gas heating for water and common areas[1]. For 185 buildings with geoexchange systems, the total GHG emission reduction would be up to 19,425 tonnes annually. If the conventional system for 100-unit building is assumed to be a hydronic gas system, the GHG emissions reductions for the building with a geoexchange system would be about 210 tonnes annually (38,850 tonnes annually for 185 buildings).

[1] See Terasen Utilities 2010 LTRP Appendix B-6, Tables 1 and 2.

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The Terasen Utilities has calculated an effective cost for GHG emission reductions using a present value of the cost differential between the conventional and alternative systems divided by the present value of the GHG emission reductions. The effective cost for GHG emission reductions varies considerably based on the evaluation period employed. Using the electric baseboard system as the basis for comparison, the effective cost of the GHG reductions for the geoexchange system is $112/$tCO_2$ over a 20-yr evaluation period or $40/$tCO_2$ based on a 35-year evaluation period. With the hydronic gas system as the basis for comparison, the effective cost of the GHG reductions is $137/$tCO_2$ over a 20-yr evaluation period or $101/$tCO_2$ based on a 35-year evaluation period. The effective cost per tonne of GHG emission reductions is lower over a longer evaluation period because the geoexchange system is initially more costly than the conventional system but crosses over and becomes less costly. The savings for the geoexchange system, which uses less energy than the conventional system, continue to increase in the later years as the input energy costs for electricity and natural gas escalate over time.

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