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April 16, 2020

*Sent via efile on the BCUC Website*

British Columbia Utilities Commission  
Suite 410, 900 Howe Street  
Vancouver, BC V6Z 2N3

ATTENTION: Mr. Patrick Wruck, Commission Secretary

Dear Sir:

**Re: FortisBC Energy Inc. Revelstoke Propane Portfolio Cost Amalgamation**

**Application – BCUC Project No. 1599033**

**Canadian Biomass Energy Research Ltd. (CBER) Responses to Information Request No. 1 of the B.C. Old Age Pensioners Organization et al. (BCOAPO)**

In accordance with Order G-52-20, I respectfully submit the enclosed the responses of CBER to the information requests No. 1 of BCOAPO regarding the intervener evidence filed by Cornelius Suchy on behalf of CBER.

If further information is required, please contact the undersigned.

Yours truly,



Matthew J. Jackson  
Barrister & Solicitor  
Legal Counsel for CBER

*enclosures*

**BCUC Application:** FortisBC Energy Inc. Revelstoke Propane Portfolio Cost Amalgamation Application, Project No. 1599033

**Hearing Document:** Responses of Canadian Biomass Energy Research Ltd. (CBER) to the Information Requests No. 1 of the BCUC regarding the intervenor evidence filed by Cornelius Suchy on behalf of CBER

**Date Submitted:** April 16, 2020

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**1.0 Reference:** Exhibit C1-4, page 2, Table 1

1.1 Please confirm that the appliance efficiencies exceeding 100% in the referenced table (i.e., for heat pumps) could alternatively be called coefficients of performance (COP). If unable to so confirm, please explain.

**Response:**

Correct, an efficiency of 300% of the electricity input is equivalent to a COP of 3.0

1.2 Please indicate whether the maximum appliance efficiencies of 100% in the referenced table (i.e., for RCEC district heat and for electric baseboard or furnace) are attainable efficiencies or unattainable theoretical upper bounds.

**Response:**

The percentage refers to the losses at the appliance and disregards upstream losses. A baseboard heater only loses heat to the room it is supposed to heat. There are no standby losses. An efficiency of 100% is realistic and attainable.

A district heating plant transfers heat to the building via a heat exchanger. These heat exchangers lose temperature in the process, but little heat. The little heat lost is not exhausted via a chimney but heats the mechanical room. The attainable efficiency is 95% to 100% of the heat metered at the client's premises.

1.3 Please explain how the entries in the column labelled "Current" were determined.

**Response:**

For regulated utilities (piped propane and electricity) the current cost of heat was determined using current rates published on the internet. For heating oil and distributed propane the latest monthly rates published by NRCan were used. For energy sources without a long-term record of prices, averages were used as the "Current" value (see column "Average"). For example, the

price of wood pellets currently range from \$270 to \$370 per tonne, depending on the quality and origin of the pellets.

- 1.4 Is it merely a coincidence that for 6 of the 9 rows in the referenced table, the “Average Cost per GJ of heat” equals the “Current”?

**Response:**

See response to 1.3 above.

- 1.5 For the “Cordwood” row in the referenced table, are the minimum and maximum prices over a period of time or are they current and contemporaneous?

**Response:**

These are typical prices paid in the last winters.

- 1.6 For the “Pellets” row in the referenced table, are the minimum and maximum prices over a period of time or are they current and contemporaneous?

**Response:**

Current (Feb 2020) prices of three suppliers in Revelstoke and of various qualities of pellets.

- 1.7 How many local vendors of “Pellets” were surveyed to determine the prices shown in the referenced table?

**Response:**

The three main local suppliers in Revelstoke were surveyed. In order of sales volume these are:

1. Revelstoke Equipment Rental
2. Home Hardware Revelstoke
3. Rough Country Marine, Revelstoke

- 1.8 Please explain how footnote 4 to the referenced table applies to row 6, “Propane (Fortis BC).”

**Response:**

This is a mistake. Only footnote 1 should have been stated.

- 1.9 In CBER's view, does the fact that some of the prices in the referenced table appear to be current, while others appear to be historical and over varying periods affect the robustness of the data or its interpretation in the referenced table?

**Response:**

Prices of propane, natural gas and heating oil fluctuate far more than that of electricity and wood fuel. It would have been more accurate to use a 10-year price range for all energy sources, but this data was not readily available. Using only current commodity prices, e.g. for propane would not be meaningful. This is the reason why FEI stated a 10-year range.

**2.0 Reference: Exhibit C-14, page 4, paragraph 10**

- 2.1 Does CBER have any information as to the number of Revelstoke households or the percentage of Revelstoke households that currently have fuel-switching capability in the sense of being able to switch to propane from their other heating fuel?

**Response:**

A study of the City of Revelstoke conducted around 2005 stated that one third of all households use wood as a primary source of heat. I have been unable to source the original study.

Wood only heating is very rare, because most of the heating is batch operated. The house would go cold without a person re-fuelling the appliance. Almost all households using wood have a conventional source of energy as a back-up or for peaking purposes.