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December 17, 2015

Via Email
Original via Mail

British Columbia Utilities Commission
Sixth Floor
900 Howe Street
Vancouver, B.C. V6Z 2N3

Attention: Ms. Erica M. Hamilton, Commission Secretary

Dear Ms. Hamilton:

Re: FortisBC Inc. (FBC)

Residential Inclining Block Rate Report to the Government of British Columbia

Response to the British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1

In accordance with the Commission's request in its August 17, 2015 letter (Exhibit A-1), FBC filed its submissions on the five questions from Minister Bennett. On November 10, 2015, the Commission issued BCUC IR No. 1 (Exhibit A-5) to FBC on its submission on methodology, and directed FBC to file its responses by December 18, 2015.

FBC respectfully submits the attached response to BCUC IR No. 1.

If further information is required, please contact Corey Sinclair at (250) 469-8038.

Sincerely,

FORTISBC INC.

Original signed by: Corey Sinclair

For: Diane Roy

Attachments

cc (email only): Registered Parties

1.0 Reference: FortisBC Inc. (FortisBC) September 30, 2015 Submission, Section I Methodologies, p. 2;

British Columbia Old Age Pensioners' Organization et al. (BCOAPO) October 16, 2015 Submission on Methodologies, p. 5;

Canadian Office & Professional Employees Union 378 (COPE) October 16, 2015 Submission on Methodologies, p. 5

Definition of low income customers

In the British Columbia Utilities Commission (Commission) Residential Inclining Block Rate Report to the Government of British Columbia (RIB Rate Report) proceeding, BCOAPO states in its October 16, 2015 submission: "It is not entirely clear from FortisBC's submission what, if any, analytics are readily available from its 2012 REUS survey that would provide information regarding the distinguishing features between low income and non-low income customers versus what information can only be obtained through additional work…"

COPE notes in its October 16, 2015 submission: "Energy or fuel poverty is already a growing issue in Canada and BC but given the ever steepening curve of energy cost increases in the future, its relevance and importance is bound to grow."

1.1 Please elaborate on the data that is available from the 2012 Residential End Use Survey (REUS) that would distinguish between low income and non-low income customers.

Response:

The data available from the 2012 REUS that would distinguish between low income and non-low income customers is limited due to the small number of responses from low income customers. The table below describes the FBC REUS survey response rates.

Table 3: FBC Survey Response Summary (%)

Region / Business Unit	Sample Population	Surveys Mailed	Completed Surveys	Response Rate (%)	Surveys Completed Online (%)
Direct	99,085	5,483	978	17.8	44.4
Indirect	43,985	4,188	690	16.5	36.6
Total (FBC)	**143,070**	**9,671**	**1668**	**17.2**	**42.0**

* Joint sample of gas and electric customers

[1]

Privacy considerations necessarily restrict FBC analysis to energy consumption information for direct customers. The Company does not have access to the consumption information residing

[1] FBC 2012 Residential End Use Study, August 21, 2014, Sampson Research, page 7.

in wholesale customer billing systems. Only a small percentage of the 978 surveys completed by direct customers are expected to qualify as low income.

FBC agrees with BC Hydro that the Statistics Canada definition of low income customers is appropriate for use in this proceeding. Low income cut-offs (LICOs) are income thresholds below which a family will likely devote a larger share of its income on the necessities of food, shelter and clothing than the average family. [2] LICO is sensitive to family and community size as cut-offs vary by seven family sizes and five different populations of the area of residence.[3] In this manner LICO adjusts for different regional costs of living between rural and urban areas and between urban areas of different sizes.

FBC proposes to use the same approach as that suggested by BC Hydro to map LICO incidence to REUS data. The steps to be taken were discussed on pages 4 and 5 of FortisBC Inc.'s letter to the Commission dated September 30, 2015, regarding, "Residential Inclining Block Rate Report to the Government of British Columbia FortisBC Inc. Submissions," and reproduced below:

> *FBC has information available from its 2012 Residential End-Use Study (REUS) data that will allow a linkage to individual accounts, however, further analysis will be required to examine the factors identified in section I(B) with respect to income levels.*
>
> *Upon Commission direction, FBC can engage its REUS research partner to undertake additional analysis of the REUS dataset to address aspects of the questions posed in the Minister's RIB Report Letter. The REUS surveyed direct customers as well as residents from municipalities which are wholesale customers of FBC. The sample size is relatively small and relies on self-reporting for questions related to demographics – including income level.*
>
> *There are approximately 1,670 respondents[4] for FBC's 2012 REUS. In contrast, BC Hydro conducted extensive Residential rate design modelling for its RDA stakeholder engagement process. This analysis was informed by a survey of 10,000 customers. BC Hydro notes that this information will be relied upon for the purposes of addressing questions 1, 2 and 3. FBC has not conducted similar research to date, and as such is constrained by sample size in addressing these questions.*
>
> *The research company will define the low income households and provide an incidence of low income customers among FBC's residential customer base.*
>
> *Data in the 2012 REUS would be leveraged using Statistics Canada data to identify the incidence of low income households within the REUS and, via extrapolation, within FBC's customer base.*

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[2] http://www.statcan.gc.ca/pub/75f0002m/2012002/lico-sfr-eng.htm, November 30, 2015.

[3] http://www.statcan.gc.ca/pub/75f0002m/2012002/tbl-eng.htm

[4] See Table 3 above. The 2012 REUS had 1668 responses, including 978 direct customers and 690 indirect customers served by various wholesale customers like the City of Penticton, and the City of Kelowna at time of sampling. Consumption data for indirect customers is not available to FBC.

Once each REUS participant is defined as either low income (i.e., meeting LICO criteria) or non-low income, customer data would be analyzed to understand differences between the two income groups using factors known to contribute to high energy use, such as:

- *size of house (square footage)*
- *number of occupants*
- *location (climate)*
- *space heating fuel*
- *domestic water heating fuel*
- *The presence, but not the age or efficiency, of other electric high use end uses (e.g., heated pools, hot tubs, etc.)*

The research company can, at additional cost, analyze the impact of the RCR on low income customers from the above work, using participant consumption kWh that was extracted at the time the REUS sample was taken. It should be noted that there will be consultant costs and FBC staff time associated with this analysis.

Using BC Hydro's estimated incidence of low income customers of 7% for Southern Interior and 9% for North,[5] FBC anticipates there will be between 68 to 88 LICO customers in the FBC 2012 REUS data set. This small sample size will not facilitate extensive analyses, and even at the aggregate level will result in a much larger margin of error than desirable (i.e., greater than 10 per cent at the 95 per cent confidence level).

This sample limitation should be considered in light of original REUS objectives. The REUS was not specifically undertaken to provide highly granular insight into the energy use of low-income households. Rather, FBC has historically conducted end use studies that describe household energy use in order to understand general energy usage trends, and to assist in the design of energy efficiency and conservation programs. To facilitate these broad mandates and in conjunction with FEI, FBC undertook the 2012 REUS with specific research objectives, including:

1. Determine residential end use saturation and penetration of all major appliances;
2. Collect information on appliance inventories such as age, efficiency, level of use;
3. Determine primary and secondary energy sources for space and water heating;
4. Collect information about lighting applications and home electronics;
5. Determine building envelope characteristics that impact the energy efficiency of the home;
6. Assess adoption of energy conserving behaviours followed in the home;

[5] British Columbia Hydro and Power Authority, 2015 Rate Design Application, Sections 5.5 and 5.6, September21,2014, Appendix A2-1, Table 5-14, page 5-67.

7. Discern general consumer attitudes, beliefs and levels of interest or barriers related to various energy related activities such as likelihood to undertake building envelope upgrades or the purchase of new doors or windows;

8. Compare and explain changes in residential energy use rates compared to previous REUS results;

9. Perform conditional demand modeling and analysis.

In summary, the 2012 REUS could be leveraged using Statistics Canada data to identify the incidence of low income households within the dataset and, via extrapolation, within FBC's customer base. Although subject to a large margin of error as described above, this work would permit the following types of analysis:

- Model how electricity bills for low income REUS participants would change under a flat electricity rate;

- Evaluate energy use characteristics of LICO customers compared to non-low-income customers.

Importantly, the small sub-set of low-income participants in the REUS will make more granular analysis statistically unreliable (e.g., evaluating low income households by housing stock, or insulation rating, etc.).

The estimated cost to append the REUS dataset with LICO status and identify factors contributing to high energy use is $15,000. This estimate may change if additional consulting time is required to complete the analysis.

1.1.1 Please comment on the analyses FortisBC may need to undertake and provide an estimate of the associated costs.

Response:

Please refer to the response to BCUC IR 1.1.1.

1.2 Please provide the detailed steps FortisBC will take to analyze the 2012 REUS data and fill in information gaps. Will FortisBC use the exact steps the British Columbia Hydro and Power Authority (BC Hydro) will use? If not, please specify

the differences in process between FortisBC's process and BC Hydro's and provide justification for those differences.

Response:

Please refer to the response to BCUC IR 1.1.1.

1.3 Does FortisBC agree with COPE's assertion in the preamble? Please comment on the relevance of examining energy or fuel poverty in the RIB Rate proceeding report and the feasibility of doing so.

Response:

FBC cannot comment on whether energy or fuel poverty is a growing issue in Canada and BC. FBC has not conducted any research on this topic; any such research is better conducted by government or by entities that have a primary focus in the topic and not by FBC. As such, the RIB report proceeding is not the appropriate avenue to address this issue.

1.4 Please comment on the usefulness and feasibility of using data from the Ministry of Social Development and Social Innovation, such as crisis grant provision data, or other data, to respond to the three Minister questions which relate to low income customers.

Response:

Privacy legislation precludes the sharing or release of personal data. This typically prevents either appending or relating REUS data with external data sources.

Note that the scope of this process specifically precludes any analysis of alternate rate designs. In the opinion of FBC, while the ability to identify REUS participants that would meet the LICO criteria may be useful in assessing potential impact of the RCR, it is neither feasible to gather the information for privacy reasons nor will the information inform rate design. Generally speaking, FBC is of the view that the more appropriate method for rate design is cost causation based on the cost to serve, which is the generally accepted basis for rate design in British Columbia.

2.0 Reference: FortisBC September 30, 2015 Submission, Section I Methodologies, pp. 2–4;

BCOAPO October 16, 2015 Submission on Methodologies, p. 6

High energy use

FortisBC states high energy use is use that results in high bill impacts (greater than 10 percent as a result of the adoption of the residential inclining block rates).

BCOAPO notes in its October 16, 2015 submission:

> There would appear to be merit in both BC Hydro and FortisBC exploring domestic water heating fuel and the presence of other electric high use end-uses, assuming the data exists in their respective REUS's to do so... given that the Minister's questions focus on customers without access to natural gas and low income customers, both Companies should seek to refine their analysis to specifically look at which factors lead to high energy use for each of these two groups as opposed to the Residential class in general.

2.1 Please confirm if "high energy use" is synonymous with "high electric use" in FortisBC's definition. In FortisBC's view, should there be a difference in definition for the purpose of the RIB Rate Report?

<u>Response:</u>

"High Energy Use" is the term used in the Minister's letter and has been carried through the submission of FBC. While generally speaking, FBC would define "high energy use" and "high electric use" differently given that "high energy use" could include non-electric sources of energy, for the purpose of the RIB Rate Report FBC is proposing to provide information on electric use only and will differentiate to the extent possible such use on the basis of income level and customers' access to natural gas.

2.1.1 If the response to the above question is affirmative, please comment on the feasibility of FortisBC reporting on high energy (or electricity) use for residential customers without access to natural gas and those with access.

Response:

Generally speaking, FBC is able to provide aggregate consumption information for customers both with and without access to natural gas provided that the definition of such access is as set out in the response to BCUC IR 1.3.1.

2.2 Please comment on the feasibility and usefulness of responding to Minister's Question 3 for total household energy-use (i.e. all fuel sources).

Response:

While likely useful, the 2012 FortisBC Residential End Use Study does not provide sufficient data to enable the type of analysis suggested.

First, as outlined in the response to BCUC IR 1.1.1, there is an insufficient incidence of low income REUS participants to facilitate the granular evaluation suggested. Second, and as discussed further in the response to BCUC IR 1.5.3, FBC is unable to determine from the survey whether-or-not the respondent has access to natural gas. Using a community level approach to determine natural gas availability would only provide a rough approximation as access to natural gas is not uniform across communities.

2.2.1 What data does FortisBC have to examine total household energy use?

a) data on number and amount of consumption of non-electric end-uses from the REUS?;

b) estimates of the cross-elasticity of demand between electricity and natural gas prices?; and

c) other?

Response:

a) The 2012 REUS provides extensive data on saturation and penetration levels for the following non-electric end uses:

- Primary space heating and cooling equipment

- Secondary space heating equipment
- Water heating equipment
- Cooking appliances
- Laundry appliances
- Swimming pools, hot tubs and saunas
- Miscellaneous non-electric end uses

As part of the 2012 REUS FBC commissioned a Conditional Demand Analysis (CDA). CDA is a multivariate regression technique that combines utility billing data with weather information and customer survey data to provide estimates for consumption by major electric or gas end-use.

a) There are no estimates of the cross-elasticity of demand between electricity and natural gas prices.

b) The 2012 REUS collected information about four specific areas that provide an understanding of the drivers of household energy use:

- The characteristics of customer's homes (size, age, building envelope, etc.);
- The saturation and penetration levels of natural gas, electric and other fuel end uses;
- Household demographics; and
- The energy use behaviours of the household.

2.2.2 Please comment on the feasibility and usefulness of modelling total energy use from all sources by converting energy use into a common measure (e.g. GJ or kWh) and comparing the cost of total energy consumption between those with and those without access to natural gas. Furthermore, given that natural gas prices are at historically low levels, please provide comment on the usefulness of modelling three comparisons; one with natural gas rates in 2008, another using 2012 rates and another using current 2015 rates. If not useful, please provide any other alternative approaches.

Response:

Given the limitations inherent in the data discussed in the response to BCUC IR 1.2.2, further analysis as described in the question, including conducting the analysis for different points in time, will not produce useful results.

2.2.3 Please comment on the feasibility and usefulness of the Commission requesting FortisBC's comment in the report on the Minister's questions about the impact of natural gas prices on electricity consumption for those with access to natural gas.

Response:

FBC currently has no information regarding the impact of natural gas prices on electricity consumption for those with access to natural gas. It is feasible to conduct research in order to gain a better understanding of the relationship, however FBC believes that it is more appropriate to design rates on a basis of cost causation, and therefore undertaking additional research to explore this issue further will be costly and may have no practical application. Please also see the response to BCUC IR 4.1.

2.3 Please comment on the feasibility of FortisBC reporting on other "factors" that lead to high energy use such as various end-uses, including, but limited to, water heating fuel, pools, hot tubs, etc.

Response:

As stated in the response to BCUC IR 1.2.2.1, the 2012 REUS explores a variety of anticipated drivers of energy consumption:

- The characteristics of customer's homes (size, age, building envelope, etc.);
- The saturation and penetration levels of natural gas, electric and other fuel end uses;
- Household demographics; and
- The energy use behaviours of the household.

However, as previously stated in the response to BCUC IR 1.1.1 FBC is unable to provide statistically reliable analysis for the two sub-groups referenced in the BCOAPO submission.

2.3.1 What specific end-use data does FortisBC have from its 2012 REUS?

Response:

The 2012 REUS provides extensive data on saturation and penetration levels for the following end uses:

- Primary space heating and cooling equipment
- Secondary space heating equipment
- Water heating equipment
- Cooking appliances
- Laundry appliances
- Fridges and freezers
- Small household appliances
- Swimming pools, hot tubs and saunas
- Lighting
- Computers, televisions, entertainment appliances

3.0 Reference: FortisBC September 30, 2015 Submission, Section I Methodologies; BCOAPO October 16, 2015 Submission on Methodologies, p. 12; B.C. Sustainable Energy Association and Sierra Club of British Columbia (BCSEA) October 16, 2015 Submission on Methodologies, p. 4

Definition of access to natural gas

FortisBC does not provide a definition for access to natural gas.

BC Hydro proposes adopting a community approach to define access to natural gas.

BCOAPO submits: "In our view, an equally valid definition of 'access to natural gas' could include residential customers who cannot afford to switch from electricity to natural gas or are unable to switch for other reasons, even if they could connect to natural gas service in their homes."

BCSEA states in its submission:

> BCSEA-SCBC recommend that the Commission elaborate the definition of 'with and without access to natural gas' to deal with customers in communities such Revelstoke (which has access to piped propane), and customers who are outside of both the communities listed by FEI as having natural gas service and the communities listed by BC Hydro (and FBC in due course) as not having natural gas service.

3.1 Please comment on the feasibility of adopting the definition of access to natural gas as proposed by BC Hydro.

<u>Response:</u>

For the purposes of this proceeding, FBC will define "access to natural gas" the same way as BC Hydro; that is, at the community level.

3.2 Please comment on the feasibility of adopting the definition of access to natural gas as proposed by BCOAPO. Can this aspect of the access be reported on in any way?

Response:

No; FBC has no way of determining which residents of communities that have natural gas service cannot or choose not to connect to natural gas for any reason, whether that be income-related or some other factor.

3.3 Please comment on the feasibility of adopting the definition of access to natural gas as proposed by BCSEA.

Response:

Revelstoke is not part of FBC's service territory; it is served by BC Hydro. Generally speaking though, communities with piped natural gas or propane service would be considered as "having access to natural gas".

4.0 Reference: FortisBC September 30, 2015 Submission, Section I Methodologies, p. 3;

BCOAPO October 16, 2015 Submission on Methodologies, pp. 7, 14–15;

Marty, Teresa and Nick (Mr. Marty) October 13, 2015 Stakeholder Submission, p. 2

Cross-subsidy

FortisBC states "that whether or not a cross-subsidy exists between groups of customers is inherently related to cost-of-service considerations." Accordingly, "it will be necessary to determine whether there are cost differences in serving the two groups – those with and without natural gas."

BCOAPO notes in its submission: "Both companies' COS analyses require detailed load data, including not only customer counts and energy use but also non-coincident peak (NCP) and coincident peak (CP) data for each of the groups being assessed."

BCOAPO further notes:

> BCOAPO assumes that [the Minister] refers to intra-class cross-subsidy. BCOAPO considers it most likely that such cross-subsidy will exist within many residential rate classes… should the Commission determine that the RIB rates do actually cause cross-subsidy between customers with and without access to natural gas, and that the cross-subsidy is significant, BCOAPO wonders what relevance such a finding would have.

Mr. Marty submits in his October 13, 2015 submission: "Question 1 can only be answered by comparing the revenue flows under the Residential Conservation Rate, as currently structured, with a theoretical two-tier pricing system in which each and every resident experiences the same percentage of electricity consumption in Block 2."

4.1 Please confirm that FortisBC will examine <u>intra</u>-rate class cross-subsidy based on "with" and "without" access to natural gas in its report for the Minister's Question 1, using a cost of service approach, including examining demand and energy costs.

<u>Response:</u>

FBC makes the same assumption as the BCOAPO with respect to any potential cross-subsidization being examined by the Commission as being intra-class in nature. However, the Company notes that while it agrees that the technically correct examination would look at the issue from an "intra-class" perspective, whether FBC "will" conduct such as comparison, as posited in the question, would require a determination from the Commission that it requires FBC to do so. Determining whether there are differences in the cost to serve customers with and

without access to natural gas would require an examination of standard COSA considerations such as those suggested in the question. FBC does not have COSA information available to conduct this analysis at the present time. However, while the Company acknowledges that the issue of cross-subsidization has been placed within the scope of this process, it does not believe that such an analysis, even if technically possible, is appropriate. As long as postage stamp rates are the accepted standard within the province (as has been repeatedly confirmed by the Commission) it will be the nature of the COSA and rate setting process that rates reflect the overall cost consideration for a class of customers as segmented for the purpose of setting rates. No single customer or relatively small sub-group of customers will pay for service at a rate that is precisely reflective of costs. In other words, within each rate class there are many potential differences in the characteristics of service that are not considered to constitute a cross-subsidy (such as geography, variation in customer size, end-use, or demographics) because it is acknowledged that for rate setting purposes such differences are expected and acceptable. In the opinion of FBC, even if a COSA-based examination of the gas/no-gas distinction found that costs are higher or lower for either group, it is unclear whether such a finding should lead to any adjustment or differentiation in the rates ultimately charged any more than in the case of any other potential intra-class cross-subsidization.

4.1.1 Please comment on the usefulness of FortisBC, including in the report on Question 1, a discussion of intra-class subsidy in general and the usefulness and relevance of any finding on intra-class subsidy from the report.

Response

Please refer to the response to BCUC IR 1.4.1.

4.1.2 Please comment on the feasibility and usefulness of the Commission requesting FortisBC's comment in the report on the Minister's questions about potential cross-subsidy created by the impact of natural gas prices on electricity consumption for those with access to natural gas.

Response:

FBC has reviewed the Minister's letter and the Exhibit A-1 and has been unable to locate a reference to inquiring about the impact of natural gas prices on electricity consumption for those

with access to natural gas. The Company could offer some general economic assumptions on the impact of natural gas prices on electricity consumption, but would be unable to provide any data to support these assumptions and does not believe that such comment would be useful in responding to the Minister's questions.

4.2 Please provide FortisBC's position on BCOAPO's submission on the cost of service analysis required and specifically the use of CP and NCP. Please explain if adequate data regarding NCP and CP is available.

Response:

Any COSA analysis of a subgroup of customers such as those being discussed here will require COSA inputs such a CP and NCP to be determined. FBC does not currently have this data and would require data from a test year to be compiled prior to any analysis being performed.

4.3 Please explain the extent to which costs of service information is limited and any possible ways to provide a meaningful response to the question regarding cross-subsidy with the limited information that is available.

Response:

As noted in the response to BCUC IR 1.4.1, the data collected for the Company's 2009 COSA only contains aggregate data for the residential class as a whole without differentiation based on any sub-grouping. It is not therefore possible to now create sub-classifications without carrying out an additional study. FBC notes that once the customer sub-groups were identified, AMI data could be relied upon as a source, however at least one year of consumption history would be required.

4.4 Please provide comment on Mr. Marty's submission above.

Response:

FBC has two comments regarding the portion of Mr. Marty's submission above.

First, the Company notes that Exhibit A-1 states,

Specifically, Minister Bennett states that any analysis of higher greenhouse gas emissions, electricity conservation, revenue neutrality resulting from the residential inclining block rates and <u>any analysis of alternative rate structures are best left to existing regulatory processes other than this review process.</u> (Underline added)

As the theoretical two-tier pricing system is an alternative rate structure, it is clearly beyond the scope of what the Commission has been charged with examining.

Second, even in the event that an examination of the theoretical two-tier pricing system were not beyond the scope of the process, such a rate seems to envision some form of individual customer baseline or measure that would be administratively burdensome to the point of unmanageability. FBC has been unable to locate even a single instance of such a rate being used.

5.0 Reference: FortisBC September 30, 2015 Submission, Section I Methodologies, p. 4;

BCSEA October 16, 2015 Submission on Methodologies, p. 6;

Mr. Marty October 13, 2015 Stakeholder Submission, p. 3

Minister's Question 3 – High energy use and bill impacts

In its October 16, 2105 submission, BCSEA states:

> BCSEA-SCBC recommend that the Commission clarify or confirm that there are two subject groups in question 3: (a) customers, regardless of income, without access to natural gas, and (b) low income customers without access to natural gas. If confirmed, note that this is different than in question 2, where the subject group is low income customers with and without access to natural gas (i.e. low income customers in all areas of the utility's service territory).

Mr. Marty submits in his October 13, 2015 submission:

> …it is essential that FBC incorporate the other major factors affecting the electricity consumption of these two end-uses for which they have data; particularly, outside temperatures, water heating fuel and secondary home heating fuel… FBC should be directed to examine samples of residences that consume around 30,000 kWh/year, 20,000 kWh/year and 10,000 kWh/year and explain, to the fullest extent possible, the differences in electricity consumption among them. In addition to responding to the Minister's Question 3, such analysis could shed light on how much of the differences in electricity use among customers might be due to the level of household energy efficiency, which is important for addressing Questions 4 and 5.

5.1 Please confirm that FortisBC will use 2015 rates as one comparison group in its analysis of bill impacts.

<u>Response:</u>

FBC confirms that any calculation required by the Commission will be performed using 2015 rates.

5.2 Please confirm that FortisBC will report on Minister's Question 3 using the two groups as defined by BCSEA and that FortisBC will report on the factors that lead to high energy use for each of these two groups.

Response:

Although FBC can apply the definition for the groups provided by BCSEA, given the limited incidence of low-income customers in the REUS data the sample sizes will be too small to conduct statistically reliable analysis. Please refer to the response to BCUC IR 1.1.1.

5.3 Please comment on the feasibility or usefulness of reporting on factors such as temperature, water heating fuel and secondary heating fuel as suggested by Mr. Marty. Does FortisBC have these data?

Response:

Using aggregate REUS data, FBC can evaluate and comment on the major factors that lead to high energy use, and characterize differences in electricity consumption by dwelling, average consumption level etc.

5.4 Please comment on the feasibility and usefulness of FortisBC examining sample residences that consume 30,000 kWh/year, 20,000 kWh/year and 10,000 kWh/year.

Response:

FBC can use existing REUS data to explore the characteristics of residences that consume the different amounts of electricity suggested by Mr. Marty. However, the additional analysis will not show whether or not the consumption is efficient. Further, it is unlikely to assist in the design of DSM programs that try to mitigate bill impacts on specific groups of customers (i.e., low income customers or those without access to natural gas). DSM programs are typically available to all customers regardless of consumption level. FBC's conclusion is that such an examination is feasible, but may not be useful.

5.4.1 Will FortisBC be able to make any general observations about residences with the consumption levels suggested by Mr. Marty? If not, why not?

Response:

FBC can evaluate the characteristics of residences with the consumption levels suggested. However, due to the data constraints outlined in the response to BCUC IR 1.1.1, FBC cannot make general observations about residences with the consumption levels suggested for the customer groups identified in the BCSEA-SCBC submission.

5.4.2 Please comment where the analysis suggested by Mr. Marty could shed light on how much of the differences in electricity use among customers might be due to the level of household energy efficiency.

Response:

Due to the data constraints outlined in the response to BCUC IR 1.1.1, FBC cannot draw conclusions about the impact of household energy efficiency on consumption for the customer groups identified in the BCSEA-SCBC submission. In addition, whether or not a household has a relatively high or low level of consumption is not indicative of whether that electricity is used in an efficient manner.

An additional constraint is the possible unreliability of self-reported information for items such as wall or ceiling insulation. FBC anticipates respondents will often not know what insulation was installed in their home.

5.5 Please confirm whether FortisBC will provide actual numbers of low income customers that would be worse off under a flat rate, in addition to percentages.

Response:

FBC has discussed the limitations of the data that is available for analysis in its response to BCUC IR 1.1.1. As the Company will be unable to provide actual numbers, it will only be able to provide a limited estimate of the number of low income customers that would be worse off under a flat rate.

6.0 Reference: FortisBC September 30, 2015 Submission, Section I Methodologies, p. 5;

BCSEA October 16, 2015 Submission on Methodologies, p. 6;

Mr. Marty October 13, 2015 Stakeholder Submission, p. 3;

BCOAPO October 16, 2015 Submission on Methodologies, p. 13

Minister's Questions 4 and 5 – Demand-Side Management (DSM) programs

FortisBC states:

> The Company proposes to provide a list and brief description of existing programs that customers can participate in that can impact the factors identified in response to question 3 above that lead to high energy use…The Company will provide a discussion of any potential additional DSM programs, or potential modifications to existing programs, that could be undertaken within the existing regulatory environment.

In its October 16, 2015 submission, BCSEA notes: "BCSEA-SCBC recommend that the Commission clarify that the core of question 4 is what is the potential for existing DSM programs to reduce electricity usage and hence customer bills. For example, what is the potential for an existing DSM program to be ramped up, say with higher incentives, in order to achieve increased energy savings?"

Mr. Marty states:

> The potential for FBC's existing DSM programs to mitigate the electricity bill impacts of the RCR depends on two factors:
>
> - energy inefficiency must account for a significant portion of the household's higher electricity consumption; and
> - the household must be contemplating a renovation or replacement of aging energy-using equipment (such as the hot water heater or space heating system).

In its October 16, 2015 submission, BCOAPO submits: "…it would be helpful for the companies to comment on whether DSM measures that they each propose would run contrary to the prescribed fuel switching guidelines."

6.1 Please comment on BCSEA's recommendation above.

Response:

FBC is able to comment on the potential for existing DSM programs to offer higher incentives, however doing so is no guarantee that programs will see higher uptake by customers. As Mr. Marty notes, a customer generally undertakes an energy efficiency measure when they are doing a renovation or replacing energy-intensive equipment. Customer research on the FortisBC electric customer base would be needed to determine whether offering a higher incentive will result in more customers changing out equipment. Further, considerations of rate impacts to FBC's broader customer base, program cost-effectiveness, budget constraints and access to programs to all customer classes including commercial, agricultural and industrial customers must come into play when incentive levels for any particular program are determined.

6.2 Please confirm whether FortisBC will report on the Minister's Question 4 using the two groups proposed by BCSEA: "(a) customers, regardless of income, without access to natural gas, and (b) low income customers without access to natural gas."

Response:

FBC will provide a discussion on electric DSM programs aimed at both able-to-pay and low income electricity customers. FortisBC's electric DSM programs are available to all customers, regardless of whether they reside in a community with or without access to natural gas.

6.3 Please comment on the feasibility and usefulness of an analysis of the two factors suggested by Mr. Marty.

Response:

Regarding the first factor, FBC would need to undertake customer research to determine how efficient or inefficient a customer's home is; efficiency levels would then need to be balanced against other factors such as number of occupants, size of home and energy-use behaviours. Parsing out how much efficiency is a factor (and therefore whether FBC's DSM programs have the ability to mitigate a high electricity bill) in determining energy consumption against other factors is challenging and could be inconclusive but could be done given enough time and funding.

Regarding the second factor, determining how many customers who are potential participants in FBC's DSM programs are contemplating a renovation or a replacement of aging energy-using equipment, and therefore whether FBC's DSM programs could mitigate a high electricity bill, would require customer research.

FBC would prefer not to comment on the usefulness of such a research exercise, however it must be noted that the research findings would be subject to significant uncertainty.

6.4 Please comment on the feasibility and usefulness of FortisBC indicating which of its existing or potential DSM programs could result in fuel switching from electricity to natural gas.

Response:

None of FBC's DSM programs are designed to result in fuel switching from electricity to natural gas; customers choose their fuel source based on a variety of factors and FBC's programs support the customer in choosing efficient equipment.

6.5 Please comment on the feasibility and usefulness of the Commission requesting FortisBC to identify in its report on the Minister's questions any population(s) that have no access to natural gas, high electricity use and: a) no access to DSM programs; and b) no access to DSM programs, and are low income.

Response:

All of FBC's electric customers, and those customers served by FBC on a wholesale basis, have access to FBC's DSM programs, so there would be no distinction between the two groups identified in the question. A discussion will be provided in the report of the programs aimed at both low income and able-to-pay customers.