British Columbia Utilities Commission

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BCUC RIB RATE REPORT
EXHIBIT A-9

Ms. Jessica McDonald
President and Chief Executive Officer
British Columbia Hydro and Power Authority
16th Floor – 333 Dunsmuir Street
Vancouver, BC V6B 5R3

Mr. Michael Mulcahy
President and Chief Executive Officer
FortisBC Inc.
16705 Fraser Highway
Surrey, BC V4N 0E8

Dear Ms. McDonald and Mr. Mulcahy:

Re: Residential Inclining Block Rate Report to the Government of British Columbia

By letter dated July 6, 2015, Minister Bennett, the Minister of Energy and Mines and the Minister Responsible for Core Review, requested the British Columbia Utilities Commission (Commission) report to the Government of British Columbia on five specific questions concerning the impact of the British Columbia Hydro and Power Authority (BC Hydro) and FortisBC Inc.'s (FortisBC) residential inclining block rates.

On August 17, 2015, the Commission issued a letter (Exhibit A-1) establishing the Residential Inclining Block (RIB) Rate process and requested submissions from BC Hydro and FortisBC on the methodology by which they proposed to answer the Minister's five questions. The Commission also requested input from select stakeholders on the proposed methodologies submitted by the utilities.

On September 24, 2015 and September 30, 2015 BC Hydro and FortisBC, respectively provided their submissions on the methodology by which they proposed to answer the Minister's five questions. By October 16, 2015 select stakeholders provided their submissions on proposed methodology for the utility reports on the five questions. Submissions were received from:

- British Columbia Old Age Pensioners' Organization *et al.* (BCOAPO);
- B.C. Sustainable Energy Association and Sierra Club of British Columbia (BCSEA);
- Commercial Energy Consumers Association of British Columbia (CEC);
- Canadian Office & Professional Employees Union 378 (COPE);
- Norman Gabana; and
- Teresa and Nick Marty;

On November 10, 2015, the Commission and stakeholders asked information requests (IR) to BC Hydro and FortisBC on their submissions. Responses to IRs were received on December 18, 2015. Based on the information provided to date, the Commission is satisfied that sufficient information has been provided to establish the

methodologies for the reports. The Commission is establishing these methodologies based on the information provided by BC Hydro, FortisBC and the stakeholders in the submissions and IR responses.

The established definitions for key terms are provided below followed by the requirements for each of the five questions posed by the Minister. The methodologies established below apply to both BC Hydro and FortisBC, unless specifically notated.

Definitions

Access to natural gas: The "community approach" as proposed by BC Hydro at page 5-70 of the 2015 Rate Design Application and further elaborated on in IR response 1.48.2, shall be used for the purpose of defining "access to natural gas." FortisBC confirmed it will use the same approach as proposed by BC Hydro.[1] As proposed, this approach will use a list of communities that have access to natural gas and a list of communities that do not have access to natural gas. Communities with access to piped propane (e.g. Revelstoke) shall be considered to have access to natural gas. For each respective service territory the utilities shall work together to confirm the final list of communities with access and without access.

Some stakeholders mentioned that a broader definition of access to natural gas such as customers that have natural gas at their premises versus those who do not, or customers who cannot afford to switch to natural gas from electricity.[2] Both BC Hydro and FortisBC responded that they do not have information on access to natural gas at that level.[3] We accept that it would not be feasible for the utilities to consider the definition of access to natural gas at such a detailed level as suggested and, therefore, it is appropriate to use to the community approach to define access to natural gas for the purposes of answering the Minister's questions.

Low-income customer: The Statistics Canada low-income cut-off (LICO) shall be used to define "low-income" customers for the purposes of this report. Pre-tax income shall be used.

While analysis of energy or fuel poverty was suggested by one stakeholder,[4] BC Hydro and FortisBC submit that they either have no research on this topic or that the analysis is "not a simple task" and the Minister's letter does not require this analysis and thus does not include an analysis of fuel or energy poverty in the definition of low-income.[5]

One stakeholder also suggested that it may also be useful to include the DSM definition of LICO (1.3 times LICO).[6] While this may be useful, for the purposes of this report, the Commission is satisfied that one single definition of low-income should be used.

Factors leading to high-energy use: The factors that may lead to high energy use are discussed under question 3.

Energy use: This term will refer to electricity use only for the purposes of this report for feasibility reasons. As stated by BC Hydro, it is not "…feasible to report on combined electric and natural gas usage as BC Hydro does not have access to the natural gas usage by its customers nor does FortisBC have access to BC Hydro's

[1] FortisBC Response to BCUC IR 3.1.
[2] BCOAPO October 18, 2015 Submission, p. 12; BCSEA October 18, 2015 Submission, pp. 3–4.
[3] BC Hydro Response to BCUC IR 1.48.2; FortisBC Response to BCUC IR 3.2.
[4] COPE October 18, 2015 Submission, p. 5.
[5] FortisBC Response to BCUC IR 1.1; BC Hydro Response to BCUC IR 1.46.2.
[6] COPE October 18, 2015 Submission, p. 2.

customers' electricity consumption. There would be confidentiality issues with sharing the information amongst the utilities."[7]

Minister's Questions

1. **Do the residential inclining block rates cause a cross-subsidy between customers with and without access to natural gas service?**

   To the extent data is available or can be reasonably approximated, the utilities will unbundle residential electric load data used in their most recent fully allocated cost of service (FACOS) study into two sub-classes: customers with access to natural gas and customers without.

   The utilities shall then use both (i) a FACOS approach and (ii) a comparison of average rates to long-run incremental costs approach, to analyze whether the RIB rates cause a cross-subsidy between customers with and without access to natural gas.

   i. For the FACOS analysis, no changes should be made to the costs or cost allocation methodology used in the most recent FACOS study, including the use of coincident and non-coincident peak cost allocation approaches, and the utilities shall develop unbundled revenue to cost ratios for these two sub-classes.

   ii. For the long-run incremental cost based analysis, there is no requirement to prepare a marginal cost of service study. Rather, the utilities should use the unbundled residential load profiles to compare (i) average customer rates for these two sub-classes to (ii) the utilities most recent long-run marginal cost estimate to serve these customer sub-classes.

   All key assumptions made in the above analysis shall be provided.

   In response to suggestions by stakeholders the utilities are not required to analyze a cross subsidy by comparing the RIB rate to a theoretical rate where each customer has an individual baseline or where each resident experiences the same percentage of electricity consumption in tier 2 of the RIB rate. The Commission notes that any analysis of alternative rate structures is out of scope for this proceeding.

   The utilities are also requested to comment on the potential cross-subsidy between customers using electricity for space and hot water heating, and those using natural gas, to the extent data is available.

   If a cross-subsidy is found to exist, a general discussion of any impacts or relevance of this cross-subsidy should be provided.

2. **What evidence is available about high bill impacts (greater than 10 percent as a result of the adoption of the residential inclining block rates) on low income customers?**

   A comparison of the 2015 RIB rate to a 2015 equivalent flat rate that would have been in place if the RIB rate was not implemented shall be used to aid in the research required to answer this question. Analysis of impacts of moving from the RIB to a flat rate and vice versa shall be provided. The Residential End Use Surveys (REUS) shall be used for the purposes of answering this question.

[7] BC Hydro Response to BCUC IR 1.47.1.1.

According to both utilities, it will not be possible to obtain actual numbers of customers based on income that would be worse off or better off under the RIB or the flat rate. Accordingly, percentages are acceptable to the Commission.

The Commission requires FortisBC to conduct the additional research and analysis of the REUS in conjunction with their research partner. FortisBC has submitted that this additional research and analysis will cost approximately $15,000. The Commission recognizes the need for cost efficiency regarding this proceeding, and is of the view that this cost is reasonable. FortisBC indicates that this estimate may change if additional consulting time is required.[8] If the cost of this work is expected to or does exceed this amount FortisBC must inform the Commission and seek approval.

3. What evidence is available about factors that lead to high energy use and, therefore, bill impacts for customers without access to natural gas, including low income customers?

For the purposes of answering this question, the utilities shall provide analysis of:

a. all factors that lead to high energy use and therefore bill impacts;

b. factors that lead to high energy use and therefore bill impacts for customers with access to natural gas;

c. those factors from a) that lead to high energy use and therefore bill impacts for customers without access to natural gas; and

d. those factors from c) that lead to high energy use and therefore bill impacts for customers without access to natural gas who are also low income.

The most current Residential End-use Surveys (REUS), as proposed by the utilities in their submissions on the methodology for responding to the Minister's questions shall be used for the purpose of answering this question.[9]

To the extent the data is available, the Commission requests each utility to examine the following list of factors that may lead to high energy use (if any of the factors listed below do not correlate with high energy use, please explain why):

- all end-uses as listed in FortisBC IR 2.2.1 and 2.3.1 and BC Hydro IR 1.47.2.1 and 1.47.4.1, and including primary space heating and cooling equipment, secondary space heating equipment, water heating equipment, air cleaning systems, cooking appliances, laundry and dishwashing appliances, fridges and freezers, small household appliances, water use items, swimming pools, hot tubs, saunas, lighting, computers, televisions, entertainment appliances, plug load power management items, miscellaneous electric end uses.
- housing type
- presence of electric vehicles
- size of house
- owner occupied vs. rented
- urban vs. rural location

[8] FortisBC Response to BCUC IR 1.1.
[9] FortisBC September 30, 2015 Submission, p. 4 and BC Hydro September 24, 2015 Submission, p. 5-69.

- number of occupants
- households with / without children
- age of primary occupant
- whether primary occupant is retired or not retired
- regional climate or heating degree days
- age of house
- household energy inefficiency
- customer behaviour

In addition, to the extent that data is available, the Commission also requests the utilities to:

- produce a chart to display the following three dimensions of data:
  i. on the x axis: household income by quintile (bottom 20%, 20% to 40% etc.) or decile
  ii. on the y axis: kWh consumption by decile, and
  iii. with the number and/or percentage of customers in each category.
- provide examples of typical residences that consume 10,000, 20,000 and 30,000 kWh/year and explain, to the fullest extent possible, the difference in electricity consumption among them.
- include discussion on the usefulness of this data in relation to the sample size of the REUS survey.

4. What is the potential for existing Demand Side Management programs to mitigate these impacts?

The Commission acknowledges BC Hydro's position that this is not the appropriate venue for an assessment of Demand Side Management (DSM) programs or any direction on these programs. However, the Commission notes that this is an information gathering and research process. Accordingly, to answer this question the utilities are to provide a list and brief description of existing programs that customers can participate in that can impact the factors identified in question 3 that lead to high energy use.

The utilities shall examine the potential for existing DSM programs to mitigate the key factors that lead to high energy use and therefore bill impacts, in particular for low-income customers and those without access to natural gas. The utilities should also address the aspect of household energy inefficiency, even at a high level, in examining the potential for existing DSM programs to mitigate high energy use and therefore bill impacts.

The utilities should assume no changes to existing DSM programs or incentive levels. In identifying DSM programs, it would be useful if utilities also identified typical bill reductions that an illustrative high use customer participating in the DSM programs would see, and the extent to which these bill reductions (less any customer participation costs) mitigate bill increases resulting from the RIB rate.

In addition, utilities are also invited to comment on whether improvements could be made to increasing uptake or overcoming barriers to participating in these existing DSM programs by high-use customers, in particular low-income customers and those without access to natural gas.

5. **Within the current regulatory environment, what options are there for additional Demand Side Management programs, including low income programs?**

   As stated above, this process is an information gathering one and, for the purposes of this report the utilities are required to identify any additional DSM programs (for example, offered in other jurisdictions) that are targeted at the key drivers of high-energy use, in particular for low-income customers and those without access to natural gas.

   Utilities should also identify typical bill reductions that a high use customer participating in these potential additional DSM programs would see, and the extent to which these bill reductions (less customer participation costs) could mitigate bill increases resulting from the RIB rate.

   Utilities are invited to indicate (in general terms) if they are supportive of any of the potential additional DSM programs identified, and if so, whether they could be funded out of the existing DSM funding envelope.

Yours truly,

Erica Hamilton

PW/kbb
cc: Stakeholders