14.0 **Topic: Meaningful comparison of RIB rate options**

**Reference: Exhibit B-11, Additional Evidence, Appendix A Tables; Exhibit B10-1**

The Tables in Appendix A are difficult to work with because the rows for the various RIB rate designs do not show Bill Impact Criterion (90%, 95% or 100% see <10%). Bill Impact Criterion is the single biggest determinant of both conservation impact and bill impact. In order to meaningfully compare one RIB rate design to another, it appears that one has to match the Base Rate Option number from the Appendix A table to the Option number in Exhibit B10-1 (errata version) to determine the “Criterion.”

Not all the RIB rate options listed in Exhibit B10-1 are shown in the Appendix A tables, either at all or with the same pricing principles. As a result, for example, the Company’s preferred option, Table 1 line 8.1 ($28.93 customer charge; 95% see <10%; Pricing Principle 1) cannot be compared with a $21.50 customer charge version because Appendix A Table 2 shows $21.50 customer charge designs without any with Pricing Principle 1. Similarly, the Company’s preferred option cannot be compared with a $15.00 customer charge version because Appendix A Table 3 shows $15 customer charge options without the Option 70, 95% see <10%. The Company’s preferred option cannot be compared with a $10.00 customer charge version because Appendix A Table 4 has no Pricing Principle 1 options. The same with $7.50 customer charge options in Table 5. And the Company’s preferred option cannot be compared with a $0.00 customer charge option because Table 6 has only the 90% see <10% option (Option 57), not a 95% see <10% version (Option 58).

14.1 **Is there some way that the effect of a change in Customer charge on Conservation impact can be meaningfully compared using the filed data? If so, please explain. If not, please provide the data necessary to make such an analysis.**

14.2 **Please provide data for all combinations of reasonable permutations of RIB rate design, showing, for each design, a unique identifier, a reference to earlier versions, filings, errata, etc., the values for each design parameter (including the Bill Impact Criterion, initial customer charge, threshold, and pricing principle), the computed values for each design element (such as Block 1 rate, Block 2 rate, Customer charge, in successive years, etc.), and selected, top-priority computed or estimated measures of key attributes such as bill impact and conservation impact.**

14.3 **Please provide tables that illustrate the effect of a change in one variable while other variables are held constant in order to allow meaningful comparison of RIB rate options. Please provide tables showing the effect on bill impact and conservation impact (and any other key attributes) of various choices of (a) Threshold, (b) Customer charge, and (c) Pricing Principles. Please provide separate tables for each of the three Bill Impact Criterion values, to allow comparison of the RIB rate options.**
15.0 Topic: Threshold size  
Reference: Exhibit B-6, Table BCSEA IR1 Q3.1

BC Hydro’s Threshold is 1,350 kWh per two-month billing period, based on 90% of Median Consumption. FortisBC proposes a Threshold of 1,600 kWh per two-month billing period, based on Class Median Consumption.

15.1 For the FortisBC RIB rate design, what would be the Threshold (in kWh/billing period) if it was based on 90% of Median Consumption as is BC Hydro’s? Please provide a precise figure, and a rounded figure that would be easier to communicate to customers.

15.2 Does the Company agree that in setting the size of the Threshold for a FortisBC RIB rate design there are four basic approaches:
(a) using the same numerical figure as is used by BC Hydro, i.e., 1,350 kWh/billing period,
(b) using a figure that is determined using the same method as BC Hydro’s Threshold is determined, i.e., 90% of Median Consumption, rounded,
(c) using Median Consumption, i.e., 1,600 kWh/billing period, as proposed by FortisBC; and
(d) using some other figure, determined either arbitrarily or on some other basis?

15.3 Acknowledging that the Company initially selected 1,600 kWh/billing period, based on Median Consumption, as its proposed Threshold for reasons it found persuasive at the time, what is the Company’s current position regarding its preferred Threshold size? Why?

15.4 To help identify the consequences of the choice of Threshold, does the Company agree that, holding all other elements of a RIB rate design equal, and within the range of 1350 to 2100 kWh/billing period, using a lower Threshold results in:
(a) a lower initial Block 1 rate,
(b) a substantially lower initial Block 2 rate,
(c) a smaller Block 2:Block 1 Ratio
(d) a lower Annual Breakeven point (kWh/y below which a customer pays less with RIB than without, assuming no change in consumption),
(e) a smaller percentage of customers “better off” (i.e., who would have a lower annual bill with RIB than without RIB, assuming no change in consumption)
(f) a lower Maximum Bill Impact
(g) a smaller percentage of customers with bill increases >20% annually, assuming no change in consumption
(h) a higher percentage of customers with consumption in the second block at least once per year
(i) a higher percentage of load billed in Block 2
(j) a somewhat lower Conservation Impact, based on FBC’s two-part elasticity estimation
(k) almost no change in the amount by which the Block 1 rate increases over 5 years due to annual rate increases
(l) a substantially smaller amount by which the Block 2 rate increases over 5 years due to annual rate increases?

15.5 Correspondingly, does the Company agree that, holding all other elements of a RIB rate design equal, and within the range of 1350 to 2100 kWh/billing period, using a higher Threshold results in the opposite of the consequences listed in the preceding IR?
16.0 Reference: Exhibit B-11, Additional Evidence, Appendix A, Tables

The tables have a column heading “Cumulative Conservation Impact from RIB” (with subheadings for 2011 to 2015).

16.1 The rows for Continued Flat Rate, shaded, have positive figures under “Cumulative Conservation Impact from RIB.” Please explain. Are these conservation estimate figures based on the effect of elasticity on annual rate increases? Please confirm that for the other rows, for various RIB rate configurations, the figures under “Cumulative Conservation Impact from RIB” are net of conservation due to annual rate increases.

16.2 For greater certainty, please confirm that the RIB rate conservation estimates should be understood to be in addition to the conservation estimates shown for the Continued Flat Rate scenario.

16.3 Please define “5-yr Net RIB Impact.” Does this mean net of general rate increases but not net of RIB rate-induced conservation and efficiency?

16.4 Please define “Cumulative Conservation Impact from RIB.” Does this mean year over year percentage permanent reduction in load due to RIB? Please confirm that this is net of year over year changes in load forecast.

17.0 Topic: Customer Charge and Revenue Stability
Reference: Exhibit B-11, Additional Evidence

The Company has provided evidence showing that decreasing the Customer Charge and correspondingly increasing the energy charge causes larger revenue shortfalls (to the utility) when actual load falls below forecast load for a given year.

17.1 For the record, please confirm that the reverse also holds, i.e., decreasing the Customer Charge and correspondingly increasing the energy charge causes larger revenue surpluses when actual load exceeds forecast load.

“With the use of a deferral account as proposed in the FortisBC 2012/2013 Revenue Requirement Application, the impact of such revenue variations could be managed such that Revenue Stability becomes less of a concern.” [p.4]

17.2 Please confirm that the Company currently, i.e., for 2011, does not have a deferral account that captures revenue variations due to variations between actual and forecast load for the residential class.

17.3 If the use of a deferral account as proposed in the FortisBC 2012/2013 RRA was approved by the Commission, what would be the Company’s remaining concerns about reducing the residential customer charge?

17.4 Is the Company’s concern about the revenue stability impact of reducing the customer charge based on the possibility of the Commission not approving the deferral account as proposed in the FBC 2012/2013 RRA? Is there a way to eliminate that concern?

“The need is revenue stability itself (which also directly impacts rate stability for customers).” [p.4]

17.5 Please describe the mechanism by which revenue instability for the utility (for example,
reduced below-forecast revenue in a given year due to warm winter weather) causes rate instability for customers.

18.0 Topic: Long-run marginal cost  
Reference: Exhibit B-11 Additional evidence, p.18

"Under specifically defined conditions, economic efficiency is maximized (in the long run) where price equals long run marginal cost. Therefore, if price is either higher or lower than long run marginal cost, efficiency will not be maximized."

18.1 Please confirm that “price” in the above statement assumes a single price, not a two-part price as in a RIB rate.

19.0 Reference: Exhibit B-11, Additional Evidence, Appendix A Table 1: Comparison of Options with $28.93 Customer Charge

Option 7.1 shows Base Rate Option 7, which has a threshold of 1600 kWh per billing period, $28.93 per billing period customer charge, Pricing Principle 1, and 90% see <10% bill impact, indicates Maximum Bill Impact 5-yr Net RIB Impact of 43.9%.

Option 8.1, which is the same as Option 7.1 except that Option 8.1 has 95% see <10% bill impact, indicates Maximum Bill Impact 5-yr Net RIB Impact of 31.1%.

19.1 Please provide the Maximum Bill Impact 5-yr Net RIB Impact for Option 7.1, and for Option 8.1, under the assumption that the affected customers’ consumption declined according to the High Elasticity Estimate (.20/.30).

19.2 Please confirm that Option 8.1 is the Company’s preferred RIB rate design option.

20.0 Topic: Estimation of conservation impact of RIB rate design options  
Reference: Exhibit B-1; B-6; B-11

FortisBC has used three pairs of elasticity assumptions to generate three conservation impact estimates for each RIB Rate option.

20.1 Please confirm that the rationale was to illustrate the range of potential conservation impact outcomes given uncertainty about which one of the three elasticity pairs would be the most accurate.

20.2 Please confirm that FBC is putting forward these conservation impact estimates to allow comparison between RIB Rate options, not because FBC is suggesting that precise conservation outcomes should be expected.

The three elasticity pairs are presented in order of strength: low (.05/.10), medium (10/.20), and high (.20/.30).

20.3 Please confirm that for each RIB rate design option the three conservation impact estimate values increase in size, corresponding to the low, medium and high elasticity pairs.

20.4 Please confirm that, now that the errata have been filed, the conservation impacts of the
RIB rate design options are always positive (reduced consumption).

20.5 Please confirm that, when comparing any two RIB rate options using the three conservation impact estimates (corresponding to the assumed three elasticity pairs), whichever RIB Rate option has a higher conservation impact according to one of the three estimates also has higher conservation impact on the other two estimates. In other words, the ranking of RIB Rate options according to conservation impact is the same regardless of whether the low, medium or high conservation impact estimate is used.

20.6 Please confirm that, when comparing any two RIB rate options using the three conservation impact estimates (corresponding to the assumed three elasticity pairs), the spread is slightly greater for the high-elasticity estimate than for the medium-elasticity estimate, and slightly greater for the medium-elasticity estimate than for the low-elasticity estimate.

20.7 When comparing the elasticity-based estimated conservation impact (low, medium or high elasticity) of two RIB rate options, is the Company able to say what amount of difference (in percentage points) between the two figures is statistically significant? Is the Company able to say that a difference of one tenth of a percentage point is not statistically significant? Two tenths of a point?

21.0 Topic: Estimation of conservation impact of RIB rate design options
Reference: Exhibit B-1; B-6; B-11

In addition to the three elasticity-based conservation impact estimates, FortisBC uses three other indicators of potential conservation impact:

(a) Percentage of Load Billed in Block 2,

(b) Block Differential, and

(c) Percentage of Customers Who Have Consumption in the Second Block At Least Once [i.e., in at least one two-month billing period per year].

21.1 Please confirm that in terms of indicating the relative conservation consequences of different RIB Rate options, the Percentage of Load Billed in Block 2 is effectively the same as the Threshold between Block 1 and Block 2, albeit with different units.

21.2 Please confirm that, for any given RIB rate design, the lower the Threshold between Block 1 and Block 2, the higher the Percentage of Load Billed in Block 2.

21.3 Please confirm that the Company makes the following distinction between “facing” and “billing” for the purpose of calculating the two-part elasticity-based conservation impact estimate: Where consumption in a billing period is less than the Threshold, the consumption both faces the Block 1 rate and is billed at the Block 1 rate. Where consumption in a billing period exceeds the Threshold, all of the consumption faces the Block 2 rate, however only the amount exceeding the Threshold is billed at the Block 2 rate.

21.4 Please confirm that, when comparing different RIB rate designs, the Percentage of Load Billed in Block 2 is not the same (even with different units) as the elasticity-based conservation impact estimate, because the elasticity-based conservation impact estimate uses load “facing” Block 2, not load billed at Block 2.
21.5 For the record, please define Block Differential.

21.6 Please confirm that the both the Block Differential and the elasticity-based conservation impact estimates capture the difference between the Block 1 rate and the Block 2 rate. However, the Block Differential does not capture the proportion of load facing, or billed at, Block 2 due to a change in the Threshold. That is, Block Differential captures only one of the two factors captured by the elasticity-based conservation impact estimates.

21.7 Please confirm that the Percentage of Customers Who Have Consumption in the Second Block At Least Once relates to conservation impact through price elasticity, but on an annual basis rather than the two-month billing period basis used for the three elasticity-based conservation impact estimates.

21.8 Please discuss whether the Percentage of Customers Who Have Consumption in the Second Block At Least Once is relevant to conservation impact to the extent that customers adjust their level of annual consumption in response to having to pay, or seeking to avoid paying, the Block 2 rate even once during the year. An example would be a customer who is motivated to install a more-efficient lightbulb that is in place year-round.

22.0 Topic: Comparison of RIB rate design options according to conservation impact

Reference: Exhibit B-1; B-6; B-11

22.1 Please comment on the statement: “It would be much easier to compare different RIB Rate options if there was only one indicator of relative conservation impact for each option.”

22.2 Dealing first with the three elasticity-based conservation impact estimates, would any information that is crucial to the selection of one RIB Rate option over another be lost if the current three conservation impact estimates were combined into a single measure of conservation impact?

22.2.1 If yes, please explain.

22.2.2 If not, what would be the best method of creating a single elasticity-based conservation impact measure out of the three current measures? For example, an average of the three current estimates? Using only the estimate from the low-elasticity pair? The mid-elasticity pair? The high-elasticity pair? The criterion is to best facilitate comparison of the RIB Rate options.

22.3 Consider four indicators of a RIB Rate option’s conservation impact: (a) Percentage of Load Billed in Block 2, (b) Block Differential, (c) Percentage of Customers Who Have Consumption in the Second Block At Least Once, and (d) a single elasticity-based conservation impact estimate (referred to in the previous IR). Which is the best measure for comparing RIB Rate options in terms of the conservation objective of the RIB Rate concept?

23.0 Topic: Simplification of comparison of RIB Rate options by bill impact

Reference: Exhibit B-1; B-6; B-11

23.1 Please confirm that in the Application, the IRs and the IR responses, various methods
have been used to quantify the adverse financial impact of the implementation of a RIB Rate option on a single customer or a sub-category of customers who choose not to alter their consumption pattern due to the RIB Rate.

23.2 Please confirm that the financial impact on all customers is deemed to be zero, because of the class revenue neutrality criterion built into the RIB Rate options.

23.3 Please confirm that the various financial impact measures address either or both of: the size of the impact; and the number of customers who experience it.

23.4 Please confirm that the Percentage of Customers Better Off and the Annual Breakeven kWh focus exclusively on the numbers of customers who experience negative versus positive financial impact (if they don’t alter their consumption).

23.5 Please confirm that, at the other extreme, the Maximum Bill Impact, as the name indicates, focuses only on the size of the impact, regardless of the number of customers who experience it.

23.6 Please confirm that the financial impact measure used most widely in the materials is the Bill Impact Criterion, expressed as three values: 90% see <10%; 95% see <10% and 100% see <10%.

23.7 Please confirm that the Bill Impact Criterion addresses both the number of customers affected (i.e., 10%, 5% and none) and the size of the impact (annual bill impact less than 10% -- or some other percentage as defined).

23.8 Please confirm that the presentation differs in that the Bill Impact Criterion is built into, and defined for, each RIB Rate option, whereas the other impact measures are shown as consequences of each RIB Rate option.

23.9 Please confirm that, assuming class revenue neutrality (which is the case for all RIB Rate options), there is a trade-off between the number of customers financially disadvantaged by the RIB Rate and the size of the maximum annual bill impact of the RIB Rate (as always, assuming no change in consumption pattern due to the RIB Rate).

23.10 Considering the three Bill Impact Criterion and the other four indicators of a RIB Rate option’s financial impact (assuming no change in consumption pattern), which is the best single measure for comparing RIB Rate options in terms of financial impact on customers? Why?

23.11 Does there have to be two separate measures of financial impact? If so, why, and which are they?

24.0 Topic: Convenient comparison of RIB Rate options
Reference: General

24.1 Please provide spreadsheet versions of the RIB rate options comparison tables so that the options can be sorted by column.
25.0 Topic: Comparison of FortisBC RIB Rate and BC Hydro RIB Rate
Reference: Exhibit B-6, BCSEA IR 3.1

Table BCSEA IR1 Q3.1 provides a comparison of BC Hydro RIB Rate and FortisBC proposed RIB Rate.

25.1 Please confirm that the ratio of Block 1 rate to Block 2 rate for FortisBC Proposed RIB Rate is 69% and for the BC Hydro RIB Rate is 69%. Is this a coincidence? If not, please explain.

26.0 Topic: Comparison of FortisBC RIB Rate and BC Hydro RIB Rate
Reference: Exhibit B-6, BCSEA IR 3.1

Table BCSEA IR1 Q3.1 provides a comparison of BC Hydro RIB Rate to FortisBC proposed RIB Rate. The row “Estimated Conservation (BCH elasticity assumptions) Source: Figures 3 & 4, BCH RIB Rate Re-Pricing Application” gives the FortisBC proposed RIB Rate figure as 1.90% and the BC Hydro figure as 1,430 GWh by F2018.

26.1 Please provide the FortisBC proposed RIB Rate figure in GWh with a reference year, and the BC Hydro RIB Rate figure as a percentage.

27.0 Topic: Comparison of FortisBC RIB Rate and BC Hydro RIB Rate
Reference: Exhibit B-6, BCSEA IR 3.1

Table BCSEA IR1 Q3.1 provides a comparison of BC Hydro RIB Rate to FortisBC proposed RIB Rate. The row “Estimated Conservation (FBC elasticity assumptions)” gives the FortisBC proposed RIB Rate figures for each of the three elasticity assumptions as follows:

<table>
<thead>
<tr>
<th>0.05/0.1</th>
<th>0.1/0.2</th>
<th>0.2/0.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.90%</td>
<td>3.70%</td>
<td>5.50%</td>
</tr>
</tbody>
</table>

27.1 Please provide the three FortisBC proposed RIB Rate Estimated Conservation figures (per three elasticity assumptions) in GWh with a reference year.

28.0 Topic: Characteristics of customers at different consumption levels
Reference: Exhibit B-6, BCSEA IR 4.1; Exhibit B-5, BCUC IR 1.16.6; 1.16.7

FortisBC was asked to provide a description of a representative customer at low, medium and high consumption levels. FortisBC provided Table BCSEA IR1 Q4.1 but declined to provide further information, saying:

“FortisBC does not have readily available data that would identify common characteristics of these consumption groups, although it expects that building size and fuel choice are the biggest determinants of consumption. Even fuel choice is not particularly determinative however, as the average annual consumption for electric heat customer is 13,422 kWh and the average for non electric heat is 9,708 kWh.”

28.1 Please use FortisBC’s REUS data to provide, for each of the low, medium and high consumption residential customer categories, average income, percentages of housing type, percentages of heating source, percentages of electric cooling (or air conditioning if that is how the data is coded).
28.2 In the Table BCSEA IR1 Q4.1, column “Bill Impact,” please confirm that the percentage figure given is the average difference between RIB and flat rate annual bills for customers in the low, medium and high consumption categories. Please confirm that the applicable RIB design is option 8 (95% see <10%, 1600 kWh/billing period threshold, $28.93 customer charge).

FortisBC obtained REUS-type data from 35 large annual-consumption customers, discussed in the responses to BCUC IR 1.16.6, et seq.

28.3 Was any of these customers a multiple unit residential building (MURB)?

28.4 In Exhibit C10-2, Strata Corporation KAS2464 implies that it is a residential customer of FortisBC. Is this correct? Is it usual for a MURB to be a single residential customer of FortisBC? Are MURBs allowed to be served on the residential tariff? Does FortisBC encourage it?

28.5 Does a MURB obtaining residential service have an option to switch to a commercial tariff? Does FortisBC foresee MURBs with residential service switching to a commercial tariff in the event that a RIB rate is approved? What are FortisBC’s views on the pros and cons of MURBs switching from residential to commercial service.

28.6 Would FortisBC agree that there is a problematic information gap if the REUS does not identify and obtain data on residential customers that are multiple unit residential buildings?

28.7 Table BCUC IR1 Q16.7 and Table BCUC IR1 Q16.9.3 indicate that 0.1% of residential customers are in the “over 150,000 kWh/y” category. How many customers is that?

28.8 Table BCUC IR1 Q16.9.3 indicates that when the extra 35 large customers were added to the 871 REUS data points, 0.7% of the total sample was in the “over 150,000 kWh/y” category. Does that mean one of the extra 35 large customers was in the “over 150,000 kWh/y” category? What information does FortisBC have about this customer or customers in the “over 150,000 kWh/y” category generally? Are these single family dwellings? MURBs? Grow-ops? What electrical applications and appliances is a customer using in order to consume over 150,000 kWh/y? Are such customers supposed to be in the residential rate class?

28.9 Would FortisBC agree that it would be problematic to use Maximum Bill Impact (for customers consuming over 150,000 kWh/y) as a criterion for choosing a RIB Rate option, in the absence of information about such customers’ building type, socio-economic characteristics, and so on?

Topic: Definition and calculation of maximum bill impact
Reference: Exhibit B-6, BCSEA IR 5.1; Exhibit B-1, FBC RIB Application, p.20, Table 7-1, RIB Rate Evaluation Criteria; Table 7-2, RIB Rate Option Comparison

The BCSEA IR 5.1 preamble states:

“The description of “Maximum Bill Impact” states: “The highest single percentage increase experienced by a customer in any month when the RIB rate option is compared to the flat rate.” [Underline added]”

BCSEA IR 5.1 asks:
“Is the reference to bill impact in any month a mistake? Should it read in any year? If there is no mistake, please reconcile the “Maximum Bill Impact” criterion with the customer impact criterion on p.17 defined in terms of annual rate impact.”

FortisBC responds:

“The maximum bill impact applies to the category of the largest residential users with consumption of over 150,000 kWh per year. While the actual calculation was based on the annual bill for customers in that block, these customers all have the majority of their consumption in block 2 for every billing period and the maximum bill impact would apply equally to a single bill impact and the annual bill impact.”

29.1 Please answer whether the definition of “maximum bill impact” should read “The highest single percentage increase experienced by a customer in any year when the RIB rate option is compared to the flat rate.”

29.2 For greater certainty, please provide the definition for the column “Maximum Bill Impact” given as a percentage in Table 7-2.

29.3 What is meant by “the actual calculation was based on the annual bill for customers in that block [“the category of the largest residential users with consumption of over 150,000 kWh per year”]? 

29.3.1 What actual calculation?

29.3.2 Is FortisBC saying that “maximum bill impact” was determined not by taking the largest annual bill impact from among the annual bill impacts of each of the customers in the sample group; but rather by taking the annual bill impact of the largest tranche (150,000 kWh/y) of customers by annual consumption in the sample group?

29.3.3 If so, please confirm that these are two different measures.

29.3.4 If so, please confirm that all of FortisBC’s bill impact calculations were based on annual consumption tranches, not on a ranking of annual bill totals.

29.3.5 Please confirm that FortisBC’s bill impact calculations were based on the 871 REUS data points plus the 35 additional large user data points; not on the entire residential customer database.

29.4 For the Bill Impact Criterion “100% see <10%”, does the use of consumption tranches in the calculation of bill impact mean that 100% of the entire >150,000 kWh/y tranche “see <10%”; not that the single largest customer sees “<10%”? 

29.4.1 From the residential customer database, what is the size of the spread between the smallest and largest annual bill total in the >150,000 kWh/y tranche? How many customers are in that tranche?

29.4.2 Based on the spread between 150,000 kWh/y and the highest-consuming customer, and using, saying Option 8, where a customer consuming 150,000 kWh/y sees an annual bill increase of less than 10% what is the percentage bill increase seen by the
largest-consuming customer?

29.5 Please provide the complete definition of the bill impact criterion “x% see <10%” and how it is calculated. Please confirm that it means that x% of customers in the representative sample would have an annual bill total on a RIB basis of less than 10% greater than their annual bill on a flat rate basis.

29.6 FortisBC states that for customers in the over 150,000 kWh/y category “maximum bill impact would apply equally to a single bill impact and the annual bill impact.” Please correct this statement, or explain. Is it not the case that assuming there is some variation in the quantity consumed, either individually or by the category in total, from one bi-month billing period to the next there must be a corresponding variation in the bill impact (between RIB and flat rate) from one bi-month billing period to the next; and therefore the highest of the six bi-monthly bill impacts must surely be higher than the bill-weighted average bill impact (i.e., the annual bill impact)?

30.0 Topic: Revenue neutrality
Reference: Exhibit B-5, BCUC IR 1.5.2; BCUC IR 1.21.3

“...In addition, the Company believes that as it implements conservation rates and customer behaviour changes in response to those rates, it could result in an over- or under-collection of the Company’s revenue requirement. Therefore the Company anticipates proposing (in its upcoming Revenue Requirements Application) a deferral and flow-through mechanism for revenue variances to eliminate the effect of any such over- or under-collection.”

30.1 Please confirm that the proposed deferral account mechanism is based on the difference between forecast and actual load, not on an estimate of the actual conservation impact of the RIB rate.

31.0 Topic: TOU rates
Reference: Exhibit B-5, BCUC IR 1.6.4

Asked “Is it still the intention of FortisBC to introduce TOU rates as mandatory to replace the proposed RIB rate in this Application?”, FortisBC responds:

“It remains the position of FortisBC that time-based conservation rates offer the best alternatives to flat rates for the Company and its customers. Should a RIB rate be mandated by the Commission, it is currently the Company’s intention to introduce some suite of time-based rates to complement the RIB rates, likely on a voluntary participation basis.”

31.1 If the Commission approved the current RIB rate application, and if FortisBC’s advanced meters initiative is approved and implemented, would FortisBC consider a mandatory residential rate design that combined TOU and RIB features?

32.0 Topic: Long-run marginal cost
Reference: Exhibit B-5, BCUC IR1 Q9.3, Table BCUC IR1 Q9.3

32.1 For Table BCUC IR1 Q9.3, how did FBC calculate (estimate) the “With RIB Program,
Gross Load after DSM and other Customer Savings”? Did FBC start with an estimate of RIB savings (i.e., 3.1 GWh in 2012) and then subtract it from the “Without RIB Program, Gross Load after DSM and other Customer Savings”?

32.2 For Table BCUC IR1 Q9.3, what RIB option does FBC assume? Which elasticity assumption?

32.3 Table BCUC IR1 Q9.3 shows RIB program savings in GWh for 2012, 2013, 2014 and 2015.

32.3.1 How were these conservation impact estimates made?

32.3.2 Does the figure for 2012 reflect the RIB rate beginning on July 1 (i.e., only one-half a year of savings)?

32.3.3 How are the GWh savings (“Variance, Gross Load after DSM and other Customer Savings (GWh)” for 2012, 2013, 2014 and 2015 defined?

32.3.4 Please explain why the size of the GWh savings increases so substantially, in particular from 2013 to 2014 and to 2105 (assuming 2012 represents a half-year of the RIB rate).

32.3.5 Please reconcile the RIB Rate program GWh savings for 2012, 2013, 2014 and 2015 shown in Table BCUC IR1 Q9.3 with option C-8 in Table 8-3.

“The majority of this change [in gross load] will be met through changes in the Company’s purchase of power purchase agreement (“PPA”) power from BC Hydro although there will also be minor changes in the Company’s market energy purchases and surplus sales.” [Exhibit B-5, BCUC IR 1.9.3, p.21.]

32.4 Does the fact that the majority of the change in gross load due to implementation of the RIB Rate will be met through changes in the Company’s purchase of PPA power from BC Hydro mean that BC Hydro’s long-run marginal cost of energy is an appropriate proxy for FortisBC’s long-run marginal cost of energy, at least concerning the design of the RIB Rate?

32.5 Does it follow from the quote above [Exhibit B-5, BCUC IR 1.9.3, p.21.] that the “Marginal Cost of RIB Program ($/GWh)” for 2012, 2013, 2014 and 2015 in Table BCUC IR1 Q9.3 is effectively a short-run marginal cost of energy?

“The values in Table BCUC IR1 Q9.3 represent what, in the opinion of the Company, is appropriate for the RIB rate comparison.” [Exhibit B-5, BCUC IR 1.9.3, p.21, underline added.]

32.6 By “The values in Table BCUC IR1 Q9.3” is FBC referring to the values for “Marginal Cost of RIB Program ($/GWh)” for 2012, 2013, 2014 and 2015?

32.7 In comparison of the RIB rate with what? The Block 1 rate and Block 2 rate?

32.8 Why does FBC use the term “Marginal Cost of RIB Program ($/GWh)” in Table BCUC IR1 Q9.3? Should this be ‘marginal value’?

32.9 BCUC IR 1.9.3 asks for an explanation of “how the marginal cost of electricity is defined
and assessed at FortisBC.” [underline added] Table BCUC IR1 Q9.3 appears to provide the avoided cost of energy saved by the RIB Program in $/GWh. That figure appears to derive directly from an assumed average (“blended”) cost of power purchase that is embedded in the Total Power Purchase Expense, with and without the RIB Program. Is an average cost of power responsive to the marginal cost of power purchase? How does the use of a blended cost where the BC Hydro proportion is 28% jibe with the statement that the majority of the change in gross load due to implementation of the RIB Rate will be met through changes in the Company’s purchase of PPA power from BC Hydro?

Subsection 4(3) of the Demand-Side Measures Regulation, B.C. Reg. 326/2008, under the Utilities Commission Act, states:

4 (3) In determining whether a demand-side measure of a bulk electricity purchaser is cost-effective, the commission must consider the benefit of the avoided supply cost to be the authority’s long-term marginal cost of acquiring new electricity to replace the electricity sold to the bulk electricity purchaser and not the bulk electricity purchaser’s cost of purchasing electricity from the authority.

32.10 Is FortisBC a “bulk electricity purchaser” within the meaning of s.4(3) of the DSM Regulation?

32.11 Is the proposed FBC RIB Rate a demand-side measure within the meaning of s.4(3) of the DSM Regulation?

32.12 Does s.4(3) of the DSM Regulation require the Commission to consider BC Hydro’s long-term marginal cost of acquiring new electricity in determining whether the proposed FBC RIB Rate is cost-effective?

33.0 Topic: Comparison of RIB Rate option 8 and option 2
Reference: Exhibit B-5, BCUC IR 1.9.10

“As can be seen by comparing Option 8 with Option 2 in Table 7-2, forcing more load into the second block by lowering the threshold reduces the conservation impact while negatively impacting customers.” [underline added]

33.1 Please explain the referenced comparison to Option 8 and Option 2 in Table 7-2. Has there been an errata? Please comment on the following observations:

33.1.1 In the version of Table 7-2 at hand, the Conservation Impact of Option 8 is 1.9%, 3.7%, 5.5% (for the three elasticity assumptions) and the Conservation Impact of Option 2 is exactly the same at 1.9%, 3.7%, 5.5%.

33.1.2 In addition, the Maximum Bill Impact of Option 8 is 22.6%, which is slightly higher than the Maximum Bill Impact of Option 2, which is 21.3%. (Both Option 2 and Option 8 are “95% see <10% annual bill impact.”)

33.1.3 Similarly, the Percentage of Customers with Bill Increases >20% is 0.2% for Option 8, which is slightly higher than the figure for Option 2, which is 0.1%.
34.0 **Topic:** BC Hydro rate increase  
**Reference:** Exhibit B-5, Table BCUC IR1.11.1; Exhibit B-1, Table 8-3; Exhibit B-6, BCOAPO IR 1.3; Exhibit B-11 Additional evidence

BCUC IR 1.11.1 states:

“Commission Order G-72-11 approved an across-the-board rate increase of 8.0% for BC Hydro, effective May 1, [2011]. Please describe the implications of these rate increases on FortisBC’s various proposals, as well as on the preferred option 8.”

FortisBC responds:

“An increase of 8.0 per cent for BC Hydro wholesale purchases will have an impact of 0.9 per cent (annualized) for the Company’s 2011 residential revenue requirements. Since the proposed customer charges are fixed at various levels under the 18 options examined, the block 1 and block 2 energy rates would need to increase by an amount greater than 0.9 per cent.”

In Table 8-3, a footnote states: “Does not include any forecast increases related BC Hydro flow-through.” [underline added]

In its Additional Evidence, the Company addresses some aspects of the flow-through of the BC Hydro wholesale price increase.

34.1 Does “the block 1 and block 2 energy rates would need to increase by an amount greater than 0.9 per cent” mean 0.9 percentage points, as would appear from Table BCOAPO IR1 Q3b?

34.1.1 Is the 0.9% figure premised on an increase in FortisBC residential rates (due to the change in the BC Hydro wholesale price) for only a portion of 2011, or for all of 2011?

34.2 Does FortisBC’s response mean that if a RIB Rate is approved in this proceeding then “the block 1 and block 2 energy rates” will increase by an amount greater than 0.9 per cent (or percentage points)?

34.3 Please confirm that “increase” here means set initially at a level higher than would otherwise have occurred, as distinct from being set at one level and then later being increased.

34.4 Please confirm that “the block 1 and block 2 energy rates [increasing] by an amount greater than 0.9 per cent” means that the load-weighted average of the block 1 and block 2 rates increases by greater than 0.9 per cent, although the amount by which either the block 1 rate or the block 2 rate increases could be less or more than 0.9 per cent depending on the configuration of bill impact, threshold, and customer charge.

34.5 Please confirm that this increase in the revenue requirement does not directionally affect the conservation impact and other attributes of the RIB Rate options set out in Table 7-2.

34.6 To clarify, is it the case that the 8.0% increase in the BC Hydro wholesale price has already caused an increase in the FortisBC residential rates in 2011? As of what date?

34.7 Has FortisBC factored in the 2011 change in BC Hydro wholesale price in the tables
showing the combined effect of class average rate change (CARC) and RIB Rate?

35.0 Topic: Customer Charge
Reference: Exhibit B-5, BCUC IR1 Q12.4

The IR is:

“12.4 Is it true that by lowering the customer charge, there is more flexibility to increase the Block 1 and Block 2 rates, and all other things being equal and on a revenue neutral basis, there is potential to increase energy savings from customers? Please illustrate your answer.”

FortisBC responds in part:

“All other things being equal, including the customer impact criterion, at each level of customer charge there will only be one set of rates that will collect the revenue requirement. …”

35.1 Please comment on the following as an answer to BCUC IR 12.4?: No. It cannot be said as a general rule that by lowering the customer charge there is more flexibility to increase the Block 1 and Block 2 rates. Assuming one of the things being held equal is the maximum level of customer annual bill impact, then some of the bill impact ‘room’ that would otherwise be available to garner larger conservation impacts by increasing the differential between block 1 and block 2 is taken up by the bill impact of the reduction in the customer charge.

36.0 Topic: Customer charge
Reference: Exhibit B-5, BCUC IR1 Q12.4; 12.4.1

FortisBC continues its response to BCUC IR 12.4:

“In referring to Options 1 and 10 from Table 7-2 in the Application, which holds all aspects of the rate constant other than the level of the customer charge, it can be seen that with a lower customer charge the block 1 rate increases, the block 2 rate decreases slightly and the rate differential also declines. The conservation impact change is negligible.”

BCUC IR 12.4.1 states:

“12.4.1 If the above is not true or true only under certain conditions, please explain your answer.”

FortisBC responds:

“The above is true for all options examined in preparing the Application. However, due to the increase in the per-kWh consumption rate associated with a decrease in the customer charge, the breakeven point at which bills are lower with a lower basic charge happens sooner. For example, all other things being equal, a customer being billed under scenario 10 from Table 7-2 ($21.50 customer charge) will pay less than a customer being billed under Scenario 1 ($28.93 customer charge) up to approximately 11,000 kWh annually.
Were the customer charge in Option 10 lowered to $7.50, the customer will begin to see bills higher than those under Option 1 after annual consumption of only 7,500 kWh.”

36.1 Please confirm that the response to BCUC IR 1.12.4.1 addresses the impact of a reduced customer charge on the breakeven point but not on the estimated conservation impact.

37.0 **Topic: Customer charge**  
**Reference:** Exhibit B-5, BCUC IR1 Q12.7 as revised July 29, 2011;  
Table BCUC IR1 Q12.7 provides RIB Rate Options Comparisons for customer charge = $15.00/billing period.

37.1 To illustrate the relationship between customer charge and conservation impact, please provide a line graph showing conservation impact on the y-axis and customer charge on the x-axis. For simplicity, use options with the 95% see <10% bill impact criterion. Please show all the RIB Rate options with different customer charges that have now been developed (e.g., in response to Panel IR1.)

38.0 **Topic: Electric space heating and cooling data**  
**Reference:** Exhibit B-6, BCUC IR 1.13.4  
“…FortisBC does not have data on the proportion of customers that use electricity for both space heating and cooling.”

38.1 Where does FortisBC get its data on the proportion of residential customers who use electricity as the primary space heating source, the proportion who use electricity as a secondary space heating source, and the proportion who use electric space cooling?

38.2 If the usage data comes from the REUS, why isn’t data available on the use of both electric space heating and cooling?

39.0 **Reference:** Exhibit B-6, BCUC IR 1.13.6, Table BCUC IR1 Q13.7  
Table BCUC IR1 Q13.7 shows “Number of Customers” for 2006 and 2010 by Block Usage.

39.1 Please clarify if “Number of Customers” means the number of bills.

40.0 **Topic: Threshold and conservation impact**  
**Reference:** Exhibit B-6, BCUC IR 1.15.1, Table BCUC IR1 Q15.1  
Table BCUC IR1 Q15.1 shows RIB Rate Options Comparison for two new options 19 and 20: Customer Charge = $28.93/billing period and Customer Charge = $21.50/billing period, where customer bill impact = 90% see <10% and threshold = 1500 kWh/billing period.

40.1 Please confirm that the assumptions for option 19 are the same as for options 1 and 7 in Table 7-2, except regarding the thresholds (Option 19 = 1500 kWh; Option 1 = 1350 kWh; Option 7 = 1600 kWh).
40.2 Please confirm that the assumptions for option 20 are the same as for options 10 and 16 in Table 7-2, except regarding the thresholds (Option 20 = 1500 kWh; Option 10 = 1350 kWh; Option 16 = 1600 kWh).

40.3 Please provide a table with all the columns of Table 7-2, showing options 19, 1, and 7 and 20, 10 and 16.

40.4 Regarding options where customer charge = $28.93/billing period, please confirm that for option 19 (threshold = 1500 kWh/billing period) the conservation impact set (3.15, 6.1% and 9.0%) is higher than both the option 1 (threshold = 1350) conservation impact set (2.8%, 5.6% and 8.3%) and the option 7 (threshold = 1600) conservation impact set (3.0%, 6.0% and 8.8%). Does this result suggest that the threshold can be adjusted between 1350 and 1600 kWh/billing period to optimize conservation impacts, where customer charge = $28.93/billing period?

40.5 Please extend the table requested in the second previous IR by adding versions of options 19 and 20 with bill impacts of 95% see <10% and 100% see <10%.

41.0 Topic: Determination of Block 1 rate and Block 2 rate
Reference: Exhibit B-5, BCUC IR 1.16.2; 1.16.3

The question is how the Block 1 and Block 2 rates were determined for the various RIB Rate options.

The explanation begins with five steps to develop the percentage of usage in each block. It then says that “When setting the various rate options, the customer charge was established first.” Then it says “The differential between block 1 and block 2 rates was then optimized so that the revenues were the same as without a RIB rate and the criteria for rate increases for each option was met.” [underline added]

41.1 With respect to what was the block differential optimized? Or does this mean that the block differential was maximized?

41.2 Is it the case that FBC set the block 1 and block 2 rates in order to maximize the block differential; and not to maximize conservation impact?

41.3 If so, why? Please confirm that under the bill impact constraint and with a two-part elasticity assumption maximization of the block differential does not equate to maximization of the conservation impact.

41.4 Please confirm that the block 1 and 2 rates would be different if they had been determined by maximizing the conservation impact rather than the block differential.

41.5 Please continue with a step by step description of how the block 1 rate and block 2 rate were determined, after the percentage of usage in each block was determined.

41.6 In BCUC IR 1.16.3, FortisBC says that the “first analysis” was rejected. Does this refer to the first analysis set out in the response to BCUC IR 1.16.2?
42.0 **Topic: Customer income and consumption**  
*Reference: Exhibit B-5, BCUC IR 1.16.4; Table BCUC IR1 Q16.4*  

Table BCUC IR1 Q16.4 provides customer income categories for consumption tranches based on REUS data.

42.1 Please discuss cell size for this table and identify which values are significant.

42.2 Please confirm that the percentage figures shown are the percentage of each annual energy tranche consumed by customers within a given income category. These are not the percentages of customers of a given income category who consumed a certain amount of energy.

42.3 Please provide a table showing the percentage of customers by income category and annual energy tranche, so that the rows total 100%.

42.4 Take as an example, row Income <$20,000 and column Annual kWh >20,000. Confirm that the cell value of 4% means that 4% of the energy consumed by customers who consumed more than 20,000 kWh per year was consumed by customers in the <$20,000 income category. What level of significance should be attached to this cell value? To what extent is it possible that the REUS data conflates family income with customer consumption, for example where there is more than one family served by a single customer meter?

43.0 **Topic: Customer income and dwelling type and heating source**  
*Reference: Exhibit B-5, BCUC IR 1.16.5; Table BCUC IR1 Q16.5*  

Table BCUC IR1 Q16.5 shows Single-Family Homes and Other by customer income categories; and Electric Heat and Other by customer income categories.

43.1 Please provide two tables, one for dwelling type and the other for heating source, showing customer numbers and percentages by income category horizontally.

43.2 Please discuss cell size for these tables and identify which values are significant.

44.0 **Topic: Calculation of conservation impact**  
*Reference: Exhibit B-5, BCUC IR 1.19.3; Exhibit B-1, s.7.2*  

“…Also, the calculations are based on the amount of load facing block 2, not the amount of load billed at block 2. The amount of load facing block 2 represents the percentage of bills that are above the threshold and see the block 2 rate as their marginal cost. This amount is 87.2 per cent for the 1,350 threshold, 82.9 per cent for the 1,600 threshold and 71.4 per cent for the 2,100 threshold. This approach is the same as how BC Hydro calculated elasticity impacts.” [BCUC IR 1.19.3]

“The Company further contends that it is reasonable to assume that different elasticity values apply to consumption above and below the threshold level of consumption. This difference in elasticity results from the assumption that customers are more inclined to respond to a price that is above the current flat rate. For this reason, in examining the conservation effects of the RIB rate, two values for the elasticity have been used – a lower absolute elasticity value for consumption in the first block and a higher absolute
value for consumption in the second block. Regardless of the values chosen, conservation impacts are evident.” [Exhibit B-1, p.21]

44.1 Is it a misstatement where the Application says that the conservation impact was calculated using the lower elasticity figure for consumption in the first block and the higher elasticity figure for consumption in the second block? Please confirm that this is what FBC refers to in BCUC IR 1.19.3 as calculations based on load billed at block 2, as distinct from being based on load facing block 2.

44.2 Please confirm that when FBC states “The amount of load facing block 2 represents the percentage of bills that are above the threshold and see the block 2 rate as their marginal cost” this means that each bi-monthly bill that exceeds the threshold is given a conservation impact equal to the entire amount of the billed consumption, times the difference between the Block 2 rate and what would otherwise have been the flat rate, times the higher of the two elasticity figures in the pair.

44.3 Why does FBC present the Percentage of Load Billed in Block 2 in Table 7-2 if the conservation impact is based on the percentage of load facing block 2?

45.0 Topic: Screening criteria
Reference: Exhibit B-5, BCUC IR 1.20.1; Exhibit B-1, pp.23-24

BCUC IR 1.20.1 quotes the Application:

“FortisBC states: “An initial screening of the options was undertaken in order to reduce the number requiring further analysis. The screening was based on the difference between the block rates and the total residential load that would be billed in the second block. Table 8-1 below shows the results of the initial screening.” (Emphasis added)”

FortisBC states in its response:

“FortisBC believes that the conservation that may result from the implementation of a RIB rate will stem from customer reaction to the price signals inherent in the rate structure. These price signals are contained in the differential between the block 1 and block 2 rates. It was felt that for the initial screening, it was sufficient to look at the two criteria and not to preclude any options based on the results of the specific conservation impact assumptions.”

45.1 Why did FortisBC screen options based on the difference between the block rates and the total residential load that would be billed in the second block instead of screening on the difference between the conservation impact?

45.2 Why did FortisBC screen options based on the total residential load that would be billed in the second block when it was calculating the conservation impact based on the load facing the second block?

45.3 What does FortisBC mean by “not to preclude any options based on the results of the specific conservation impact assumptions”? Is the reference to the three pairs of elasticity assumptions? Please confirm that there are few, if any, RIB Rate options that would be screened out instead of screened in due to choosing one or other of the three
pairs of elasticity assumptions.

46.0 **Topic: Screening criteria**  
*Reference: Exhibit B-5, BCUC IR 1.20.2*

“FortisBC identified the RIB block evaluation criteria early in its development of the RIB options and was consistent in their application throughout. A RIB rate is intended to be a conservation rate so it follows that criteria related to pricing that incents the desired behaviour would be used. …”

46.1 Given that the RIB block evaluation criteria (block differential and percentage of load billed at block 2) are not consistently correlated with conservation impact over the range of RIB rate options [or is this an observation that has been superseded by errata?], why didn’t FortisBC use conservation impact as the screening criterion?

47.0 **Topic: Pricing principles**  
*Reference: Exhibit B-5, BCUC IR 1.21.1; Exhibit B-6, Table BCOAPO IR1 A16g*

47.1 Please confirm that FortisBC’s second-preferred option, option A (general and rebalancing increases applied to the block 1 rate, 95% see <10%, threshold = 1350 kWh/billing period, customer charge = $28.93/billing period), shows 0.0% of customers have any rate impact >10% in any year from 2012 to 2015.

47.2 Please confirm that FortisBC’s first-preferred option, option C (general and rebalancing increases applied to the block 1 rate, 95% see <10%, threshold = 1600 kWh/billing period, customer charge = $28.93/billing period), shows 6.4% of customers have a rate impact >10% in 2012 and 0.0% have a rate impact >10% in any year from 2013 to 2015.

47.3 Please confirm, per Table 7-2, that option A and option C have identical conservation impact estimates, option A has a slightly higher block differential than option C; option A has a slightly higher percentage of load billed in block 2 than option C; option A has a slightly higher percentage of customers who have consumption in the second block at least once than option C; and option A has a slightly lower breakeven point than option C.

48.0 **Topic: CARC + 10% RIB Rate option**  
*Reference: Exhibit B-5, BCUC IR 1.21.4; Table BCUC IR1 Q21.4*

In response to the IR, Table BCUC IR1 Q21.4 provides information on a RIB rate option where “the single most adversely impacted customer would face a bill impact of CARC + 10%.”

48.1 For Table BCUC IR1 Q21.4, please clarify the Threshold and the Customer Charge.

48.2 Please provide a RIB Rate Options comparison table, like Table 7-2, for the CARC + 10% option (threshold = 1600 kWh/billing period, customer charge = $28.93/billing period in 2011), and please specify the assumed pricing principle.

48.3 Please confirm that “Percent Customers with Impacts in the Range of:” in Table BCUC IR1 Q21.4 is defined as annual bill impacts due to the RIB Rate plus CARC (cf. all the other bill impact figures that exclude CARC).
48.4 For 2011 in Table BCUC IR1 Q21.4, what assumption is made about how many months the RIB Rate is in effect for? I.e., confirm that block 1 rate and block 2 rate are set by maximizing the block differential over 12 months.

48.5 What is FortisBC’s view as to whether there is any difference between the Q21.4 option where “the single most adversely impacted customer would face a bill impact of CARC + 10%” (threshold = 1600 kWh/billing period, customer charge = $28.93/billing period in 2011) and option 9 in Table 7-2? Please consider the following:

48.5.1 The 2011 Block 1 rate and Block 2 rate appear to the same but for rounding differences in “CARC + 10%” and option 9.

48.5.2 The concept of option 9 is that 100% of customers see <10% annual bill increase not including CARC. This seems to be the same as “the single most adversely impacted customer would face a bill impact of CARC + 10%” (except for the presumably trivial distinction between ‘less than 10%’ and ‘less than or equal to 10%’).

48.5.3 In Table BCUC IR1 Q21.4, for 2012 to 2015 the ‘percent customers with impacts’ appears to reflect CARC exclusively and not the RIB rate.

48.6 Please confirm that FortisBC rejected option 9 because “Initial block differential too low,” per Table 8.1. Does the same reasoning apply to the “CARC + 10%” option?

49.0 Topic: CARC + 10% RIB Rate option
Reference: Exhibit B-5, BCUC IR 1.22.1; Table BCUC IR1 Q22.1

49.1 Please add to Table BCUC IR1 Q22.1 RIB Rate Option comparison columns used in Table 7-2.

50.0 Reference: Exhibit B-5, BCUC IR 1.23.1; Table BCUC IR1 Q23.1c and Q23.1d

Table BCUC IR1 Q23.1c provides “Average Bill Impact – Option A” by number of bills in Block 2 for 2011 to 2015. Table BCUC IR1 Q23.1d provides the same for Option C.

50.1 What is the “average bill impact” shown as a percentage for years 2012 to 2015 in Table BCUC IR1 Q23.1c and Q23.1d? Is it the average annual bill impact of customers who have the given number of bills in Block 2?

50.2 Please confirm that “average bill impact” shown for years 2012 to 2015 includes CARC.

51.0 Topic: Elasticities
Reference: Exhibit B-6, Table BCOAPO IR1 Q13c

Table BCOAPO IR1 Q13c shows estimated conservation impact for RIB Rate options 1 to 9 assuming elasticities are the same for load not facing block 2 and for load facing block 2.

51.1 Please confirm that the estimated conservation impact values are negative, meaning increased consumption.
51.2 In FortisBC’s view, is it valid to assume that the same elasticity applies to load not facing block 2 and to load facing block 2?

52.0 **Topic: Relationship between Initial Block Differential and Conservation Impact**

Reference: Exhibit B-6, Table BCSEA IR 1 Q7.2

Table BCSEA IR 1 Q7.2 provides Block Differential and Conservation Impact by Option number. The following table sorts Table BCSEA IR 1 Q7.2 by Block Differential.

<table>
<thead>
<tr>
<th>Option</th>
<th>Criterion</th>
<th>Block Differential</th>
<th>Conservation Impact</th>
</tr>
</thead>
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<tr>
<td></td>
<td></td>
<td>0.05/.010</td>
<td>.10/.20</td>
</tr>
<tr>
<td>4</td>
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</tr>
</tbody>
</table>

52.1 Please confirm that the above table sorts Table BCSEA IR 1 Q7.2 by Block Differential.

52.2 Please confirm that with one exception Conservation Impact declines with declining Block Differential; the exception being Option 12 (100% see <10%; 1350 kWh threshold; $21.50 customer charge).

52.3 Why is Option 12 different than the other 17 options in having a higher, rather than lower, Conservation Impact than the option with the next higher Block Differential?