

REQUESTOR NAME: **BC Sustainable Energy Association and Sierra Club BC**
INFORMATION REQUEST ROUND NO: 1
TO: **FortisBC Inc. (FBC)**
DATE: **March 28, 2018**
PROJECT NO: **1598939**
APPLICATION NAME: **FortisBC Inc. 2017 Cost of Service Analysis and Rate Design Application**

1.0 Topic: Regulatory History
Reference: Exhibit B-1, section 3.3.2.2, page 23

FBC states:

Order G-3-12 and the associated reasons (together, the RIB Decision) approved FBC's proposed two-tier RIB rate structure consisting of a RIB rate threshold of 1,600 kWh and the resulting rate differential between the block one and two rates.

Preamble:

In the 2012 RIB Decision (p. 38), the Commission states that FBC's LRMC was \$125.80/MWh, not including delivery costs, based on the cost to acquire additional power from new resources.

The Commission found that **"the long-run marginal cost of new supply continues to be the appropriate referent for the Block-2 energy rate"**. (p. 40, bold in original)

- 1.1 Please outline the changes in FBC's estimate of its LRMC since 2012. Please indicate the most recent value or values, and provide summary of the analysis used to determine them.

Preamble:

In the 2012 RIB Decision, the Commission directed FBC **"to provide an update of the full long-run marginal cost of acquiring energy from new resources, including the cost to transport and distribute that energy to the customer as part of the reporting to be submitted in 2014."** (p. 41, bold in original)

- 1.2 Please provide a copy of the report provided in response to this direction.

Preamble:

In the 2012 RIB Decision, the Panel directed FBC to provide a "RIB Rate Evaluation Report" by April 30, 2014 that would:

"provide FortisBC, the Commission and the Interveners the opportunity to evaluate the effectiveness of the RIB rate program, particularly with respect to its impact on conservation. In addition to including an update of the

Conservation Potential Review and a report on the potential effects of interaction between RIB rates and DSM targets, the RIB Rate Evaluation Report should also address the questions raised by Nelson Hydro at page 3 of its Final Submission:

- What energy consumption reductions are achieved,
- Do the consumption reductions persist or are they temporary,
- How does the rate design impact electric heat customers, and
- What operating cost reductions result to the utility?"

1.3 Please provide a copy of the RIB Rate Evaluation Report provided in response to this direction.

1.4 Please provide a copy of the most recent update of this report.

Preamble:

According to the 2012 RIB Decision (p. 51): "FortisBC states that "in due course" it will consider a rate structure that combines time-based and RIB principles."

1.5 Has FBC ever considered a rate structure that combines time-based and RIB principles? If so, please provide details as to the rate structure that was considered, and why it was not retained.

1.6 If not, why not?

Preamble:

The 2012 RIB Decision states, at page 52, "If FortisBC moves forward with its Advanced Metering Initiative as it currently plans to do, it will need to develop a strategy to integrate the RIB rate regime with its TOU rate regime."

1.7 Has FBC developed a strategy to integrate the RIB rate regime with its TOU rate regime? If so, please provide details of this strategy. If not, why not?

2.0 Topic: Fixed-Cost Recovery
Reference: Exhibit B-1, section 3.4, page 29-30, 34

Citation 1 (pp. 29-30):

The adoption of these [distributed generation] technologies tends to reduce consumption or change consumption patterns for customers, and requires utilities to acquire new technologies or information systems capacity to manage their systems. These

trends can simultaneously increase costs and/or reduce customer consumption.

One implication of these developments for utilities is that elements of the current rate design paradigm, which have worked well in the past, may be less well positioned for a future in which many customers have cost-effective options to improve the energy efficiency of their homes and businesses or generate electricity onsite.

...

As more customers reduce their total energy use or total use of utility-supplied energy, utilities must be able to raise rates to recover adequate revenues to cover their costs, which are substantially fixed in nature. This is a result of the manner in which rates are set, and the inequitable impact on customers is caused in part by the mismatch between the ways costs are incurred (e.g. for NM customers there is a high percentage of fixed costs for delivery capacity that is still needed, even if on a day-to-day basis they generate a substantial portion of their own energy requirements) and recovered (largely through volumetric charges).
[underline added]

Citation 2 (p. 34):

Given the small sample size and early stage of the NM Program, FBC is not seeking Commission approval of a new rate element such as a demand-related rate for NM customers at this time.

- 2.1 Please indicate the a) number and b) combined installed capacity of FBC's current net metering customers.
- 2.2 Given the number and combined installed capacity of FBC's current net metering customers of FBC's current net metering customers, does FBC consider that there is any immediate need to modify its rate structure in order to reduce the degree to which fixed costs are met through volumetric charges? If so, please explain why.
- 2.3 Is the rate design proposed in the present proceeding intended to reduce the degree to which fixed costs are met through volumetric charges?

3.0 Topic: Fixed Cost Recovery
Reference: Exhibit B-1, section 3.5, page 31

FBC states:

The 2017 RDA proposes changes to the rate structures of some classes in order to provide a consistent level of fixed cost recovery across the rate classes. Based on the extent to which existing

rates recover the fixed customer and demand-related costs of service based on the unit costs contained in the COSA, FBC recommends a minimum fixed cost recovery of 55 percent of customer related unit costs and 65 percent of fixed infrastructure related unit costs.

- 3.1 Please explain the extent to which FBC's recommendation in section 3.5 to set a minimum fixed cost recovery rate is related to its analysis of the challenges to fixed cost recovery in relation to NM programs, described in section 3.4.
- 3.2 Please explain how the figures of 55% and 65% were derived.
- 3.3 Is FBC seeking BCUC approval for this ratemaking guideline?

4.0 Topic: Fixed Cost Recovery
Reference: Exhibit B-1, section 3.5, Table 3-2, page 32

Table 3-2 indicates that, for the Residential (RCR), the "Customer Charge COSA Unit Cost" is \$35.60/month

- 4.1 Please provide a reference to the COSA schedule where this figure is detailed.
- 4.2 Please provide the breakdown of the various cost elements included in this figure.

5.0 Topic: Net Metering Rate
Reference: Exhibit B-1, section 3.6, page 33

FBC states:

As part of the due diligence related to confirming that the existing segmentation of customers still reflects the service characteristics of customers, FBC considered emerging trends in customer composition. The notable change in service to customers is the increasing participation in the Company's NM Program. This sub-group was examined within the COSA in order to assess whether the cost recovery attributes of this particular segment varied in a significant way from customers in general. The results indicate that NM customers have a lower load factor and R/C ratio than similar customers without NM systems. (underlining added)

- 5.1 In support of the statement that participation in the Company's NM Program is increasing, please indicate the number of NM customers and the estimated installed capacity under the program for each of the last five years.

6.0 Topic: Forecast loads
Reference: Exhibit B-1, section 5.1, page 41

Citation:

The winter system peak is forecast at 761 MW and a peak of 634 MW is expected during the summer months.

- 6.1 Please provide representative load duration curves for the summer and winter peaks.
- 6.2 Please provide (in Excel format) hourly system loads for the last three (3) years for which data are available.

7.0 Topic: Production/Power Supply Expenses
Reference: Exhibit B-1, section 5.1.2.2.2, page 51

Preamble:

Table 5-8 indicates that Brilliant and Waneta Expansion are classified as 31% demand and 69% energy.

Citation: (Appendix A, page 29)

FortisBC also has a capacity contract for power from the Waneta Expansion project. In this case the costs are all capacity related.

- 7.1 Please reconcile the COSA statement to the effect that Waneta Expansion costs are all capacity-related with Table 5-8, which indicates that they are classified as 31% demand and 69% energy.

8.0 Topic: Residential Rate Options
Reference: Exhibit B-1, section 6.1.4, page 59

Preamble:

The options considered including changing the Tier 2 threshold.

- 8.1 Did FBC consider changing the Tier 2 threshold a) for Electric Space Heating customers only, b) for the winter season only, or c) for Electric Space Heating customers during the winter season? If not, why not?

9.0 Topic: Residential Rate Options
Reference: Exhibit B-1, section 6.1.4, page 60

Citation:

For the 2017 RDA, FBC has ensured that, at a minimum, this same constraint for evaluating rate options [that 95 percent of customers should have bill increases no greater than 10 percent] was in place. However, since a phased-in approach to rate

changes has also been evaluated whereas the original constraint was on a year over year basis, in the FBC proposal presented in Section 6.1.5, no customer will experience an annual rate increase greater than 3.5 percent. (underlining added)

- 9.1 Should “will experience an annual rate increase” read “will experience an annual bill increase”?
- 9.2 Has FBC applied any constraint with respect to cumulative bill increases over five years?
- 9.3 Please confirm that a customer that experienced a 3.5% bill increase for each of five years would see a cumulative bill increase of 18.8% ($1.035^5 - 1$).
- 9.4 Does FBC consider an increase of this magnitude over five years to be acceptable? If so, what is the threshold above which FBC would find a 5-year cumulative bill increase to be unacceptable?

10.0 Topic: Residential Rate Options
Reference: Exhibit B-1, section 6.1.4, page 61

Citation:

FBC is in agreement with the customer sentiment that the impact of the RCR has become overly burdensome on high consuming customers.

- 10.1 Is FBC in agreement with the sentiment, or is it FBC’s view that the current RCR is overly burdensome to high consuming customers? If the latter, is it FBC’s view that the RCR is unfairly burdensome to high consuming customers?
- 10.2 If it is FBC’s view that the current RCR is unfairly burdensome to high consuming customers, please provide a quantitative demonstration to this effect, based on the COSA.

11.0 Topic: Changes to the Existing RCR
Reference: Exhibit B-1, section 6.1.4.2, page 65

Citation:

Based on cost causation/avoidance, FBC agrees that no measure of the Company’s Long Run Marginal Cost (LRMC) of power is close to the current 2017 Tier 2 rate of \$0.15617 per kWh.

- 11.1 What are the measures and values of LRMC that FBC relies on for this statement?

12.0 Topic: Cost of acquiring energy through new resources
Reference: BCUC Order G-3-12, Reasons for Decision, pages 37-41

Citation:

While the Panel considers the most appropriate referent to be the cost of acquiring energy through new resources, we note that all of the above marginal costs represent only the cost of acquiring the energy. Thus, there is ambiguity between the LMRC as defined by FortisBC and the true long-run marginal cost of new supply to the customer. The Block 2 rate is a delivered rate, while the LRMC is a cost of acquisition – it only relates to the cost of procuring energy but does not include the LRMC of transporting that energy to customers through transmission and distribution networks. FortisBC estimates the LRMC at \$125.80 per MWh, or 12.58 cents per kWh, which includes line losses of 11 percent, but does not include other delivery costs. ...

Because of the uncertainty of the actual LRMC, the Panel does not agree that the Block 2 rate be capped at this time. **However, FortisBC is directed to provide an update of the full long-run marginal cost of acquiring energy from new resources, including the cost to transport and distribute that energy to the customer as part of the reporting to be submitted in 2014.** (p. 41) (underlining added, bold in original)

- 12.1 Please provide the analysis submitted to the BCUC in 2014 in response to Order G-3-12.
- 12.2 Please provide any updates to the 2014 analysis that FBC considers necessary, providing explicit references and worksheets when appropriate.

13.0 Topic: Changes to the Existing RCR
Reference: Exhibit B-1, section 6.1.4.2, page 65

Citation:

The rate options were analysed while also incorporating an increase in fixed-cost recovery across all rate classes, as discussed in Section 3.4 of this Application. As a result, FBC did not present options where the Customer Charge was reduced. It is a function of the fixed nature of the Revenue requirement that a decrease in the Customer Charge will result in an overall increase in the variable energy charges included in the rate.

- 13.1 Has FBC produced any evidence to suggest that, at the present time or in the next few years, the company is suffering or will suffer any adverse effects resulting from recovering a portion of its fixed costs through volumetric rates? If so, please provide references.

- 13.2 Has the BCUC ever endorsed the principle regarding the recovery of fixed costs described in s. 3.4 of the Application? If so, please provide a specific reference.

14.0 Topic: Changes to the Existing RCR
Reference: Exhibit B-1, section 6.1.4.2, page 65

Citation:

A seasonal RCR variant was also discussed at the sessions. The premise of this option is that the Threshold would be increased during the winter when consumption typically increases in order to provide customers with more consumption billed at the Tier 1 rate. This option was not modelled since it cannot be accommodated without significant and costly changes to the billing system, and more importantly, does not provide bill mitigation that cannot be accomplished through the other options that were explored.

- 14.1 Please provide evidence in support of the statement that a seasonal variant of the Threshold cannot be accommodated without costly changes to the billing system.
- 14.2 Please estimate the cost of implementing changes to the billing system to allow:
- 14.2.1 Applying a different Threshold for one sub-group of residential customers, as opposed to another;
- 14.2.2 Applying different Thresholds depending on the season (to all customers); and
- 14.2.3 Applying different Thresholds depending on the season for one sub-group of residential customers only.
- 14.3 Is FBC aware of any other utility that either a) applies different thresholds for different subgroups of customers or b) applies different thresholds at different times of year? If so, please provide references. If not, can FBC affirm that there are no utilities in North America that use such billing practices?
- 14.4 Please a) detail the costs that have been or will be incurred in order to implement the proposed optional TOU pricing, and b) explain the relationship between those costs and the costs that would be incurred in order to allow the application of Tier 2 threshold that varies by season for electric space heating customers.
- 14.5 What other bill mitigation options were explored that would have the same effect as increasing the Tier 2 Threshold in winter for electric space heating customers?

15.0 Topic: Changes to the Existing RCR
Reference: Exhibit B-1, section 6.1.4.2, Table 6-4, page 66

Preamble:

The analysis presented in Table 6-4 describes average annual bill impacts of the various options in terms of annual consumption, broken down into tranches of 5,000 kWh/year each. The second column indicates that 58% of customers use less than 10,000 kWh/yr, and that 80% use less than 15,000 kWh/yr. It also shows that all six of the options studied produce average annual bill increases for the 58% of customers that use less than 10,000 kWh/yr and that three of the options also produce rate increases for the 80% of customers using less than 15,000 kWh/yr.

- 15.1 Please provide a copy of FBC's most recent residential energy use survey.
- 15.2 What information does FBC have regarding the characteristics of its residential customers with respect to floor space, owner vs renter, income level, education level, geographical placement, First Nation status, etc.? Please provide copies of the relevant documents.
- 15.3 Please summarize the observed correlation between the level of annual consumption and a) household floor space, and b) household income? Please elaborate on your response.

16.0 Topic: Changes to the Customer Charge
Reference: Exhibit B-1, section 6.1.4.4, pages 67 and 69

Preamble:

Table 6-5 shows the effect on the Tier 1 and Tier 2 rates of the RCR if the customer charge were increased to \$18.70/month.

Table 6-7 shows similar data, assuming that the change is phased in over 5 years, and excluding any annual revenue requirement impacts.

- 16.1 Please explain why the Tier 1 and Tier 2 rates in year 5 of Table 6-7 are not the same as those in Table 6-5.
- 16.2 Please confirm that both the proposed phase out of the RCR rate and the proposed increase in the basic charge cause larger adverse bill impacts to low-consuming customers than to the highest-consuming 20% of customers.

17.0 Topic: Flat Rate
Reference: Exhibit B-1, section 6.1.4.5, page 70

Citation:

Changing the default rate to a flat rate over the course of a single year will generally result in significant adverse annual bill impacts for lower than average consumption customers and overall would result in some degree of bill impact for over 70 percent of customers.

- 17.1 Please confirm that changing to a flat rate over the course of a single year would result in bill increases for approximately 80% (21% + 37% + 22%) of customers.

18.0 Topic: Flat Rate

Reference: Exhibit B-1, section 6.1.4.5, page 71, Table 6-9

Preamble:

Table 6-9 indicates the annual bill impact of a return to flat-rate billing, by annual consumption level.

- 18.1 Please provide the cumulative five-year rate impact for each group of customers mentioned in Table 6-9.

19.0 Topic: Default Residential Rate Recommendation

Reference: Exhibit B-1, section 6.1.5, page 71-72

Citation:

[T]here is no cost basis for the current levels of the Tier 1 and Tier 2 rates that form the RCR, nor for any particular threshold and tiered pricing.

...

The lack of a cost basis for the existing RCR is the primary driver behind the Company's proposal to return the default residential rate to a flat structure.

- 19.1 It is FBC's position that there is no cost-based justification possible for a RIB rate, or simply that, in setting the current levels of Tier 1 and Tier 2 rates, FBC did not articulate a cost-based justification?
- 19.2 Among the utilities using RIB-type rates identified in FBC's jurisdictional study, have any of them identified a cost basis for the parameters of their RIB rate? For each such utility, please describe in detail the cost basis relied upon.

19.3 In particular, please comment on the cost basis used by Hydro-Québec Distribution in establishing the parameters of its RIB rate.

20.0 Topic: Default Residential Rate Recommendation
Reference: Exhibit B-1, section 6.1.5, page 72

Citation:

In addition, customers have expressed that over the past five years, most of the steps available to reduce the impact of the RCR on billing have been taken.

20.1 Has FBC undertaken any studies that would allow it to confirm whether or not the view attributed to customers to the effect that most of the steps available to reduce the impact of the RCR on billing have been taken is objectively correct?

20.2 Does FBC agree with this view expressed by customers? If so, please present evidence in support of this statement, making reference to FBC's past filings with respect to its conservation and demand management programs.

21.0 Topic: Default Residential Rate Recommendation
Reference: Exhibit B-1, section 6.1.5, page 73, Table 6-10

Preamble:

Table 6-10 indicates the annual bill impact for each customer group, based on annual consumption.

Citation:

The annual bill impacts for all consumption levels are moderate, with no consumption group having an annual average increase in excess of \$42 in any year, and no customers experiencing an annual bill increase in excess of 3.5 percent.

21.1 Please indicate the cumulative 5-year bill impact, in \$ and in percent, for each customer group shown in Table 6-10.

21.2 Does FBC consider that the cumulative 5-year bill impacts described in response to the previous Information Request are "moderate"?

22.0 Topic: Default Residential Rate Recommendation
Reference: Exhibit B-1, section 6.1.5, page 73, Table 6-10

Citation:

Residential customers are likely to be divided on the issue of how to restructure the residential rate based on their own consumption levels. Clearly, those with higher-than-average consumption are unhappy with the current rate RCR rate structure and have made their voices heard through a number of channels, including the consultation phase of this proceeding. A return to a residential rate that is more aligned with cost causation, a rate with a higher fixed cost and a without a tiered consumption charge, is the most logical and defensible manner of addressing these legitimate concerns.

- 22.1 What evidence does FBC have that the voices opposed to the RCR rate are representative of the views of the majority of customers with higher-than-average consumption?
- 22.2 Does FBC acknowledge that customers whose consumption is higher than average but below the top 20% of consumption would actually be financially better off under the RCR rate than under a flat rate?
- 22.3 What conclusions does FBC draw from its observation that customers with higher-than-average consumption who are unhappy with the current rate RCR rate structure have made their voices heard through a number of channels, including the consultation phase of this proceeding? Should the louder voice necessarily prevail?
- 22.4 Where customers are likely to be divided on the issue of how to restructure the residential rate based on their own consumption levels, does FBC consider it appropriate for the utility to support one side against the other?
- 22.5 Please explain FBC's basis for concluding that a residential rate without a tiered consumption charge is more aligned with cost causation than a RIB rate. In FBC's view, is a flat rate more aligned with cost causation than a rate with a tiered consumption charge?
- 22.6 Has FBC taken into account the Commission's finding in its RIB Rate Report that the RIB rate is not "unjust, unreasonable, unduly discriminatory or unduly preferential"?

23.0 Topic: Optional Time of Use
Reference: Exhibit B-1, section 6.1.6.1, page 74

Citation:

While FBC does not consider the level of the rates in each of the tiers in the existing RCR to be cost-based, there are elements of the Company's cost and revenue structure that are influenced by the time at which energy is consumed.

- 23.1 Do households in the top 20% of consumption use proportionately more energy during higher-cost periods than do households with lower consumption? Please provide the data you rely on in your response.
- 23.2 If FBC does not currently possess data allowing it to determine whether or not households in the top 20% of consumption use proportionately more energy during higher-cost periods than do households with lower levels of consumption, what efforts has it undertaken to confirm or refute this hypothesis?

24.0 Topic: Current TOU Rates
Reference: Exhibit B-1, section 8.1, page 109, Table 8-3

Preamble:

The on-peak and off-peak rates under the current TOU residential rate are identical for the Winter, Summer and Shoulder seasons.

- 24.1 Does FBC's cost and revenue structure reveal any differences, from one season to another? Please provide detailed data in support of your answer.

25.0 Topic: TOU Rates Evaluation and Design
Reference: Exhibit B-1, section 8.2, page 110

Citation:

[B]ecause the COSA does not provide the data necessary to determine how best to structure the various TOU periods, information gathered outside of the COSA was used to inform the evaluation and development of proposed TOU rates.

- 25.1 Please describe in detail the types of information which were gathered outside of the COSA to inform the evaluation and development of proposed TOU rates.

26.0 Topic: TOU Rate Periods
Reference: Exhibit B-1, section 8.2.1, page 110

Citation:

Appropriate TOU periods were developed by looking at the total system loads by hour for the past 5 years and to group periods with similar load levels into TOU periods.

- 26.1 Please provide hourly data for system loads over the last 5 years, in Excel format.

27.0 Topic: TOU Rate Periods

Reference: Exhibit B-1, section 8.2.1, page 110-111

Citation:

While the winter and summer months both have relatively higher usage and higher costs in peak hours, loads and costs are lower in the shoulder months.

- 27.1 Please provide detailed justification for the statement that winter and summer months both have relatively higher usage and higher costs in peak hours. Do unit costs always increase (or decrease) with loads?
- 27.2 Please explain in detail the various cost elements that vary over time, and provide data with sufficient detail to be able to estimate unit costs at different periods.

Preamble:

Table 8-10 indicates that the proposed revised TOU rate for each period is invariant, regardless of the season.

- 27.3 If the winter and summer months both have relatively higher usage and higher costs in peak hours, why is the proposed revised TOU rate for each period the same, regardless of the season?

28.0 Topic: Time of Use Pricing

Reference: Exhibit B-1, section 8.2.2, page 112

Citation:

For the distribution system, the number of customers and the non-coincident peak of each is used to plan for facilities and this is reflected in the COSA allocations for distribution costs. Costs associated with the transmission and distribution system, while both driven by peak demand, are primarily fixed and cannot be reduced by the time period in which consumption occurs.

- 28.1 Does FBC agree that increased usage during peak periods tends to accelerate the need for additional transmission and distribution equipment?
- 28.2 Based on its jurisdictional study, please identify jurisdictions that take future transmission and distribution investments into account in setting long-term avoided costs.
- 28.3 Is FBC familiar with the way that transmission and distribution costs are approached by Hydro-Québec Distribution in evaluating its avoided costs? If so, please explain why FBC has not followed a similar approach.

29.0 Topic: Time of Use Pricing

Reference: Exhibit B-1, section 8.2.2, page 113

Citation:

The capacity costs that are considered variable included the capacity charges related to purchased power and would apply only to the on-peak period. The capacity-related costs are generally associated with ensuring there is sufficient capacity available at the time of the system peaks in the winter and summer. They are charged on the basis of the peak demands in the peak winter and summer months.

...

The capacity-related costs divided by the on-peak loads yields a per unit cost of 10.57 cents per kWh.

Preamble:

Schedule 5.3 of the COSA indicates the forecast capacity resources used by month (MW), as well as the unit prices. The amounts for each capacity resource vary from month to month.

The Capacity Expense category includes four resources: Waneta Expansion, BCH 3808 Capacity, BRD Tailrace Capacity and BRX Capacity. The unit costs for each, in \$/MW/month, are, respectively: \$17,349, \$8,016, \$4,426 and \$3,400.

- 29.1 Please describe each of the four capacity resources mentioned in the preamble.
- 29.2 Please explain how the amount of each capacity resource used each month is determined.
- 29.3 Please explain the distinction between BCH Billing Capacity and BCH Peak Usage.
- 29.4 Please indicate which capacity resource is on the margin in each month, and why.
- 29.5 Please indicate which capacity resource is on the margin during each TOU period (peak, shoulder and off-peak), and why.
- 29.6 Please indicate the relationship between the amount of capacity resources required during peak, shoulder and off-peak periods during a given day.
- 29.7 Please explain why there are capacity costs in each month, given that "the capacity-related costs are generally associated with ensuring there is sufficient capacity available at the time of the system peaks in the winter

and summer” and that these costs “are charged on the basis of the peak demands in the peak winter and summer months”.

- 29.8 Please indicate whether or not serving a larger residence, which consumes more energy throughout the year (including during peak periods), would require more capacity resources than serving a smaller residence, which consumes less energy throughout the year.

30.0 Topic: Time of Use Pricing
Reference: Exhibit B-1, section, page 113

Citation:

The variable energy costs included the energy charges from power purchases from BC Hydro and the market and apply to both the on-peak and mid-peak period.

Preamble:

Schedule 5.3 of the COSA indicates the unit energy costs for a number of energy resources.

- 30.1 Please indicate which energy resources in Schedule 5.3 are assumed to be “variable energy costs” that are applied during the on-peak and mid-peak periods.
- 30.2 Please indicate which energy resource is on the margin in each month, and why.
- 30.3 Please indicate which energy resource is on the margin during each TOU period (peak, shoulder and off-peak), and why.

31.0 Topic: Time of Use Pricing
Reference: Exhibit B-1, section 8.2.2, page 114

Citation:

These pricing differentials form the basis of the TOU rates and are the same for all classes.

- 31.1 Please explain why the pricing differentials are the same for all classes.

32.0 Topic: Time of Use Pricing
Reference: Exhibit B-1, section, page 114

Citation:

Elasticity estimates were based on the most current data specific to FBC residential customers – those developed for the 2014 RIB report to the BCUC.

- 32.1 Please provide a copy of the FBC 2014 RIB Report.
- 32.2 Please provide a copy of the worksheets used to develop FBC's elasticity estimates.

33.0 Topic: Proposed Time of Use Rates
Reference: Exhibit B-1, section 8.3, page 115, Table 8-10

Preamble:

Table 8-10 indicates that, for Residential Customers, the proposed on-peak rate is \$0.22435/kWh, the Mid-Peak Rate is \$0.11869/kWh, and the Off-Peak Rate is \$0.09280/kWh.

- 33.1 Please compare annual electricity costs under the proposed TOU rates with those under the current RIB rate for a typical consumer in each of the consumption categories indicated in Table 6-8, indicating for each one the percentage of its consumption assumed to fall in each of the three TOU periods.

34.0 Topic: Proposed Time of Use Rates
Reference: Exhibit B-1, section 8.3, pages 114-115

- 34.1 If all residential consumers opted for the TOU prices, would the portion of FBC's revenue requirement allocated to residential customers be recovered, over-recovered, or under-recovered? Please present detailed calculations in support of your response.
- 34.2 Please indicate bill impacts by level of consumption (as in Table 6-8), if all residential consumers were to opt for the TOU prices.
- 34.3 If all residential customers who would be better off financially under the proposed TOU rate opted into it, and no other customers did, and there were no change in their consumption patterns, what would be a) the revenue impact in \$, and b) the rate impact, in cents per kWh for the residential class?
- 34.4 Please indicate how many comments FBC has received a) from individual residential customers and b) from groups representing residential customers, asking it to reopen its TOU rate.
- 34.5 Please describe the objectives pursued by FBC in seeking to reopen the TOU rate.
- 34.6 Please provide:

34.6.1 FBC's best estimate of the number of residential customers that will subscribe to the TOU rate in each of the next five (5) years, and

34.6.2 The expected impacts on FBC's costs and revenues that will result from these TOU subscriptions.

35.0 Topic: Cost of Production and Power Supply
Reference: Exhibit B-1, Appendix A, page 18 (p. 158 of pdf)

Citation:

Monthly power supply costs were classified as demand and energy on the basis of wholesale Rate 3808 from BC Hydro and allocated on a monthly basis to various customer classes.

Preamble:

Rate 3808 sets a demand charge and two energy charges (Tranche 1 and Tranche 2). It sets out how Billing Demand is determined, and specifies energy costs in terms of Contract Demand and Annual Energy Nomination.

35.1 Please indicate the current FBC Contract Demand and Annual Energy Nomination under Rate 3808.

35.2 Please explain in detail how "Monthly power supply costs were classified as demand and energy on the basis of wholesale Rate 3808".

36.0 Topic: Cost of Production and Power Supply
Reference: Exhibit B-1, Appendix A, page 23 (p. 163 of pdf)

Citation:

FortisBC owns generation from four hydro-generation facilities collectively referred to as the Kootenay River Plants. ... This output reflects 47 percent of the 2009 energy requirement and 35 percent of the sum of the monthly capacity requirements. The remainder of FortisBC's power supply needs is met with power supply purchases. (underlining added)

36.1 Please indicate the corresponding percentage of FBC's 2018 energy and capacity requirements.

37.0 Topic: Cost of Production and Power Supply
Reference: Exhibit B-1, Appendix A, page 24 (p. 164 of pdf)

Citation:

There are two issues surrounding Rate 3808. As a result of concerns from the Commission, BC Hydro has been ordered to provide a more thorough analysis of generation plant classification in its next rate application. When this is completed FortisBC will re-examine its own classification method. Also, the pricing of Rate 3808 includes a transmission component. In theory, one would want to separate out just the generation component of Rate 3803 for use by FortisBC. However, in looking at the underlying classification of costs to the transmission class of BC Hydro, the generation split is equivalent to the 80% demand and 20% energy resulting from the full Rate 3808. So, while Rate 3808 may not fully match the results of the BC Hydro COSA, the net result is equivalent to the approach FortisBC would like to achieve for classification.

- 37.1 Please explain in what way the “full Rate 3808” results in a generation split of 80% demand and 20% energy, making reference to the text of Rate 3808, the FBC COSA, and any other elements necessary.

38.0 Topic: Cost of Production and Power Supply
Reference: Exhibit B-1, Appendix A, page 29 (p. 169 of pdf)

Citation:

To reflect the fact that these purchases work together to provide the power needed to FortisBC, it was determined that the BC Hydro 3808 rate breakdown of demand and energy prices could be used as a proxy for the split between demand and energy components, as used for FortisBC’s own generation. The output from these projects were priced at BC Hydro 3808 rate on a monthly basis to determine the equivalent split in costs between demand and energy. This split was then applied to actual costs of the projects for purposes of classification. The resulting split was roughly 31% demand-related and 69% energy-related.

- 38.1 Please provide a detailed worksheet explaining this calculation.

39.0 Topic: Cost of Production and Power Supply
Reference: Exhibit B-1, Appendix A, page 30 (p. 170 of pdf)

Citation:

On a combined basis, the total purchased power expenses were classified 27% demand-related and 73% energy-related on an annual basis.

- 39.1 Please provide a detailed worksheet explaining this calculation.
- 39.2 Please explain the implications of this classification of purchased power expenses for FBC's marginal cost, and for the proposed TOU rate.

40.0 Topic: TOU Rates Evaluation and Design
Reference: Exhibit B-1, Appendix A, page 40 (p. 180 of pdf)

Citation:

Because the COSA does not provide the cost data necessary to look at various TOU periods, EES looked outside the COSA to develop the proposed TOU rates. The first step was to examine the TOU periods and the second step was to look at the cost differences by time period.

- 40.1 Did EEC consider instead the possibility of using an approach which first identifies the most marked cost differences from one time to another, and then determines the TOU periods that should be defined in order to capture these differences?
- 40.2 Please elaborate on the advantages and disadvantages of each of these two approaches.

41.0 Topic: Cost of Production and Power Supply
Reference: Exhibit B-1, Appendix A, page 42 (p. 182 of pdf)

Citation:

The next step in developing the TOU rates was to look at the cost differentials between the TOU periods. For the distribution system the number of customers and the non-coincident peak of each was used to plan for facilities and this was reflected in the COSA allocations for distribution costs. Costs associated with the transmission and distribution system, while driven by peaks, are not differentiated by time period.

- 41.1 Insofar as costs associated with the transmission and distribution system are driven by peaks, can one conclude that they are driven by demand during on-peak periods? If not, why not?

42.0 Topic: Line Extension Credit

Reference: Exhibit B-1, Appendix A, page 44 (p. 184 of pdf)

Citation:

To develop the line extension credits available to new customers connecting to the system, the same approach used in the 2009 COSA was used. This capital credit or allowance is predicated on the amount of investment in distribution poles, conductors, and transformers for each rate class covered in the applicable retail rate. Any investment in poles, conductors and transformers needed to provide service to a new customer in excess of this credit or allowance would be paid for upfront as a capital contribution by the new customer. The higher principles for distribution system extension charges (extension charges) are that they should be fair to all and collect enough from a new customer to hold harmless all other customers from the incremental costs of supplying new localized distribution poles, conductors and transformers. (Note—the additional costs of meters and services are covered off in the connection charge. The incremental costs of generation, transmission and distribution substations are typically dealt with separately.) (underlining added)

- 42.1 Please indicate where and how the incremental costs of generation and transmission caused by a new customer are dealt with.

43.0 Topic: COSA

Reference: Exhibit B-1, Appendix A, Schedule 5.3, page 3 of 5 (p. 229 of pdf)

- 43.1 Please explain why the amounts shown under Capacity Expense for the Waneta Expansion are not equal to the Waneta Expansion Capacity Rate times the Waneta Expansion Capacity for a given month.