



bcuc
British Columbia
Utilities Commission

Patrick Wruck
Commission Secretary

Commission.Secretary@bcuc.com
bcuc.com

Suite 410, 900 Howe Street
Vancouver, BC Canada V6Z 2N3
P: 604.660.4700
TF: 1.800.663.1385
F: 604.660.1102

March 29, 2018

Sent via eFile

FORTISBC INC. 2017 COST OF SERVICE ANALYSIS & RATE DESIGN	EXHIBIT A-5
--	--------------------

Ms. Diane Roy
Vice President, Regulatory Affairs
FortisBC Inc.
16705 Fraser Highway
Surrey, BC V4N 0E8
electricity.regulatory.affairs@fortisbc.com

**Re: FortisBC Inc. – 2017 Cost of Service Analysis and Rate Design Application – Project No. 1598939 –
Regulatory Timetable and Public Notice**

Dear Ms. Roy:

Further to your December 22, 2017 Cost of Service Analysis and Rate Design Application, enclosed please find Commission Information Request No. 1. In accordance with the regulatory timetable established in Order G-23-18, please file your responses no later than Tuesday, April 24, 2018.

Sincerely,

Original signed by:

Patrick Wruck
Commission Secretary

/kbb

Attachment



FortisBC Inc.
2017 Cost of Service Analysis and Rate Design Application

INFORMATION REQUEST NO. 1 TO FORTISBC INC.

Table of Contents	Page no.
A. Context and Considerations	2
B. Cost of Service and Rate Rebalancing	8
C. Residential Rates	21
D. Commercial Service and Irrigation Rates	33
E. Wholesale Rates	38
F. Transmission Services.....	40
G. Optional Time of Use Rates.....	53
H. General Terms and Conditions.....	68

A. CONTEXT AND CONSIDERATIONS

1.0 Reference: APPLICATION AND APPROVALS SOUGHT Exhibit B-1, Section 2.2, pp. 11–13 Approvals sought

- 1.1 Please confirm, or explain otherwise, that FortisBC Inc. (FBC) intends for any future revenue requirement adjustments to be applied uniformly to all components of each proposed default rate structure.
- 1.2 Please explain if any of the requested changes sought, as described on pages 11 through 13 in the Application, are not revenue neutral. If yes, please identify which changes are not revenue neutral and explain the expected impact.

2.0 Reference: CONTEXT AND CONSIDERATION Exhibit B-1, Section 3.2, pp. 16–17; FortisBC Energy Inc. (FEI) 2016 Rate Design Application (RDA) proceeding, Exhibit B-5, BCUC IR 1.4.1 Rate design principles

On page 16 of its Application, FBC states that the “fundamental principles applied in the development of this Application are based on those identified by Dr. Bonbright.” FBC then lists the eight principles adopted by FBC for rate design, as follows:

- Principle 1: Recovering the Cost of Service; the aggregate of all customer rates and revenues must be sufficient to recover the utility’s total cost of service.
- Principle 2: Fair apportionment of costs among customers (appropriate cost recovery should be reflected in rates).
- Principle 3: Price signals that encourage efficient use and discourage inefficient use.
- Principle 4: Customer understanding and acceptance.
- Principle 5: Practical and cost-effective to implement (sustainable and meet long-term objectives).
- Principle 6: Rate stability (customer rate impacts should be managed).
- Principle 7: Revenue stability.
- Principle 8: Avoidance of undue discrimination (interclass equity must be enhanced and maintained).

On page 17 of its Application FBC states that it:

...applies its experience and judgment to consider and balance the most relevant principles in a given context when identifying rate design issues and proposing rate design solutions. FBC does not generally apply the eight principles above in any priority or with any particular weighting. However, the Company does consider that the principle of cost causation (as articulated in Principle 2 but also considered in various other principles) represents an important foundation upon which cost allocation and rate design should rest.

In the FEI 2016 RDA proceeding, FEI stated the following in response to BCUC IR 1.4.1:

For electric utilities with generation assets, the marginal cost of new generation and other marginal costs of providing service are usually higher than the embedded costs, meaning that it is more economically efficient to conserve energy than to build new generation capacity to serve the new load.

- 2.1 Please identify the factors that influence FBC's statement that the principle of cost causation represents an important foundation upon which cost allocation and rate design should rest.
 - 2.1.1 In consideration that the principle of cost causation represents an important foundation for FBC, what other rate design principles, if any, does FBC consider to be equally as important for rate design?
- 2.2 Given that each of the Bonbright principles appear to have competing interests, please discuss why no priority or particular weighting of the eight principles was considered.
- 2.3 Please discuss how the statement made by FEI in response to BCUC IR 1.4.1 in the FEI 2016 RDA proceeding relates specifically to the FBC electric utility.

**3.0 Reference: RATE DESIGN PRINCIPLES
Exhibit B-1, Section 1.3.2, p. 4
Rate design principles and residential rate proposal**

FBC states on page 4 of the Application that while it does not generally apply the eight Bonbright principles in any priority or with any particular weighting, it considers that Principle 2 (fair apportionment of costs among customers) represents an important foundation for cost allocation and rate design.

FBC further states the following on page 4:

FBC, therefore, applies its experience and judgment to consider and balance the most relevant principles in a given context when identifying rate design issues and proposing rate design solutions. Rate design should strive to strike a balance among competing rate design principles based on specific characteristics of customers in each rate schedule.

- 3.1 Other than Principle 2, please explain which Bonbright principles have been given the highest priority/relevancy as part of FBC's proposal to transition from the Residential Conservation Rate (RCR) to a flat energy rate and why FBC considers this prioritization appropriate in the current environment. As part of this response, please generally rank the Bonbright principles from highest to lowest priority in the context of the proposed change from the RCR to a flat rate.

On page 61 of the Application, FBC states that it also considered the following principle: "Address customer concerns" and that this principle is supplementary to and not intended to replace the Bonbright principles.

- 3.2 Please explain where "addressing customer concerns" ranks in terms of priority among FBC's ranking of the Bonbright principles requested in the previous IR.
- 3.3 Please discuss the potential trade-offs in Bonbright principles which may result from FBC's proposed change from the RCR to a flat energy rate.
- 3.4 Please describe the characteristics of residential customers in Rate Schedule 1 and how these characteristics impacted/informed FBC's proposed flat rate design.

- 3.5 Please discuss FBC's views with regard to Bonbright principle no. 4 (i.e. customer understanding and acceptance) as it pertains to its proposed change from the RCR to a flat energy rate. Please consider all segments of the residential customer class in this response.

4.0 Reference: CONTEXT AND CONSIDERATION
Exhibit B-1, Section 3.2, pp. 17–21
Government policies, legislation and regulations

On page 17 of its Application, FBC states that “In addition to the eight rate design principles set out above, FBC considers government policy as reflected in the legislation and regulations implementing those policies and in published government energy policy documents.”

FBC provides a summary of the most relevant government policies, legislation and regulations (other than the UCA itself) that have evolved since FBC's 2009 RDA, and their impact on FBC's rate design, including: the *Clean Energy Act* (CEA), RIB Rate Report, 2016 BC Climate Leadership Plan, and Postage Stamp Ratemaking.

With respect to the CEA, FBC states on pages 17 to 18 of the Application that:

...the objectives embodied in the CEA were already considered in and incorporated into the Commission's decision regarding the FBC 2009 rate design proceeding as well as the rate design proceedings that were established as a result of the October 2010 Decision. Further, the Commission's decision to approve FBC's advanced metering infrastructure (AMI) CPCN application was informed by section 17.6 of the CEA.

- 4.1 Please identify and describe the impact on FBC's rate design of any new and relevant government policies, legislation and/or regulations that have been introduced since the Application was filed.
- 4.2 Please specifically explain the ways in which FBC has considered and incorporated the current relevant government policies, legislation and regulations (other than the UCA) into its rate design proposals. As part of this response, please identify specific policies/legislation and explain how they relate to FBC's rate design proposals.
- 4.3 Please identify any rate design proposals included in the Application that are in conflict with existing government policies, legislation and/or regulations.
- 4.4 Please discuss if there are, from FBC's perspective, any relevant government policies, legislation and/or regulations that are in conflict with any of the Bonbright principles.
- 4.5 Please explain whether FBC views its proposals regarding phasing out the RCR and increasing the customer charge as considering and incorporating the objectives embodied in the CEA.
- 4.6 Does FBC consider its proposals to flatten the residential energy rate and increase the customer charge as conflicting with the objectives of the CEA? Please discuss.
- 4.7 Does FBC consider that the government's focus on energy conservation has increased, decreased or stayed the same since the 2009 rate design proceeding? Please discuss.
- 4.8 Does FBC consider that the relevance of the CEA objectives has changed since the 2009 RDA Decision? Please discuss why or why not.

5.0 Reference: RATE DESIGN PRINCIPLES
Exhibit B-1, Section 3.2, pp. 16–19; Appendix J, p. 4
Government policy

On page 18 of the Application, FBC references a letter dated April 10, 2017 which was sent from the BC Minister of Energy and Mines to BC Hydro and FBC. This letter, attached as Appendix J to the Application, states the following on page 4:

As well as providing utility customers with additional information on flat and stepped rates, I am encouraging BC Hydro and FortisBC to conduct the following :...

...Ensure that the information you collect on your customers' end-use includes robust data on customers without access to natural gas, low income customers, high-use customers, and customers who use electricity for space and water heating so that you, and the BCUC, have a clear understanding of rate impacts on those groups.

- 5.1 Please confirm, or explain otherwise, that FBC has been collecting the information described in the Minister's April 10, 2017 letter, as outlined in the above preamble. If confirmed, please summarize the results of the data collected thus far.

6.0 Reference: RESIDENTIAL RATES
Procedural Conference held on March 6, 2018, Transcript Volume 1, pp. 27–28
Government policy

FBC stated the following at the March 6, 2018 Procedural Conference:

...the government made an announcement as to further exploration with BC Hydro of Lifeline rates or Lifeline Rate Program...the news release itself is specific to BC Hydro, but we are simply going to continue monitoring what happens in terms of there might be a change to the statutory framework that somehow impacts FortisBC.

- 6.1 Please provide an update, if any, on governmental announcements regarding Lifeline rates or a Lifeline Rate Program.
- 6.2 In consideration of the current government's interest in exploring rate options for low income customers, please discuss, in the absence of a change to the statutory framework, what aspects of FBC's rate design could be adjusted to provide rate relief to low income concerns.
- 6.3 Please discuss which aspects of FBC's residential rate design proposals may create an additional burden for low income customers and which aspects may reduce the burden.
- 6.3.1 As part of this response, please specifically discuss the impact of increasing the Customer Charge on low income customers and whether this impact should be a consideration for FBC when bringing forth its rate design proposals.

7.0 Reference: CONTEXT AND CONSIDERATION
Exhibit B-1, Section 3.2, p. 19
Bill impact

On page 19 of its Application, FBC states that it "has considered bill impacts for customers in a variety of circumstances along with the traditional rate design principles discussed in Section 3.2."

- 7.1 Please discuss the guidelines which FBC uses to consider bill impact in making rate design proposals. For example, does FBC consider a specific bill impact percentage threshold when making its rate design proposals?

- 7.1.1 Does FBC consider that, in considering customer bill impact, the focus of the percentage change should be based on the total customer bill, each individual component (e.g. customer charge, energy rate, etc.) or a combination of charges? Please explain.
- 7.1.2 Does FBC consider that, in considering customer bill impact, the percentage changes should include or exclude annual revenue requirement adjustments? Please discuss.
- 7.1.3 Please discuss how FBC's bill impact and rate shock guidelines apply to rate design principle 4 outlined on page 16 of the Application, customer understanding and acceptance.
- 7.2 Please discuss the "variety of circumstances" that were considered by FBC in assessing bill impact.
 - 7.2.1 How did FBC use its Residential End Use Survey (REUS) for this purpose?

8.0 Reference: CONTEXT AND CONSIDERATION
Exhibit B-1, Sections 3.4, 3.5, pp. 29–33; Order G-63-18 with Reasons for Decision dated March 16, 2018;
Fixed cost recovery

On page 29 of its Application, FBC states that:

...a number of emerging trends and technologies are driving changing requirements that customers have for utility service. These include:

- increasingly affordable distributed generation technologies;
- energy efficiency and other consumer demand-management technologies; and
- electric storage technologies.

The adoption of these 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.

- 8.1 Aside from the issue of residential net metering, as discussed in FBC's Application for Reconsideration and Variance of Order G-199-16 and acknowledged by the Commission on page 20 of its Decision accompanying Order G-63-18, what are other examples of each of the three emerging trends identified in the preamble to this IR. Please discuss how these trends may increase costs and/or reduce customer consumption patterns for FBC.
- 8.2 Please identify each impacted rate class and provide supporting cost and consumption data by rate class to support the impact of the emerging trends. Please discuss what impact the emerging trends are having on which FBC rate class.

On page 31 of its Application, FBC states that:

...in recent years a number of emerging technological and market trends, such as increasingly affordable distributed generation technologies and improved demand management technologies, are driving changes in some electricity customers' consumption behaviour and requirements. These changes potentially diminish intra-class fairness as well as to rate and/or revenue instability, if these issues are not addressed. As a result, these new challenges are often reflected in utility rate design decisions, particularly in those jurisdictions where these new technologies are more prominent. [emphasis added]

FBC further states the following on page 31:

As explained in the Commission consultant's report in FEI's 2016 rate design proceeding, the increased share of fixed charges in fixed costs recovery is one of the trends that can be identified in recent utility rate design approaches which is designed to better align revenue recovery with cost causation (intra-rate class fairness) and mitigate the effects of disruptive technologies that may lead to cost recovery challenges from some customers. The Ontario Energy Board's (OEB) 2015 Board Policy (EB-2012-0410) regarding the new distribution rate design for residential electricity customers is one recent example. Under the OEB's new policy and by 2019, electricity distributors will structure residential rates so that all the costs for distribution service are collected through a fixed monthly charge. The OEB policy explains that this new approach will enable residential customers to leverage new technologies such as roof top solar and better understand the value of distribution service and provide greater revenue stability for distributors. The OEB policy also provides examples of other jurisdictions that have moved forward with fixed monthly distribution rates. Those jurisdictions include Ohio, which is implementing a fixed rate design for residential electricity customers, and Illinois, which has approved an increase in fixed charge rates for ComEd Illinois, with further increases expected.

- 8.3 Please provide recent jurisdictional examples where regulators have approved relevant rate designs intended to address the issue of disruptive new technologies.
- 8.3.1 For each jurisdiction identified in the previous IR response, please provide the similarities and differences as compared to FBC.
- 8.4 Please discuss the pros and cons of the fixed monthly distribution rates approach in the context of FBC's residential customers.
- 8.5 If FBC applied the fixed distribution rates approach, would this translate into a customer charge recovering 100 percent of the customer-related unit costs, i.e., set at \$35.60? If not, please explain what the cost recovery amount and percentage would be.
- 8.6 In order to address intra-class fairness, has FBC considered further segmentation in certain rate classes in order to better reflect cost causation, particularly in those rate classes where there is higher disparity in customer uptake on disruptive and storage technologies? Please discuss.
- 8.6.1 If yes, what customer characteristics and/or criteria would FBC use as further class segmentation? Please discuss.
- 8.7 Has FBC considered introducing a fixed demand charge for those rate classes that have higher customer uptake on disruptive and storage technologies to address concerns regarding fixed cost recovery? Please discuss.
- 8.8 Please discuss whether the introduction of optional rate structures (e.g. residential time of use rates) would further increase concerns regarding fixed cost recovery.

9.0 Reference: CONTEXT AND CONSIDERATION
Exhibit B-1, Section 3.2, 3.5, pp. 16, 31
Fixed cost recovery

On page 16 of its Application, FBC states that the "fundamental principles applied in the development of this Application are based on those identified by Dr. Bonbright." FBC then lists the eight principles adopted by FBC for rate design.

On page 31 of its Application FBC states that:

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.

- 9.1 Please discuss the consideration and prioritization given to the eight rate design principles outlined on page 16 of the Application in making the fixed cost recovery rate design proposals in the Application.
- 9.2 Please explain the process that was undertaken and the factors that were considered in arriving at the recommendation of a minimum fixed cost recovery of 55 percent of customer related unit costs and 65 percent of fixed infrastructure related unit costs.

B. COST OF SERVICE AND RATE REBALANCING

10.0 Reference: COST OF SERVICE AND RATE REBALANCING Exhibit B-1, Section 5.1, Table 5-2, pp. 42, 44; FBC Annual Review for 2017 Rates, Exhibit B-2-2, Evidentiary Update, Schedule 2 2017 COSA methodology

Table 5-2 on page 44 of the Application shows the total rate base for the COSA of \$1,284.5 million, which FBC states is the mid-year rate base associated with the 2017 revenue requirement.

Schedule 2 of the Financial Schedules provided as part of the Evidentiary Update in the FBC Annual Review for 2017 Rates proceeding (2017 Annual Review) shows a 2017 mid-year rate base of \$1,285.4 million.

- 10.1 Please explain the discrepancy between Table 5-2 in the Application and Schedule 2 of the Financial Schedules provided as part of the Evidentiary Update in the 2017 Annual Review.

On page 42, FBC states: "Demand-related transmission costs were allocated using the 2 CP (coincident peak) method (sum of 2 winter and 2 summer peaks)."

- 10.2 Please provide FBC's definitions for "coincident peak," "non coincident peak" and "2 CP" as they pertain to the statement on page 42.
- 10.3 Please explain how System Losses, such as company use and unaccounted for energy, are incorporated into/accounted for in the COSA.

11.0 Reference: COST OF SERVICE AND RATE REBALANCING Exhibit B-1, Sections 5.1.1.1, 6.3.1, pp. 42, 86; Appendix A, EES Consulting COSA Report (2017 COSA Report), p. 3 Wholesale customers

FBC states the following on page 42 of the Application: "As shown above, although FBC serves seven customers at the wholesale level, for rate setting purposes only two Wholesale classes are used – delineated by primary and transmission service connections."

FBC further states on page 86 that it offers the following two Default rate schedules as part of its Wholesale rates:

- RS 40, Wholesale Service – Primary – available to the municipal utilities of Grand Forks, Penticton, Summerland, and BC Hydro for service near Lardeau and Yahk; and
- RS 41, Wholesale Service – Transmission – available to the City of Nelson.

On page 3 of the 2017 COSA Report, it states: “FortisBC serves five customers at the wholesale level, including Penticton, Summerland, BC Hydro at Kingsgate and Kaslo, Grand Forks and Nelson.”

11.1 Please clarify how many customers FBC serves at the Wholesale level.

**12.0 Reference: COST OF SERVICE AND RATE REBALANCING
Exhibit B-1, Section 5.1.1.2, pp. 43–44
Treatment of RS 37 revenues**

Table 5-1 on page 43 of the Application shows 2017 Forecast revenues of \$1.4 million for RS 37.

FBC states the following on page 44:

FBC has a single customer taking service under RS 37 (Stand-By and Maintenance Service). The RS 37 rates that are used to calculate the revenues of \$1.4 million shown in Table 7-1 are calculated in reference to the hourly Mid-C price in effect when stand-by service is used. These revenues are outside of the typical embedded COSA framework, because the actual rate and revenue are market driven rather than being based on a value per billing unit that has been approved by the Commission. As these energy sales are made at rates below the fully embedded cost resulting from the COSA, FBC treats the revenues as an offset to the Revenue requirements and allocates them to all customers to compensate for the use of the system which is paid for by all customers (including customers in RS 31 (Large Commercial Service – Transmission), which is the rate schedule also pertaining to a customer taking Stand-by and Maintenance Service.

12.1 Please confirm, or explain otherwise, that the RS 37 rate, which is calculated in reference to the hourly Mid-C price in effect when stand-by service is used, was approved by the Commission in the Application for Approval of Stepped and Stand-by Rates for Transmission [Voltage] Customers Decision dated May 26, 2014 and accompanying Order G-67-14.

12.2 What is the average energy revenue in \$/kWh (kilowatt-hour) for RS 37? Please provide all calculations and explain all assumptions.

12.3 What is the fully embedded cost and \$/kWh resulting from the COSA for RS 37? Please provide all calculations and explain all assumptions.

12.4 What is the Revenue to Cost (R:C) ratio for RS 37? Please provide all calculations and explain all assumptions.

**13.0 Reference: COST OF SERVICE AND RATE REBALANCING
Exhibit B-1: Section 5.1.1.3, p. 44; Appendix A, 2017 COSA Report, Schedule 4.1
Rate base**

FBC states on page 44 of the Application: “The detailed rate base for FBC by account used for the 2017 COSA is in Appendix A – EES COSA Report (Schedule 4.1 of the report’s Appendix A).”

13.1 Please confirm, or explain otherwise, that in the Function column of Schedule 4.1, the acronyms *P*, *T* and *D* represent Production, Transmission and Distribution, respectively.

13.2 Please state what the acronym SS designates in Schedule 4.1.

**14.0 Reference: COST OF SERVICE AND RATE REBALANCING
Exhibit B-1, Section 5.1.1.4, Table 5-3, p. 45
Customer class breakdown**

FBC states the following on page 45 of the Application:

The total forecast average customer count is 133,853 on average for 2017 with gross energy consumption of 3.3 million MWh. Residential customers account for 86 percent of the total number of customers and 41 percent of energy sales. Wholesale customers make up another 18 percent of energy, with the remaining 41 percent related to various commercial and other retail classes.

14.1 Please revise Table 5-3 to include the following additional information:

Customer Class	Rate Classes	Number of Customers (%)	Energy Sales GWh (%)
Residential		115,114 (86%)	1,353 (41%)
Commercial			879
Industrial			407
Wholesale			587 (18%)
Lighting & Irrigation			55
Total		133,853 (100%)	3,282 (100%)

**15.0 Reference: COST OF SERVICE AND RATE REBALANCING
Exhibit B-1, Section 5.1.2, Table 5-4, pp. 45–46
Functionalization**

On page 45 of the Application, FBC states: “...functionalization separates costs into major categories that reflect the utility’s plant investment and different services provided to customers, with the primary functional categories being production, transmission, distribution and general.”

FBC provides the following table (Table 5-4) on page 46:

Table 5-4: Functionalized Gross Plant Summary

Description	Cost Account(s)	Amount (\$ millions)	Functionalized to:
Production	330-336	238.5	Production
Transmission	350-359	442.8	Transmission
Distribution	360-373	1,010.7	Distribution
General Plant³⁹	389-397.1	251.2	28% Production 22% Transmission 50% Distribution
Total Gross Plant		1,943.2	

15.1 Please explain why the amounts for General Plant are being re-allocated to the other three primary functional categories, as shown in Table 5-4.

On page 46 of the Application, FBC states: “Because O&M and purchased power costs are the primary bills paid by the utility, O&M costs was considered to be a reasonable method for functionalizing and allocating working capital costs.”

15.2 Please explain why O&M costs were considered to be a reasonable method for functionalizing and allocating working capital costs, rather than purchased power costs.

FBC further states: “This DSM amount was functionalized and classified as 72 percent power supply energy, 17 percent power supply demand and 12 percent transmission and distribution.”

15.3 Please confirm, or explain otherwise, that the term “power supply” is used interchangeably with the term “production” in the Application.

**16.0 Reference: COST OF SERVICE AND RATE REBALANCING
Exhibit B-1, Section 5.1.2.2, Tables 5-7, 5-8, pp. 49, 51
Production/power supply classification**

FBC provides the following tables (Table 5-7 and 5-8) on pages 49 and 51 of the Application:

Table 5-7: Rate Base Classification

Description	Classified to:	Note:
Production	20% Demand 80% Energy	On the basis of the demand / energy split for equivalent BC Hydro 3808 Purchases

Table 5-8: Production / Power Supply Expense Classification

	2017 Costs (\$ Millions)	Classification	Notes
Kootenay River Plants	\$16.0	20% Demand 80% Energy	On the basis of Generation Rate Base
Columbia Power Corporation (Brilliant) and Waneta Expansion	\$81.0	31% Demand 69% Energy	Using BC Hydro 3808 as a proxy each month
BCH 3808 Purchases	\$49.0	20% Demand 80% Energy	As Charged

16.1 Please confirm, or explain otherwise, that the method described as “on the basis of the demand/energy split for equivalent BC Hydro 3808 purchases” in Table 5-7 is the same method as the one described as “using BC Hydro 3808 as a proxy each month” in Table 5-8.

16.1.1 If confirmed, please explain why the resulting classification split is not the same in both cases.

16.1.2 If not confirmed, please clarify why the classification split is different for the Kootenay River Plants and for Brilliant/Waneta.

**17.0 Reference: COST OF SERVICE AND RATE REBALANCING
Exhibit B-1, Section 5.1.2.2.1, p. 50
General plant functionalization**

FBC states the following on page 50 of the Application:

General Plant - after being functionalized to the three areas shown in Table 7-6 above, General Plant was classified using the resulting classification as total rate base for each function. For example, the 26 percent of General Plant assigned to generation was split between demand and energy in the same manner as the generation rate base.

17.1 Please clarify which table FBC is referring to in the above preamble (i.e. Table 5-4 or 5-5).

17.2 Please verify the percentage FBC is referring to in the above preamble (i.e. should it be 28 percent?).

**18.0 Reference: COST OF SERVICE AND RATE REBALANCING
Exhibit B-1, Section 5.1.2.3, Table 5-9, p. 52
Allocation**

On page 52 of the Application, FBC states: “The information in the table shows, for example, that those rate base items, that have been classified as demand related, are allocated using the 2 coincident peak methodology, and so on.”

Below is a partial reproduction of Table 5-9:

Table 5-9: Rate Base Allocation Summary

Function	Classification	Allocation Method
Generation Rate Base	Demand Related	2 Coincident Peak
	Energy Related	Annual Energy Use
Transmission Rate Base	All	2 Coincident Peak
Distribution Rate Base	100% Demand Related Components	Non-Coincident Peak Primary
Distribution Rate Base	Split between Demand and Customer components	Non-Coincident Peak Primary Non-Coincident Peak Secondary Number of Customers

- 18.1 Please reconcile the statement in the preamble above with the information in Table 5-9 which shows that some of the distribution rate base items that are classified as demand related have not been allocated using the 2 coincident peak methodology.
- 18.2 Please explain why the non-coincident peak (NCP) is the appropriate allocation cost driver for demand-related distribution costs, and also explain why FBC distinguishes between the NCP at primary and secondary voltages.
 - 18.2.1 Please indicate whether there are other methods to allocate demand-related distribution costs and discuss the pros and cons of these alternative methods compared with the one chosen by FBC.
 - 18.2.2 Please indicate whether the issue of determining the most appropriate allocation methodology for demand-related distribution costs has been studied by other regulatory bodies in North America. If so, please indicate which ones and what their recommendations have been.
- 18.3 Please explain why the number of customers is the appropriate allocation cost driver for customer-related distribution costs.
 - 18.3.1 Please indicate whether there are other methods to allocate customer-related costs and discuss the pros and cons of these alternative methods compared with the one chosen by FBC.
 - 18.3.2 Please indicate whether the issue of determining the most appropriate allocation methodology for customer-related distribution costs has been studied by other regulatory bodies in North America. If so, please indicate which ones and what their recommendations have been.

19.0 Reference: COST OF SERVICE AND RATE REBALANCING
Exhibit B-1, Section 5.2, pp. 54–55
R:C ratios range of reasonableness

FBC states on page 54 of the Application: “As a separate consideration, even if all of the rate schedules fall within the RoR [Range of Reasonableness], some re-balancing may be necessary in light of rate schedule characteristics and rate design objectives.”

FBC further states the following on page 55:

As shown in Table 7-10 above, there are two rate classes, Lighting and Large Commercial - Transmission, that have an R/C ratio that falls outside of the RoR of 95 percent – 105 percent. As such, and in accordance with the prior Commission determination that after the rebalancing associated with the 2009 COSA and RDA, future rebalancing should only be required when a customer class falls outside of the RoR, these are the only two classes that are the subject of FBC’s rebalancing proposal. FBC proposes to rebalance the Lighting and Large Commercial – Transmission classes.

19.1 Please describe the specific circumstances, in terms of (i) rate schedule characteristics, and (ii) rate design objectives, where some re-balancing may be necessary even if all rate schedules fall within the RoR.

19.1.1 Please explain why those specific circumstances are not warranting the re-balancing of all other rate classes in addition to Lighting and Large Commercial Transmission.

20.0 Reference: COST OF SERVICE AND RATE REBALANCING
Exhibit B-1, Section 5.2, pp. 55–56
Rate rebalancing

FBC references Order G-130-07 on page 55 of the Application regarding BC Hydro’s 2007 Rate Design Application, including the Commission’s statement that: “the appropriate target R/C ratio in each class is unity or one and that future rebalancing should only be required when a customer class falls outside of the RoR.”

FBC also references the Commission’s decision regarding FBC’s 2009 COSA and RDA on page 55, stating: “As in the BC Hydro decision, the Commission determined the appropriate target R/C in each rate schedule to be one, with future rebalancing necessary only when customer classes fell outside the range.”

FBC provides the following table (Table 5-12) on page 56 of the Application:

Table 5-12: RoR Details for RS 31 and RS 50

Customer Class	Large Commercial Transmission (RS 31)	Lighting (RS 50)
Total Allocated revenue requirement (\$)	6,627,451	3,116,434
Pre-Rebalancing Revenues at Existing Rates (\$)	7,094,309	2,874,607
Pre-Rebalancing Revenue to Cost Ratio	107.0%	92.2%
RS 50 Revenues at 95% R/C		2,960,612
Revenue Required to move RS 50 within RoR (\$)		155,822
Resulting RS 31 Revenue Reduction	155,822	
Resulting Adjusted Revenues	6,938,487	2,960,612
Post Rebalancing R/C Ratio	104.7%	95%

FBC states on page 56 of the Application: “FBC’s proposal results in a revenue shift of \$155,822, which results in a rate increase to Lighting (RS 50) of 5.4 percent and a rate reduction of 2.2 percent for Large Commercial Transmission (RS 31).”

- 20.1 Please explain why FBC is targeting a rebalancing to the range of reasonableness as opposed to targeting an R:C ratio of 100 percent.
- 20.2 Please confirm that the following table recalculates the revenue shifts required between RS 50 and RS 31 to achieve an R:C ratio of 1 for RS 50, with a resulting post-rebalancing R:C ratio of 103.4 percent for RS 31.
 - 20.2.1 If not confirmed, please revise the table below to achieve an R:C ratio of 1 for RS 50, where revenues are shifted only between RS 50 and RS 31.

Customer Class		Large Commercial Transmission (RS 31)	Lighting (RS 50)
A	Total Allocated revenue requirement (\$)	6,627,451	3,116,434
B	Pre-Rebalancing Revenue at Existing Rates (\$)	7,094,309	2,874,607
C	Pre-Rebalancing Revenue to Cost Ratio [B/A]	107.0%	92.2%
D	RS 50 Revenues at 100% R:C		3,116,434
E	Revenue Required to move RS 50 to unity [D-B]		241,827
F	Resulting RS 31 Revenue Reduction	241,827	
G	Resulting Adjusted Revenues	6,852,482 [B-F]	3,116,434 [D]
H	Post Rebalancing R:C Ratio [G/A]	103.4%	100%

20.2.2 Based on the above table (or a revised table), please calculate the resulting rate increase to Lighting (RS 50) and the rate reduction for Large Commercial Transmission (RS 31). Please provide the supporting calculations.

20.2.2.1 Would FBC be open to phasing in the rate increases to RS 50 over two years if the resulting rate increase results in rate shock (i.e., rate increase over 10 percent)? Please discuss.

20.2.3 Please discuss the pros and cons of each rebalancing option.

21.0 Reference: 2017 COSA REPORT
Exhibit B-1, Appendix A, 2017 COSA Report, p. 1; FortisBC Inc. 2009 Rate Design and Cost of Service (FBC 2009 RDA) proceeding: Exhibit B-1, Appendix A (2009 COSA Report), p. 1; Exhibit B-3-1, BCUC IR 46.1
General

On page 1 of the 2017 COSA Report, EES states: “Changes that have occurred over the past 8 years in terms of the FortisBC system, changes in the overall electric industry, and trends in utility ratemaking were all considered when developing this COSA.”

On page 1 of the 2009 COSA Report, EES stated: “Changes that have occurred over the past 10 years in terms of the FortisBC system, changes in the overall electric industry, and trends in utility ratemaking were all considered when developing this COSA.”

In BCUC IR 46.1 in the FBC 2009 RDA proceeding, the Commission asked FBC to identify the specific changes in each of the three categories mentioned in the above quote which have occurred and were considered when developing the COSA. FBC responded as follows:

A46.1 EES has not identified each specific change that has occurred but they would include the following:

- Changes in the FortisBC system include increased transmission capital expenditures, greater reliance on outside power purchases during peak periods and growth in the summer peak for the system;
- Changes in the electric industry include greater reliance on wholesale power markets, unbundling of power products, availability of wholesale wheeling, risks shifted from the utility to its customers, and fewer full requirements wholesale power contracts; and
- Trends in rate design include separation of wires and power supply charges, other rate unbundling for items such as control area service, load following, reliability, standby service, etc., rates that are based on real-time market conditions, and more conservation-based rates.

21.1 Please complete the following table:

[A]	2009 COSA [B]	Confirm if change or trend is still relevant for 2017 COSA and why [C]	Explain how this change or trend has impacted the 2017 FBC COSA [D]
Changes in the FortisBC system	Increased transmission capital expenditures		
	Greater reliance on outside power purchases during peak periods		
	Growth in the summer peak for the system		
Changes in the electric industry	Greater reliance on wholesale power markets		
	Unbundling of power products		
	Availability of wholesale wheeling		
	Risks shifted from the utility to its customers		
	Fewer full requirements wholesale power contracts		
Trends in rate design	Separation of wires and power supply charges		
	Other rate unbundling for items such as control area service, load following, reliability, standby service, etc.		
	Rates that are based on real-time market conditions		
	More conservation-based rates		

21.2 Please describe all the additional changes that have occurred over the past 8 years (since the 2009 COSA) and explain how these changes have impacted the 2017 COSA, if at all. Please use the following table headers:

Changes over the past 8 years [A]	2017 COSA [B]	Explain how this change or trend has impacted the 2017 FBC COSA [C]
--------------------------------------	------------------	--

**22.0 Reference: 2017 COSA REPORT
Exhibit B-1, Appendix A, 2017 COSA Report, p. 3
Major assumptions of the COSA**

On page 3 of the 2017 COSA Report, EES lists the classes of service analyzed in the study, including Commercial (RS 21 and 22) and Large Commercial Primary (RS 30 and 32).

In Chapter 6 of the Application, FBC discusses RS 20 and RS 21 for Small Commercial and Commercial, respectively, and RS 30 and RS 31 for Large Commercial Service Primary and Transmission, respectively.

22.1 Please clarify which rates are RS 22 and RS 32, as referred to in the COSA Report.

**23.0 Reference: 2017 COSA REPORT
Exhibit B-1, Appendix A, pp. 8–9 & 20; FBC 2009 RDA proceeding, Exhibit B-1,
Appendix A, p. 14
Rate base functionalization**

On pages 8 to 9 of the 2017 COSA Report, EES indicates that the percentage of rate base that was related to distribution, transmission, power production and general plant in 2009 as compared to 2017 is as follows:

	2009	2017
Distribution	46%	52%
Transmission	29%	23%
Power Production	13%	12%
General Plant	12%	13%

23.1 Aside from FBC’s purchase of the City of Kelowna’s electric utility assets in 2012, please describe any other major changes to FBC’s business which are responsible for the shift away from transmission assets towards distribution assets between 2009 and 2017.

Also, based on the 2017 COSA Report (p. 20) and 2009 COSA Report (p. 14), the general plant category was assigned to the three functions as follows:

	2009	2017
Distribution	38%	50%
Transmission	25%	22%
Power Production	37%	28%

23.2 Aside from FBC’s purchase of the City of Kelowna’s electric utility assets in 2012, please describe any other major changes to FBC’s business which are responsible for the shift away from power production assets toward distribution assets between 2009 and 2017.

**24.0 Reference: 2017 COSA REPORT
Exhibit B-1, Appendix A, Tables 2 to 6, pp. 11–15
Jurisdictional review of COSA methodology**

24.1 Please add a line in each of Tables 2 to 6 of the 2017 COSA report to describe the method used for FBC.

**25.0 Reference: 2017 COSA REPORT
Exhibit B-1, Appendix A, pp. 12, 31–36
Selection of 2 CP method**

EES states the following on page 12 of the COSA report:

While FBC’s approach uses the equivalent cost of the BC Hydro RS3808 supply to classify between demand and energy and the use of the 2CP allocator is not exactly the same as any other utility, it is consistent overall with a classification split between demand and energy and CP approach used by most.

EES further states on page 32:

For FortisBC, it was determined that the sum of the 2 highest summer and 2 highest winter coincident peaks were the most appropriate to reflect critical period system use and planning for facilities, as explained further below. This is consistent with the peak allocation method used in the 2009 COSA. The 2 CP allocator was used for generation and transmission rate base accounts. Note that while 4 months of data were used to develop the 2 CP number, it is not to be confused with the 4 CP method used by BC Hydro using the 4 highest peaks of the year. The 2 CP term was used historically and represents the dual winter/summer peak of the utility.

25.1 Please provide a detailed explanation describing the allocation methods used by other North American utilities facing a dual winter/summer peak, similar to FBC, for the allocation of demand-related generation costs and the allocation of transmission costs.

25.1.1 Please discuss whether these other methods would be appropriate for FBC.

25.2 When using the 2 CP method, please confirm, or explain otherwise, that FBC uses the two highest peaks of the summer (June and August) and the two highest peaks of the winter (January and December).

25.3 On page 30 of the 2009 COSA, FBC provided tables showing the average monthly peaks for 2001 to 2007 for both FBC and BC Hydro. Please update these graphs using a more recent period. Please also comment on the load shape specific to FBC versus that of BC Hydro.

**26.0 Reference: 2017 COSA REPORT
Exhibit B-1, Appendix A, p. 14
Distribution system**

On page 14 of the 2017 COSA Report, EES states: “While several of the utilities used a minimum system approach, like FBC, others had specific classification splits between demand and customer that varied by utility.”

26.1 Please confirm, or explain otherwise, that only two out of the eight utilities surveyed used a minimum system approach (i.e. Hydro Quebec and Newfoundland Power).

26.2 Please describe what method was used by the other six utilities to arrive at the specific classification splits between demand and customer-related costs, including whether any of the utilities use the zero-intercept method.

26.2.1 Please discuss the pros and cons of each method.

**27.0 Reference: 2017 COSA REPORT
Exhibit B-1, Appendix A, p. 20; FBC 2009 RDA proceeding, Exhibit B-1, Appendix A, p. 15
Demand-side management (DSM) split**

EES states the following on page 20 of the 2017 COSA Report:

The largest item in this category is \$12.3 million of related to deferred demand-side management (DSM) spending. This DSM amount was functionalized and classified as 72% power supply energy, 17% power supply demand and 12% transmission and distribution. This split is consistent to that used by FortisBC in the cost/benefit analyses performed for DSM spending.

EES stated the following on page 15 of the 2009 COSA Report:

This DSM amount was functionalized and classified as 72% power supply energy, 17% power supply demand and 12% transmission and distribution. This split is consistent to that used by FortisBC in the cost/benefit analyses performed for DSM spending.

27.1 Please explain why the DSM split is the same in the 2009 and 2017 COSA Reports.

27.2 Please explain the rationale for FBC's approach to the functionalization and classification of deferred DSM spending.

27.2.1 Please discuss other alternatives for functionalizing and classifying DSM which FBC has explored and why it considers the current approach to be most appropriate.

27.3 Please file the cost/benefit analyses performed for DSM spending referred to in the 2017 and the 2009 COSA Reports.

**28.0 Reference: 2017 COSA REPORT
Exhibit B-1, Appendix A, p. 27
Peak Load Carrying Capability (PLCC) adjustment**

On page 27 of the 2017 COSA Report, EES states: "The precise amount of a PLCC adjustment should match the definition of the minimum system adopted."

28.1 Please clarify this statement.

**29.0 Reference: 2017 COSA REPORT
Exhibit B-1, Appendix A, pp. 29–30, Schedule 5.3, p. 1
Classification of power supply expenses**

On page 29 of the 2017 COSA Report, EES states: "Market purchases include 32 to 43 MW blocks in the winter months. These purchases were classified as energy-related as they were assumed to provide 0 capacity."

EES further states on page 30: "Market purchases and sales also are priced using demand and energy components every month and are therefore classified in that manner."

- 29.1 Please clarify whether market purchases are classified as energy-related only or as energy and demand-related.
- 29.2 Please confirm, or explain otherwise, that “FortisBC” (e.g., line 39 or 44 of Schedule 5.3) refers to the Kootenay River Plants.
- 29.3 Please clarify what “total system demand” versus “system” refers to.
- 29.4 Please clarify what “total system energy” versus “system” refers to.
- 29.5 Please provide the formulas used to calculate the following figures and state the sources of the information:
- “purchased power expense” for Brilliant/Waneta;
 - “energy costs if using 3808” for Brilliant/Waneta and FortisBC;
 - “demand costs if using 3808” for Brilliant/Waneta and FortisBC;
 - “adjusted energy costs if using 3808” for Brilliant/Waneta and FortisBC; and
 - “adjusted demand costs if using 3808” for Brilliant/Waneta and FortisBC.
- 29.6 Please provide the formula used to calculate the resulting classification factor of 80.2 percent and 19.8 percent.
- 29.7 Please provide the rationale for calculating an adjustment factor and provide the formulas used.

**30.0 Reference: 2017 COSA REPORT
Exhibit B-1, Appendix A, pp. 32–34; FBC 2009 RDA proceeding, Exhibit B-1, Appendix A, pp. 25–27
Demand allocation alternatives**

EES states the following on page 32 of the 2017 COSA Report:

As an example, in the United States, the Federal Energy Regulatory Commission (FERC) has reviewed and opined on numerous transmission rate setting applications, and provides a good forum for aggregating information on standard industry practice in the areas of costing and pricing of transmission services. FERC also provides a convenient forum for debate of new practices within the electric industry and offers a comprehensive database of regulatory analysis, debate and precedents.

30.1 Please explain if there has been any new developments/debate related to any new practices within the electric industry and/or any updates on regulatory analysis since the 2009 COSA Report was prepared. Please explain whether (and how) any such new developments since the 2009 COSA Report have been incorporated into the 2017 COSA Report.

30.1.1 Please explain if the FERC tests no. 1 to no. 4, which were also described in the 2009 COSA Report, are still the most up-to-date tests.

30.1.1.1 If no, please explain what revised and/or new tests have been developed and whether these new tests are applicable to FBC.

EES states the following on page 34 of the 2017 COSA Report:

The Ontario Energy Board (OEB) has also explored the issue of an appropriate classifier and demand allocation factor for transmission facilities in the recent cost allocation review undertaken for the Ontario Local Distribution Companies (LDCs). As part of this review, two tests were developed by the OEB to determine the appropriate classification and allocation procedure for transmission facilities. These two tests are summarized below.

30.2 Please explain if the OEB has performed a more recent cost allocation review other than the one referred to in the above preamble.

30.2.1 If yes, please provide the details of this review and whether the results of this review have any impact on the information provided in the 2017 COSA Report.

EES also states the following on page 35:

The FERC and OEB tests were developed based on comprehensive analyses of utilities in North America, and EES considers the tests to be appropriate methods of determining the appropriate allocator for FortisBC...

...The results generally support the use of a 1 CP or 4 CP approach, however, it is important to note that the tests only consider a 1 CP, 4 CP or 12 CP method and have left out the use of a 2 CP method...

...As the FERC and OEB tests do not specifically contemplate a mixed winter/summer peak, the tests do not rule out the use of that approach.

30.3 Please explain why FBC believes that the tests are appropriate methods of determining the appropriate allocator for FBC when the tests do not specifically contemplate a mixed winter/summer peak.

30.4 Please explain whether, in the years since the 2009 COSA Report was filed, FERC has developed a test to address the situation of dual peaking utilities (summer and winter peaks). If yes, please provide this test and whether it should be considered in the 2017 COSA Report.

30.5 Please provide a table comparing the R:C ratios that would result from the use of 1 CP, 4 CP and 12 CP demand allocators with the 2 CP demand allocator used in the COSA.

**31.0 Reference: 2017 COSA REPORT
Exhibit B-1, Appendix A, p. 37, Schedule 4.1
Customer allocation factors**

On page 37 of the 2017 COSA Report, EES states the following:

Customers Weighted for Meters and Services (CUSTM). The first weighted customer allocation factor considered the relative differences among the various customer classes of meter costs. The typical cost of a new meter for each rate class was used as the weighting factor for each class.

31.1 Please further explain, using an example, how meter costs were allocated to the various customer classes based on the CUSTM allocator.

31.2 Please confirm, or explain otherwise, that the costs for AMI meters were allocated based on the same allocator as regular meters.

31.2.1 If so, please also indicate why it is reasonable to use the same allocator. In the response, please indicate how the typical cost of a new AMI meter compares with the typical cost of a new non-AMI meter.

**32.0 Reference: 2017 COSA REPORT
Exhibit B-1, Appendix A, Schedule 1.1
Cost of service summary**

32.1 Please explain the difference between the Revenue to Cost ratio and the Adjusted Revenue to Cost ratio.

C. RESIDENTIAL RATES

**33.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Section 6.1.2, p. 58
Request to remove RS 03**

FBC states the following on page 58 of the Application:

The Company maintains a residential rate with a Customer Charge and flat energy charge component for customers that fall into one of two categories:

1. Customers enrolled in FBC’s Residential Conservation Rate (RCR) control group (RS 03)...

...

The Company is requesting approval to remove RS 03 that refers to the RCR control group from the Electric Tariff. The RCR control group was dissolved in 2015. FBC last filed an RCR summary report to the Commission in 2014 and there are no further Orders establishing an ongoing requirement to provide reports on a regular basis.

- 33.1 What does it mean in practice that “the RCR control group was dissolved in 2015”? As part of this response, please indicate whether a Commission order/decision was issued granting the dissolution.
- 33.2 Please confirm, or explain otherwise, that there are no customers currently enrolled in RS 03.
 - 33.2.1 If not confirmed, please explain the impact to these customers once RS 03 is removed from the Electric Tariff.

**34.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Section 6.1.3, p. 59; Appendix G, Section 8.6, Equal Payment Plan
Default rate discussion**

FBC states the following on page 59 of the Application regarding customers who “perceive their annual electricity costs to be higher under the RCR than under an equivalent flat rate”:

FBC’s experience with responding to customers who contact FBC individually with this concern has shown that this perception is not always reflective of an actual comparison of flat rate versus RCR billing over the course of a year. Customers may fail to account for lower bills during the lower consumption months or for the increase in the level of rates generally.

Section 8.6 of FBC’s revised General Terms & Conditions (GT&Cs) provided in Appendix G to the Application describes the terms and conditions related to FBC’s Equal Payment Plan.

- 34.1 Notwithstanding customers who are utilizing FBC’s Equal Payment Plan option, please discuss whether under a flat energy rate compared to the RCR, customers would likely experience more consistent bills over the course of the year, as the energy charges would be less impacted by the level of consumption.
 - 34.1.1 If yes, please discuss whether, from the perspective of a customer on a monthly fixed income or a customer in a lower income bracket, a flat energy rate would likely be more or less preferable to the RCR.

34.2 Please explain if, based on the eligibility requirements to participate in the Equal Payment Plan, it is likely more difficult for low income customers to utilize the Equal Payment Plan option. For instance, do the requirements related to accounts not being in arrears and the establishment of satisfactory credit create challenges for low income customers to qualify for FBC's Equal Payment Plan option? Please discuss.

**35.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Section 6.1.4, pp. 60–61
Bill impact constraint and phase-out period**

FBC states the following on page 60 of the Application:

In its 2011 Application for Residential Inclining Block (RIB) Rates, FBC suggested that a constraint on annual bill impact be considered in evaluating rate options. The RIB rate ultimately set by the Commission met the standard that 95 percent of customers should have bill increases no greater than 10 percent as compared to existing rates. For the 2017 RDA, FBC has ensured that, at a minimum, this same constraint for evaluating rate options 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 basis, in the FBC proposal presented in Section 6.1.5, no customer will experience an annual rate increase greater than 3.5 percent.

On page 61, FBC also states that “a balance is sought between acceptable bill increases that must result for some if the impact of the RCR on other customers is reduced.”

35.1 Please confirm, or explain otherwise, that the standard that 95 percent of customers should not see bill increases greater than 10 percent compared to existing rates (i.e. the 95 percent Constraint), which the Commission approved in setting the RIB rate, was the bill impact constraint proposed by FBC in the 2011 Application for RIB Rates.

35.2 Please explain why FBC considers a phase-in period necessary in the current Application when it did not consider a phase-in period to be necessary in the 2011 RIB Rate Application.

35.2.1 As part of this response, please compare the one-year bill impacts to customers resulting from the introduction of the RCR in the 2011 RIB Rate Application compared to the one-year bill impacts to customers resulting from eliminating the RCR as proposed in the current Application (ignoring the impact of any changes to the Customer Charge and any revenue requirement rate adjustments).

**36.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Section 6.1.4, p. 61
Annual bill impacts**

FBC states the following on page 61 of the Application:

As the bill impact information in this section is reviewed, it is useful to consider that primary among the metrics used by both the Company and the customer to evaluate the impact of any change in the structure of the default rate is the impact on annual bills as compared to those generated under the existing RCR.

36.1 Aside from the bill impact metric, what other metrics could be used to evaluate the impact of a change in rate structure from the customer's perspective? Please describe these other metrics and explain whether they should be considered as part of the evaluation.

37.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Section 6.1.4.1, pp. 62–64; BCUC RIB Rate Report to the Government of BC proceeding (BCUC RIB Rate Inquiry); FortisBC Inc. Utility Report dated September 30, 2016, Table 1, pp. 4–5
No natural gas access rate

In the FBC Utility Report dated September 30, 2016 provided in the BCUC RIB Rate Inquiry, FBC provides a list of nine “No-Gas” Communities in Table 1 on page 4.

On page 5 of FBC’s report, it states the following:

The results of the modelling indicate that according to the 2009 COSA, the customers in the *without-access* group would have had an R/C ratio of approximately 108.5%, while customers in the *with-access* group would have had an R/C ratio of approximately 94%...The customers in the *without-access* group have a higher average use per customer but are less likely than residential customers in general to have peak usage at the time of the overall FBC system peak.

On page 64 of the Application, FBC identifies a “number of administrative obstacles that would need to be overcome” to implement a separate rate for customers with no access to natural gas, including the following:

First, a definition of what constitutes “access to natural gas” would need to be developed. It is obvious that communities such as Kaslo or South Slocan, where the entire area lacks gas service can be captured. Other communities, such as Oliver and Osoyoos, cannot be identified as such given that portions of the communities have access to gas while other portions do not.

- 37.1 Please discuss whether, from an administrative perspective, it would be less of an obstacle to establish a separate rate for only the customers in communities which have been identified as having no access to natural gas (i.e. the communities listed in Table 1 of FBC’s September 30, 2016 report).
 - 37.1.1 As part of this response, please indicate the total number of customers which would be included in this separate rate.
- 37.2 Please discuss whether the load profile of the “without-access” group described on page 5 of FBC’s September 30, 2016 report (i.e. time of peak usage) is sufficiently different to warrant consideration of a separate rate.
- 37.3 Please generally describe, and quantify where possible, the additional cost and resources which would be required by FBC to implement and administer a separate rate for the nine “no-gas” communities.

38.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Section 6.1.4.2, Tables 6-3, 6-4, pp. 65–67
Changes to the existing RCR

On page 65 of the Application, FBC states: “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.”

- 38.1 Please explain the purpose of modelling/targeting the Tier 2 rate at FBC’s LRMC of power.
- 38.2 Please provide FBC’s current measures for its LRMC of power, including supporting calculations and explanations for how these measures were derived.

38.3 How does the 2017 Tier 2 rate of \$0.15617 per kWh and FBC’s current measure of LRM, as requested in the previous IR, compare to FBC’s calculation of LRM for the purpose and inclusion in its most recent Long-term Resource Plan (LTRP) filed with the Commission? Please provide appropriate references where applicable.

FBC provides the following tables (Tables 6-3 and 6-4) on page 66 of the Application:

Table 6-3: Options for Changing RCR Components

Option	Customer Charge	Tier 1 Rate	Tier 2 Rate	Threshold
Option 3	Unchanged	Increased	Decreased	Increased
Option 4	Increased	Increased	Unchanged	Increased
Option 5	Unchanged	Increased	Decreased	Unchanged
Option 6	Increased	Increased	Decreased	Unchanged
Option 7	Increased	Increased	Decreased	Unchanged
Option 8	Increased	Increased	Decreased	Unchanged

Table 6-4: July 2017 Open House RCR Option Comparison

	Current RCR	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8
Customer Charge (\$/mo)	16.05	16.05	18.00	16.05	18.99	17.00	18.25
Tier 1 Rate (\$/kWh)	0.10117	0.10700	0.10770	0.10750	0.10220	0.10850	0.10800
Tier 2 Rate (\$/kWh)	0.15617	0.15617	0.1480	0.14420	0.14800	0.13900	0.13600
Threshold	800	1,000	1,000	800	800	800	800
Annual Consumption (kWh)	Percent of Total Customers	Average Percent Bill Difference					
Above 35,000	2%	(1%)	(6%)	(6%)	(4%)	(8%)	(10%)
30,000 – 35,000	1%	(1%)	(5%)	(4%)	(3%)	(7%)	(8%)
25,000 – 30,000	2%	(1%)	(5%)	(4%)	(3%)	(6%)	(7%)
20,000 – 25,000	5%	(2%)	(4%)	(3%)	(2%)	(4%)	(5%)
15,000 – 20,000	10%	(2%)	(3%)	(1%)	(1%)	(2%)	(3%)
10,000 – 15,000	22%	(1%)	0%	1%	(1%)	2%	2%
5,000 – 10,000	37%	3%	6%	4%	3%	6%	7%
0 – 5,000	21%	3%	9%	4%	6%	7%	10%
Percent > 10%		0%	2%	0%	1%	0%	4%

38.4 Please explain if any of the options described in Table 6-3 modelled the following scenario:

- Tier 2 rate decreased to FBC’s current measure of its LRM (with the Tier 1 being increased accordingly);
- No change to the Customer Charge; and
- No change to the Threshold.

38.4.1 If none of the options modelled this scenario, please provide this option in the same format as Table 6-4.

38.4.2 If one of the options does model this scenario, please indicate which one.

38.5 Please confirm, or explain otherwise, that Table 6-4 presents bill impacts that would occur if the RCR changes were implemented at once (i.e., no phase-in period).

38.6 Please confirm, or explain otherwise, that all options shown in Table 6-4 meet the standard that “95% of customers should have bill increases no greater than 10% as compared to existing rate,” which is the standard the Commission approved in the FBC 2011 RIB Rate Decision.

38.7 Please confirm, or explain otherwise, that the customers with bill impacts greater than 10 percent (shown in the last line of Table 6-4) are included in the 0-5,000 kWh annual consumption range.

38.8 Please re-model each of the options described in Table 6-3, but this time using only two specific scenarios for the customer charge for each option: (i) Scenario 1 – No increase to the customer charge; (ii) Scenario 2 – Increase the customer charge to the amount proposed in the Application (i.e. \$18.70 per month). For clarity, this would result in two scenarios for each of Options 3 through 8.

FBC states on page 65 of the Application that “the percentage of customers with bill impacts greater than 10 percent, although shown in the last line of the table, cannot be derived from the table itself because the table aggregates customers on the basis of consumption rather than bill impact.”

38.9 Please re-create Table 6-4, including the additional scenarios and options requested in IRs 38.4 and 38.8, and add, for each of these options, a column showing the average annual bill difference in dollars (similar to the right-hand column of Table 6-6).

38.10 Please discuss the pros and cons of raising the RCR Threshold as opposed to transitioning to a flat rate. Please include a discussion of how raising the RCR Threshold compares to the proposed flat rate when considering both the Bonbright principles and the other “guiding principles” described by FBC on pages 60 to 61 of the Application, such as addressing customer concerns.

38.11 Please discuss the pros and cons of reducing the Tier 2 rate (and increasing the Tier 1 rate) as opposed to transitioning to a flat rate. Please include a discussion of how reducing the Tier 2 rate compares to the proposed flat rate when considering both the Bonbright principles and the other “guiding principles” described by FBC on pages 60 to 61 of the Application, such as addressing customer concerns.

FBC states on page 66 of the Application that if it were to recommend a change to the RCR, it would include, among things, a reduction in the spread between the Tier 1 and Tier 2 rates through a “moderate” increase in the Tier 1 rate and a “more dramatic” decrease in the Tier 2 rate.

38.12 If FBC were to propose a reduction in the spread between the Tier 1 and Tier 2 rates, as described in the above preamble, what rates for Tier 1 and Tier 2 would FBC consider most appropriate? Please explain and quantify.

**39.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Sections 3.5, 6.1.4.2, 6.1.4.4, Table 6-4, pp. 31–32, 66–67
Customer Charge**

FBC states the following on page 31 of the Application:

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... A minimum recovery of 55 percent and 65 percent respectively is in line with the fixed customer cost recovery already achieved by many of FBC’s rate classes, and is not so high that other classes are impacted to a great degree. FBC believes it is a reasonable percentage to achieve.

Table 3-2 on page 32 shows that the customer charge COSA unit cost is \$35.60/month.

On page 66, FBC states that “Option 8 would come closest to having the Customer Charge set at a minimum of 55 percent of the COSA unit cost.” These options are provided in a partial copy of Table 6-4 below:

Table 6-4: July 2017 Open House RCR Option Comparison

	Current RCR	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8
Customer Charge (\$/mo)	16.05	16.05	18.00	16.05	18.99	17.00	18.25

On page 67, FBC states that “a logical change is to align the current RS 01 Customer Charge to that of the Exempt Residential Rates (RS 03 and RS 03A), currently \$18.70 per month.” FBC further states that at \$18.70, the Customer Charge collects 53 percent of the associated fixed COSA charges, which is below the target of 55 percent, but as the \$18.70 was discussed during consultation, no additional increase is being proposed.

- 39.1 Please confirm, or explain otherwise, that a customer charge that would meet FBC’s recommended minimum 55 percent of customer-related unit costs would be set at \$19.58/month (i.e., 55% x \$35.60).
- 39.2 Please explain why FBC did not model an option that would achieve FBC’s recommended minimum customer charge or discuss such an option during the consultations.
- 39.3 Please confirm, or explain otherwise, that Option 6, not Option 8, in Table 6-4 would come closest to having the customer charge set at the FBC recommended minimum of 55 percent.
- 39.4 Please update Table 6-4 by adding an additional option that would meet the following criteria:
 - A customer charge set at \$19.58;
 - A reduction in the spread between Tier 1 and Tier 2 rates which would be accomplished through a moderate increase in the Tier 1 rate and a more pronounced decrease in the Tier 2 rate; and
 - No change in the threshold.
- 39.4.1 Please also add a column showing the average annual bill difference in dollars (similar to the right-hand column of Table 6-6). Please also compare this bill impact against the status quo.

**40.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Section 6.1.4.4, Tables 6-5, 6-6, pp. 67–68
Customer charge and billing impacts**

On page 67 of the Application, FBC states: “In the analysis that follows, FBC has set the Tier 1 and Tier 2 rates such that the overall residential revenue recovered is the same as under current rates, and the differential between the Tier 1 and Tier 2 remains as it is today. This results in a rate as shown in Table 6-5.”

FBC provides the following table (Table 6-5) on page 67 of the Application:

Table 6-5: RCR with RS 03 Customer Charge

RCR Charge	Current RCR	Equivalent RCR
Customer Charge (\$ per month)	16.05	18.70
Tier 1 Rate (\$ per kWh)	0.10117	0.10420
Tier 2 Rate (\$ per kWh)	0.15617	0.14850
Threshold (kWh / mo.)	800	800

- 40.1 Please clarify what FBC means in the above preamble when it states that the Tier 1-Tier 2

differential remains as it is today and provide the supporting calculations.

40.2 Please update Table 6-5 by adding another option, where the customer charge is set at \$18.70, the existing Tier 1 is kept constant at \$0.10117/kWh, the threshold is kept at 800 kWh/month and the Tier 2 is set so that the residential revenue recovered is the same as under the current rates.

40.2.1 For this option, please calculate the bill impact and present it in the same format as Table 6-6. Please also model this scenario in the same format as provided in Table 6-4 and add a column for the bill impact.

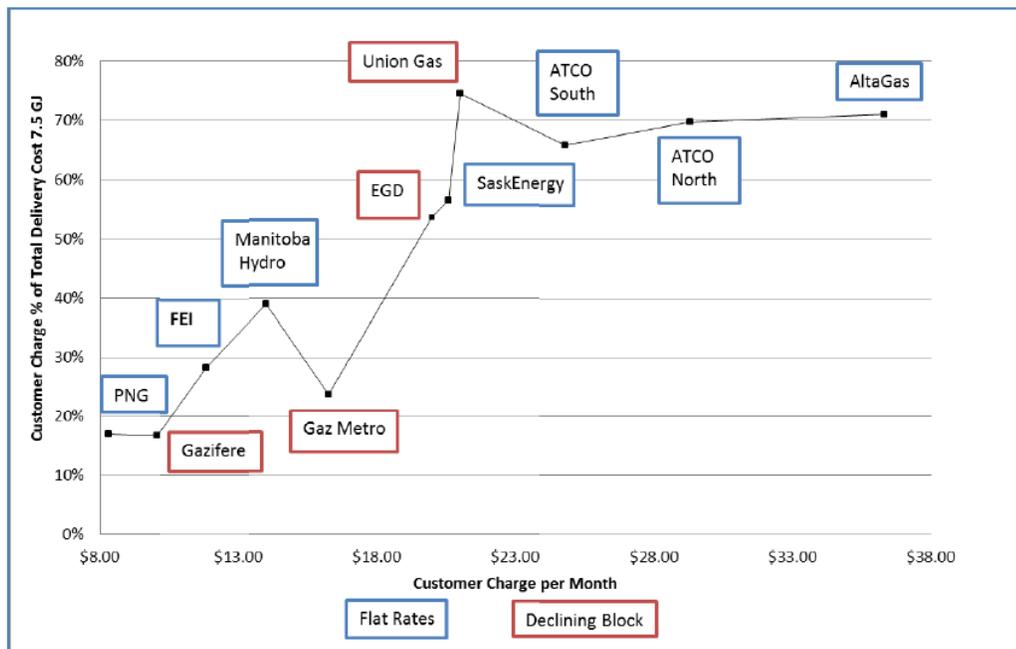
40.2.2 Please discuss how this option might impact the average bill for low-use customers.

40.2.3 Please discuss how the resulting Tier 2 rate under this scenario compares to FBC's current calculation of its LRMC.

**41.0 Reference: RESIDENTIAL RATES
FEI 2016 RDA proceeding, Exhibit B-1, Section 7.6, pp. 7–20
Jurisdictional comparison of rates**

In the FEI 2016 RDA, FEI provides the following figure on page 7-20 of its application:

Figure 7-10: Residential Rate Structures for Various Canadian Natural Gas Distributors¹¹³



41.1 Please provide a similar graph for the utilities included in the FBC 2017 COSA review, which are listed on page 11 of the 2017 COSA Report. Please use the customer charge as a percent of customer-related unit cost on the y-axis and the customer charge in dollar per month on the x-axis.

41.2 Please discuss the results of this comparative analysis.

42.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Section 6.1.4.4, p. 68; FEI 2016 RDA proceeding, Exhibit A2-10, Elenchus Rate Design Report, p. 16
Billing impacts on low use customers

On page 68 of the Application, FBC states: “In the above scenario 96 percent of customers have an annual bill increase of less than 10 percent, however, the immediate bill impact on low consuming customers is a cause for concern.”

Table 6-6 on page 68 of the Application shows, in part, the following:

0 to 5,000	21%	9%	44
------------	-----	----	----

42.1 Please provide a more granular analysis of the 4 percent of customers that have an annual bill increase of more than 10 percent, including their average annual bills and the average annual bill difference in percentage and dollar amount.

42.1.1 Are these customers on the lower end of the 0 to 5,000 kWh annual consumption range? What is the average annual consumption of this group of 4 percent of customers?

42.1.2 What is the percentage of this customer group that is low-income (please provide a definition for low-income).

On page 16 of the Elenchus Rate Design Report filed as Exhibit A2-10 in the FEI 2016 RDA proceeding, it states the following:

Elenchus notes that increases in the fixed monthly charge in excess of 5% have been common in the Ontario electricity sector; however, these increases have been the direct result of the OEB’s policy decision to require all distributors to transition to a fully fixed distribution charge. In addition, large percentage increases in fixed charges are common in cases where utilities have a relatively low basic monthly charge and increase the charge by a relatively small dollar amount, especially in cases where the utility maintains a rounded amount (for example, an increase from \$20 to \$25 would constitute a 25% increase but would typically not be considered to result in rate shock).

42.2 In consideration of the above passage from the Elenchus Rate Design Report in the FEI 2016 RDA proceeding, please discuss if it is appropriate to characterize the 4 percent of customers that have an annual bill increase of more than 10 percent as rate shock.

43.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Section 6.1.4.4, Tables 6-5, 6-6, 6-7, pp. 67–69
Five-year phase-in of Customer Charge increase

On page 68 of the Application, FBC states: “As part of the analysis of an increase to the Customer Charge, FBC also examined the impact of phasing in the increase such that the RS 01 and RS 03 Customer Charges were equivalent after five years.”

43.1 Please update Table 6-7 using a 2-year and a 3-year phase-in period for the Customer Charge. Please discuss the results, outlining the pros and cons of these two additional options compared to the one-year (i.e. no phase-in) presented in Table 6-6 and the five-year phase-in presented in Table 6-7.

FBC further states on page 68: “Using the same assumptions regarding the Tier 1 to Tier 2 differential and revenue equivalency, and assuming that rates become effective on January 1 in each year, rates would be as shown in Table 6-7 below. The Customer Charge increase has been spread evenly over the 5 years.”

- 43.2 Please explain why the rate components arrived at in Year 5 (Table 6-7) are different than the rate components of the Equivalent RCR shown in Table 6-5.
- 43.3 Please explain why the sum of the annual bill impacts (in percent) shown in Table 6-7 do not agree to the one-year average bill difference (in percent) shown in Table 6-6.
- 43.4 If a Customer Charge of \$18.70 per month recovers 53 percent of the customer-related unit cost in 2017, does FBC expect this percentage to increase, decrease or remain the same in Year 5 (i.e., is this dependent on FBC’s expectations regarding the customer-related unit cost over the phase-in period)?
 - 43.4.1 If the customer-related unit cost is expected to increase over the phase-in period, please discuss the risk that the Customer Charge will not achieve the percentage recovery of 53 percent that FBC is targeting at the outset.

**44.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Sections 6.1.3, 6.1.4.5, pp. 59, 70
Characteristics of sample**

FBC provides the following note under Table 6-8 on page 70 of the Application: “Mean annual consumption for the sample is 10,800 kWh/year.”

FBC also states on page 70: “Since FBC has no data that indicates that low-income customers have consumption that varies from customers in general, it follows that similar bill impacts will occur within the low income groups as well.”

On page 59, FBC states that “it is the case that approximately 30 percent of residential customers receive higher annual billings under the RCR than would be the case under the flat rate and approximately 70 percent of customers receive lower annual billings than would be the case under an equivalent flat rate.”

- 44.1 Please explain the note under Table 6-8. Does it mean that FBC has used a sample of customers or a sample of bills to calculate the bill impacts of transitioning to a flat rate structure?
 - 44.1.1 Please describe the sample (e.g., how many observations, etc.) and the method used to select the sample.
 - 44.1.2 What is the mean annual consumption for the residential class of customers?
 - 44.1.3 Please explain if the sample is representative of the entire population of residential customers or bills.
 - 44.1.3.1 If the sample is representative, please reconcile FBC’s statement on page 59 of the Application that 30 percent of residential customers receive higher annual billings under the RCR than would be the case under the flat rate to the information provided in Table 6-8 which shows that 20 percent of customers (from the sample) stand to gain from a return to the flat rate.
- 44.2 Given FBC’s statement about low-income customers in the preamble, please confirm, or explain otherwise, that the low-income customers’ distribution across the ranges of annual consumption is consistent with the percentages of customers shown in the second column of Table 6-8.

- 44.2.1 If confirmed, please also confirm, or explain otherwise, that 20 percent of low-income customers would stand to benefit on average between \$98 and \$1,494 annually from a single-year transition to a flat rate.
- 44.3 Please confirm, or explain otherwise, that FBC used the same sample to calculate the bill impacts presented in Tables 6-4, 6-6, 6-7, 6-9 and 6-10.

**45.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Section 6.1.4.5, Table 6-8, p. 70
Return to flat rate billing**

FBC states the following on page 70 of the Application:

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...As such, a return to a flat rate in a single year would violate the principle that 95 percent of customers should not experience an annual bill increase greater than 10 percent.

FBC provides the following table (Table 6-8) on page 70 of the Application:

Table 6-8: Bill Impact of Flat Rate Options

Option		Flat Rate Option	
Customer Charge (currently \$16.05)		\$16.05 per month	
Tier 1 Rate (currently \$0.10117 /kWh)		\$0.12021 /kWh	
Tier 2 Rate (currently \$0.15617 /kWh)			
Annual kWh	Percent of Customers	Average %	Average \$
Above 35,000	2%	(17%)	(1,494)
30,000 – 35,000	1%	(13%)	(631)
25,000 – 30,000	2%	(12%)	(451)
20,000 – 25,000	5%	(9%)	(273)
15,000 – 20,000	10%	(4%)	(98)
10,000 – 15,000	22%	4%	64
5,000 – 10,000	37%	12%	118
0 - 5,000	21%	11%	55

* Mean annual consumption for the sample is 10,800 kWh/year

- 45.1 Since the sample mean annual consumption is 10,800 kWh/year, please confirm, or explain otherwise, that what FBC qualifies as “significant adverse annual bill impacts for lower than average consumption customers” are average bill increases of \$55 and \$118 per year for customers in the 0-5,000 and 5,000-10,000 annual consumption ranges, representing 21 percent and 37 percent of customers, respectively.
- 45.2 Please confirm, or explain otherwise, that 20 percent of customers stand to benefit from average bill reductions from \$98 to \$1,494 annually.
- 45.3 Please clarify which customer groups from Table 6-8 constitute the 70 percent of customers FBC is referring to as having “some degree of bill impact.”
- 45.4 Based on Table 6-8, please indicate what percentage of customers have an annual bill increase of more than 10 percent.

- 45.5 Please update Table 6-9 by adding the average bill impact in dollars for each year and each annual consumption range.
- 45.6 Please provide a table similar to Table 6-9 showing the results of a two-year and three-year transition. Please also include the average bill impact in dollars in this revised table.

46.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Section 6.1.5, pp. 71–74; Exhibit B-4, p. 2
Default residential rate recommendation

On page 71 of the Application, FBC states: “The FBC proposal for the Default residential rate is a phased-in return to a flat rate for all customers, accompanied by a harmonizing of the Customer Charges of RS 01 and RS 03 at the RS 03 level.”

- 46.1 Please provide the same analysis as in Tables 6-6 and 6-8 but instead model the impact of changing the default rate to a flat rate and increasing the Customer Charge to the proposed \$18.70 per month over the course of a single year (i.e. no phase-in period).
- 46.1.1 In the above scenario, please indicate what percentage of customers have an annual bill increase of more than 10 percent.
- 46.2 What is the minimum number of years over which to transition to a flat rate in order to not exceed the target that 95 percent of customers should not experience an annual bill increase greater than 10 percent?
- 46.2.1 If less than five years, please explain why FBC selected a five-year phase-in period to mitigate the adverse bill impacts of the low-use customers.

Table 6-10 on page 73 of the Application shows FBC’s residential rate proposal of increasing the Customer Charge and phasing out the RCR over a five-year period.

FBC clarifies its phase-in proposal in Exhibit B-4, stating: “Should the proposal included in the Application be approved, there would be four years where there would still be an inclining block rate in place, with the gap between the Tier 1 and Tier 2 rates getting successively smaller each year.”

- 46.3 Please provide the same analysis as in Table 6-10 under a 2-year and 3-year phase-in transition and discuss the results, outlining the pros and cons of these additional options compared to FBC’s proposed phase-in period. Please also include the average bill impact in dollars in this revised table.

47.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Sections 6.1.4, 6.1.5, pp. 61, 72
Five-year phase-in period

On page 61 of the Application, FBC lists “addressing customer concerns” as a supplementary “Guiding Principle” and states that it “is in agreement with the customer sentiment that the impact of the RCR has become overly burdensome on high consuming customers.”

On page 72, FBC states that “[t]he FBC proposal will help to improve the intra-class fairness since low use customers, who currently benefit from the lower Customer Charge at the expense of higher consuming customers, would pay a more equitable share of the fixed costs they impose on the system.”

FBC also states that “[g]iven the potential for adverse bill impacts that an immediate transition would entail for lower consuming customers, the Company is proposing to effect the transition over the course of 5 years.”

- 47.1 Please discuss the factors FBC uses to determine the appropriate balance between, on the one hand, mitigating the adverse bill impacts of customers who will face adverse bill increases from the change, and on the other hand, addressing the concerns of those customer who have been facing adverse bill impacts since the implementation of the RCR five years ago and improving intra-class fairness.
- 47.2 Please discuss FBC's consideration of the Bonbright principles on the issue of the proposed five-year transition. In particular, please include a discussion of Principles 4, 5 and 6.
- 47.3 Please discuss whether, given FBC's proposed phase-in of the flat rate, it considers the concern over the potential for adverse bill impacts resulting from an immediate transition to outweigh the concern of the "overly burdensome" impact of the RCR on high-consuming customers.

**48.0 Reference: RESIDENTIAL RATES
Exhibit B-1, Section 6.1.5, Table 6-10, pp. 72–73
Conservation**

FBC states the following on page 72 of the Application:

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. The conservation achieved to date is now embedded in the forecast residential load. Additional conservation is likely subject to diminishing returns and continuing with the RCR into the future not only lacks a cost basis, but may create inequity amongst customers with regard to the ability to take steps to reduce consumption. This conclusion is also consistent with the assumption made during the original 2011 RIB process where the total rate-related conservation impact was assumed to be fully realized over 5 years, or by 2017.

- 48.1 What measures has FBC taken to verify that most steps available to reduce the impact of the RCR on billing have been taken?
- 48.2 Please explain why FBC believes that additional conservation is likely subject to diminishing returns and provide references and supporting data for this statement.
- 48.3 Please confirm, or explain otherwise, that the actual rate-related conservation impact has been less than what was assumed/presented in the FBC 2011 RIB Rate proceeding. As part of this response, please provide the actual conservation results which were presented in FBC's 2014 RCR Information Report filed with the Commission on November 28, 2014, as compared to the forecasts provided in the 2011 RIB Rate proceeding.
 - 48.3.1 If confirmed, please discuss whether the assumptions regarding when the rate-related conservation impact would be fully realized (i.e. 2017) may also be inaccurate and whether the conservation impact may therefore not yet be fully realized.
- 48.4 Please explain why FBC believes that continuing with the RCR may create inequity amongst customers and provide references and supporting data for this statement.

On page 69, FBC states the following:

The rates shown in Table 6-7 exclude the impact of any annual revenue requirement impacts and are all based on the forecast load used in the 2017 COSA. Future rate increases would impact all elements of the rate by the same percentage, and would also impact the current exempt flat rate to the same degree. Therefore, any annual rate increases would not change the relative rate levels and at the beginning of the fifth year the RCR and the flat rate would be the same.

- 48.5 Please confirm, or explain otherwise, that the statement in the above preamble also applies to the rates shown in Tables 6-9 and 6-10.
- 48.6 Please explain how the Tier 1 and Tier 2 price elasticity of demand are taken into account in the modelling shown in Table 6-10.
- 48.6.1 What is the effect of the Tier 2 rate reductions on usage and what is the effect of the Tier 1 rate increases on usage? Do these effects cancel each other out? Please provide all assumptions and calculations, including the values for price elasticities and their reference.
- 48.7 Please explain how the differential between the Tier 1 and Tier 2 rates, as presented in Table 6-10, was phased-in over the four years.

D. COMMERCIAL SERVICE AND IRRIGATION RATES

**49.0 Reference: SMALL COMMERCIAL (RS 20) RATE
Exhibit B-1, Section 6.2, pp. 75–76
Bill impact**

On page 75 of its Application FBC states that “In examining the annual bill impacts that this change is expected to have on Small Commercial customers, FBC calculated the effect on 11,997 of the 13,750 customers (which is the October 31, 2017 count) within the class, which excluded outlying customers that had less than 100 kWh of consumption over the 2016 year.”

- 49.1 Please explain why small commercial customers with less than 100 kWh of annual consumption in 2016 are excluded from the bill impact analysis.
- 49.2 Please recreate Table 6-12 on page 76 of the Application to include all RS 20 customers, including those with annual consumption of less than 100 kWh.

On page 76 of its Application FBC states that “8.7 percent of RS 20 customers would experience a bill impact greater than 10 percent or \$41 as a result of the change, based on 2016 billing.”

- 49.3 Please explain if the above statement includes all RS 20 customers, including those with annual consumption of less than 100 kWh. If not, please include the total percentage of RS 20 customers that will experience a bill impact greater than 10 percent under the proposed changes.
- 49.4 Please discuss the consideration and prioritization given to the eight rate design principles outlined on page 16 of the Application in making the rate design proposals for RS 20.

**50.0 Reference: COMMERCIAL (RS 21) RATE
Exhibit B-1, Section 3.2, p. 16; Section 6.2.2, pp. 77, 78
RS 21 rate design proposals**

On page 77 of its Application, FBC outlines its proposals regarding RS 21 as follows:

- Flattening of the Energy Charges from a 2-Tier declining block rate to a single energy rate that applies to all consumption;
- Increasing the customer charge to 55 percent of the COSA-derived value; and
- Increasing the Demand Charge to 65 percent of the COSA-derived value.

Further, FBC states that it “...believes that a declining block rate structure runs counter to conservation objectives and should be discontinued.”

On page 16 of its Application, FBC states that the “fundamental principles applied in the development of this Application are based on those identified by Dr. Bonbright.” FBC then lists the eight principles adopted by FBC for rate design.

- 50.1 Please confirm, or otherwise explain, that the specific “conservation objectives” stated on page 77 of the Application are those included in the CEA.
- 50.2 Please discuss the combined impact that the three proposals for RS 21 are expected to have on rate design principle 3: “Price signals that encourage efficient use and discourage inefficient use.” Specifically, please address the expected impact of the proposed flat energy rate of \$0.06875/kWh being lower than both the current Tier 1 and Tier 2 energy rates of \$0.8663/kWh and \$0.7191/kWh, respectively.
- 50.3 Please discuss the consideration and prioritization given to the eight rate design principles outlined on page 16 of the Application in making each of the three rate design proposals for RS 21.
- 50.4 Please discuss whether FBC expects the combined effect of the three proposed rate design changes for RS 21 to result in a change in customer behaviour.
- 50.5 Please confirm when the declining block rate structure for RS 21 was first introduced and the rationale for this structure at that time.
- 50.6 Please confirm, or explain otherwise, that the proposed energy rate of \$0.06875/kWh is the required rate to maintain revenue neutrality for the Commercial class after the customer charge and demand rate that are set at 55 percent and 65 percent of the COSA unit costs, respectively.
- 50.7 Please discuss if FBC considered alternatives to the proposed energy rate of \$0.06875/kWh.
 - 50.7.1 Specifically, did FBC consider setting the energy rate at a level equal to or higher than the existing tier 2 energy rate of \$0.7191/kWh and thereby reducing the level of fixed cost recovery in order to maintain revenue neutrality? Please discuss why or why not.
- 50.8 Please discuss if FBC considered a phased in approach to increasing the customer charge and demand charge to bring them closer to the COSA-derived values. Please discuss why or why not.

On page 78 of its Application, FBC includes a bill impact analysis for RS 21 and states that “[t]here are annual bill reductions for the majority of customers, which are those customers at the lowest consumption strata, offset by small percentage increases for a smaller number of customers with higher consumption. The increase in percentages is not linear due to variations in peak demand.”

- 50.9 Please explain if the reason for the average percentage bill increase for higher consumption customers relates to the proposed increase in the demand charge.

**51.0 Reference: COMMERCIAL (RS 21) RATE
Exhibit B-1, Section 6.2.2.3, pp. 79–80
Transformation discount**

On page 79 of its Application, FBC states:

To determine the difference in costs solely on the basis of a change in voltage level, the COSA was recalculated assuming a higher voltage level for the class in question. The difference was calculated independently for each class where such a discount is offered, but assumed the entire class rather than specific customers was served at the higher voltage level. None of the load data or allocation factors were changed for the various classes when completing the calculation. The only difference would be that certain costs were no longer assigned to the class. The resulting difference in the unit costs for each class was then taken from the COSA to determine the appropriate discount level of a per kVA basis.

51.1 Please provide the supporting calculations, including source data, used to arrive at the transformation discount proposed in the Application for RS 21.

On page 79 of its Application FBC states that for "...RS 21, the 2017 COSA indicates that a transformation discount of \$0.28 per kW of Billing Demand should be applied to the Demand Charge portion of the rate. The current transformation discount is \$0.53 per kW of Billing Demand. FBC is proposing to include the updated amount as the transformation discount in the delivery and metering voltage discounts section of RS 21."

51.2 Please provide a bill impact analysis of the RS 21 transformation discount proposed in the Application as compared to the current transformation discount for the 31 RS 21 customers that receive the discount.

**52.0 Reference: RATE DESIGN
Exhibit B-1, Section 6.2.3.1, pp. 80–81
Transformation discount (Large Commercial Service – Primary [RS 30] Rate)**

On page 80 of the Application, FBC states a transformation discount rate may be applied to RS 30 customers and states the following:

For RS 30, the 2017 COSA indicates that a transformation discount of \$5.26 per kVA of Billing Demand shall be applied to the Demand Charge portion of the rate. The current transformation discount is \$2.676 per kVA of Billing Demand. The increase in the discount results from growth in costs and higher kVA per customer in the 2017 COSA, which results in a near doubling of distribution costs per kVA when compared to the 2009 COSA.

52.1 Please explain how the increase to the transformation discount to \$5.26 per kVA was calculated, including any assumptions made in determining this amount.

52.2 Please provide the bill impact to RS 30 – Primary customers of the increased Transformation discount, if any, resulting from this change. As part of this response, please explain if the increased Transformation discount results in costs being shifted to the RS 30 – Primary customers and if so, why this is shifting of costs is appropriate.

FBC states on page 80 of the Application that the only RS 30 customer currently receiving the transformation discount is FEI, for its service to its Hedley compressor station.

52.3 Does FBC anticipate that other RS 30 customers will likely request to receive the transformation discount? Please explain why or why not.

**53.0 Reference: RATE DESIGN
Exhibit B-1, Section 6.2.4, Tables 6-19, 6-20, 6-21, pp. 81–82
Large Commercial Service – Transmission (RS 31) rate**

FBC states on page 81 of the Application that it is proposing a redistribution of revenue recovery among the fixed and variable elements of RS 31 consistent with the approach taken in other rate classes and provides the current and proposed rates in the following table (Table 6-20):

Table 6-20: RS 31 – Current and Proposed Rates

Rate Schedule 30 Rate Component	Existing Tariff Rate	Proposed Tariff Rate	Proposed COSA Unit Cost Percentage
Customer Charge (\$/mo)	3,116.03	3,195.00	55%
Energy Rate (\$/kWh)	0.05516	0.05367	
Wires Charge Demand Rate (\$/kVA)	4.93	4.93	67%
Power Supply Demand Rate (\$/kVA)	2.77	3.45	65%

FBC further states on page 82 that there are only four customers taking service under RS 31 and that one is a “partial-requirements” customer. FBC provides the following table (Table 6-21) showing the bill impacts on each customer:

Table 6-21: RS 31 – Bill Impacts by Customer

Customer	Dollar Impact	% Impact
1	(22,031)	(0.49%)
2	2,205	0.11%
3	(267)	(0.09%)
4	20,092	3.92%

- 53.1 Please clarify which customer in Table 6-21 (Customer 1, 2, 3 or 4) is the “partial-requirements” customer.
- 53.2 Please explain the factors which are contributing to the bill impact being significantly higher for Customer 4 than the other three customers resulting from the proposed changes.
- 53.3 Please discuss whether FBC considered a phase-in period for the proposed rate changes and whether, based on the dollar impact to Customer 4, a phase-in period is appropriate.
- 53.4 Given that FBC’s approach in proposing a redistribution of fixed and variable rates is to achieve a 65 percent fixed cost recovery for demand charges, please discuss whether it would be appropriate to reduce the Wires Charge Demand Rate from 67 percent to 65 percent.
- 53.5 Please re-create Tables 6-20 and 6-21 to show an adjusted Wires Charge Demand Rate of 65 percent.

**54.0 Reference: IRRIGATION RATES
Exhibit B-1, Section 6.2.6, pp. 82–84
Irrigation rate design proposal**

On page 84 of the Application, FBC outlines the proposed changes to RS 60 rates as follows:

In consideration of the above discussion, FBC proposes changes to RS 60 as shown in Table 6-23 below. These changes raise the Customer Charge in order to achieve 55 percent cost recovery and reduce in [sic] the energy charge rate.

Rate Schedule 60 Rate Component	Existing Tariff Rate	Proposed Tariff Rate	Proposed COSA Unit Cost Percentage
Customer Charge (\$/mo)	20.06	22.09	55%
Energy Rate (\$/kWh)	0.07259	0.07240	

54.1 Under the proposed Irrigation Rates in the Application, please provide the percentage of RS 60 customers that experience a bill increase or decrease equal to or greater than 10 percent, as well as the average dollar bill difference.

**55.0 Reference: IRRIGATION RATES
Exhibit B-1, Section 6.2.6, p. 85
Request from the Keremeos Irrigation District (KID)**

On page 85 of the Application, FBC outlines a request from the Keremeos Irrigation District (KID) regarding additional changes to irrigation rates:

During the consultation leading up to the filing of the Application, FBC received a request from the Keremeos Irrigation District (KID) to consider a further change to the treatment of Irrigation customers as described in the following excerpt from KID's letter,

[KID] would like to request that FBC incorporate the option to allow Irrigation Customers to utilize "time of use" power rate structure during the non-irrigation season. Incorporating this type of rate structure could reduce peak load demand while also allowing the water suppliers to reduce their power costs.

FBC has examined the impact of this change and finds that these customers have the ability to shift their loads in the non-irrigation season, and that the change would have a minor impact on other customers, but is not proposing the change at this time...

FBC believes further investigation into technical and customer information systems issues is required before recommending this change, and these issues may require significant time and expense to overcome. It is also possible that implementation issues may only have solutions that are cost prohibitive. FBC proposes to further investigate the implementation of an off season TOU Irrigation and Drainage rate and to report back to the Commission.

55.1 What is FBC's timeline and estimated resources/costs to complete the load forecast studies to determine the impact of addressing the request from the KID regarding irrigation TOU rates during non-irrigation season? Please discuss.

E. WHOLESALE RATES

56.0 Reference: RATE DESIGN
Exhibit B-1, Section 6.3.4, Tables 6-24, 6-25, pp. 86–88; Appendix A, p. 44
Transmission discount (Wholesale rates)

On page 86 of the Application, FBC provides the Wholesale Primary Rate (RS 40) and the Wholesale Transmission Rate (RS 41), which is provided exclusively to the City of Nelson, in Table 6-24:

Table 6-24: Wholesale Rate Details

Rate	Existing Rate	COSA Value	COSA Unit Cost Percentage	Proposed rate
Wholesale Primary (RS 40)				
Energy Charge (\$/kWh)	0.05441	0.03887		0.05441
Customer Charge (\$/POD/mo)	2645.03	1676.93	158%	2645.03
Wires Charge (\$/kVA)	8.98	15.05	60%	8.98
Power Supply Charge (\$/kVA)	4.82	6.13	77%	4.82
Wholesale Transmission (RS 41)				
Energy Charge (\$/kWh)	0.04501	0.03903		0.04501
Customer Charge (\$/mo)	5,974.48	7892.14	78%	5,974.48
Wires Charge (\$/kVA)	6.34	6.29	101%	6.34
Power Supply Charge (\$/kVA)	4.77	4.66	102%	4.77

FBC states on page 87 of the Application that it “is not proposing structural or rate level changes to the default Wholesale rates. In terms of fixed cost recovery, the only rate component that falls short of either the 55 percent Customer Charge or 65 percent Demand Charge threshold is the Wires Charge rate under RS 40, which is at 60 percent.”

- 56.1 Please provide the references to the COSA Schedules where the above COSA values can be found.
- 56.2 What changes would be required to the other components of RS 40 to make the Wires Charge component recover the targeted fixed cost recovery?

FBC states on page 87 of the Application that it is proposing to add a transmission discount to RS 40 and that the “inclusion of a transmission discount is consistent with a similar provision found in both RS 21 and RS 30 that allows a customer that does not meet the eligibility criteria for the rate schedule offering service at a higher voltage to receive a lower rate based on providing their own transformation.”

The following table (Table 6-25) on page 88 of the Application provides the proposed Transmission Discount:

Table 6-25: RS 40 Transmission Discount

Rate	Existing Rate	Discount	Discounted Rate
Wholesale Primary (RS 40)			
Energy Charge (\$/kWh)	0.05441	0.0077	0.04671
Customer Charge (\$/POD)	2645.03	-	2645.03
Wires Charge (\$/kVA)	8.98	2.64	6.34
Power Supply Charge (\$/kVA)	4.82	-	4.82

- 56.3 For RS 40 customers that choose to directly connect to FBC's transmission system, how would the specifications for switchyard devices and P&C coordination be determined to ensure the distribution system is adequately protected?
- 56.4 Please discuss the scope of construction and engineering work, transformation devices and their approximate associated costs which would be required for a RS 40 customer to safely connect to FBC's transmission voltage.
- 56.5 Please confirm, or explain otherwise, that RS 40 customers would require the following information from FBC to complete engineering design and studies to ensure the utility system is protected: electrical engineering drawings, P&C Coordination Studies, Grounding Studies and Short Circuit Studies.
- 56.5.1 How would FBC share this information and assist RS 40 customers to safely connect to FBC's system and who will bear these engineering costs?
- 56.6 In cases of system faults and/or equipment maintenance for transformation equipment owned by RS 40 customers connected to transmission voltages, would FBC field services be responsible for clearing faults and have freedom of access to RS 40 switching stations and assessing equipment? Please discuss.
- 56.7 Please explain how the transformation discount was calculated, including any assumptions made in determining this amount.
- 56.8 Please explain why, similar to the RS 41 rate for the City of Nelson, a rate was not designed based on the specific service characteristics of the City of Grand Forks.
- 56.9 If other Wholesale customers beyond the City of Grand Forks request to receive the RS 40 Transmission discount, will the rate be appropriate based on the individual customer's service characteristics? Please discuss and include as part of this response an explanation as to whether the service characteristics of Wholesale customers vary significantly and how this might impact the design of a Transmission discount rate.

On page 44 of the 2017 COSA Report, EES states the following:

Because no wholesale customer has opted for this [transmission discount] rate at this time there are no impacts on any other rates associated with this proposed discount. If one or more wholesale customers does opt for this rate in the future, the corresponding reduction in revenues will factor into the future forecast revenues and any future rate increases for the utility.

- 56.10 Please clarify the statement above. Where is FBC proposing that any future revenue shortfalls as a result of the proposed RS 40 transmission discount will be made up? Would it be recovered from the remaining wholesale customers on RS 40 that are serviced at higher voltage in order to maintain revenue neutrality in the class, or would this be recovered from all customers?
- 56.11 Please explain whether, by introducing the RS 40 Transmission discount, there is the potential for intra- or inter-class subsidization.

**57.0 Reference: RATE DESIGN
Commission Letter L-4-15, FBC 2014 Residential Conservation Rate Information
Report, p. 32
Stepped rates**

FBC stated the following on page 32 of its RCR Report dated November 28, 2014:

The caveats above should not be interpreted by the Commission to mean that FBC is opposed to exploring the concept of stepped wholesale rates. The Company is mindful that it is itself exposed to the potential of a second tier of pricing for supply with the Tranche 2 rate in its power purchase agreement with BC Hydro. However, the need for a cautious, consultative approach would be required that should include close coordination with the municipal customers (and their customers). FBC would not expect to file an application for tiered wholesale rates without careful consideration of the costs and benefits.

- 57.1 What are FBC's current views on the concept of stepped wholesale rates, taking into account FBC's exposure to the second-tier pricing for supply within the Tranche 2 rate in RS 3808?
- 57.2 Please discuss the costs and benefits of such a rate for wholesale customers.
- 57.3 Please discuss whether such a rate would impact FBC's other classes of customers. Has this rate been discussed previously with FBC's wholesale customers?

F. TRANSMISSION SERVICES

**58.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7, p. 89; FBC's Tariff Supplement No. 7, Section 1.11
Eligible customers**

On page 89 of the Application, FBC states: "Customers that are eligible for the use of these services are those that meet the criteria provided in Section 1.11 of the Company's Tariff Supplement No. 7."

1.11 Eligible Customer: (i) Any electric utility (including the Transmission Provider and any power marketer or U.S. Federal power marketing agency), or any person generating electric energy for sale for resale is an Eligible Customer under the Tariff. Electric energy sold or produced by such entity may be electric energy produced in Canada, the United States or Mexico; however, such entity is not eligible for transmission service that would be prohibited by Section 212(h)(2) of the U.S. Federal Power Act; and (ii) Any retail customer taking unbundled transmission service pursuant to a provincial requirement that the Transmission Provider offer the transmission service, or pursuant to a voluntary offer of such service by the Transmission Provider, is an Eligible Customer under the Tariff.

- 58.1 Given the time that has elapsed since Tariff Supplement No. 7 was put into effect (March 10, 1999), please discuss whether the criteria provided in Section 1.11 regarding eligibility require updating/revising.

- 58.2 Please provide historical data for the past five years of how many customers of type (i) and (ii) have taken transmission services from FBC.
- 58.3 Please confirm, or explain otherwise, that there is a word missing in the phrase “or any person generating electric energy for sale for resale is an Eligible Customer under the Tariff” under (i) above.

**59.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.1, p. 89; Appendix A (2017 COSA Report), p. 46
Transmission service rates**

Footnote 58 on page 89 of the Application states:

The charges for Network Integration Transmission Service are calculated based on the applicable Load Ratio Share of one twelfth (1/12th) of the Network Transmission Revenue requirement per month. Since these charges are formulaic in nature, they do not change as a result of the 2017 RDA.

On page 46 of the 2017 COSA Report, EES states the following:

For network service, the rate is typically the transmission revenue requirement each month divided by the customer’s share of the load that month. Based on the COSA, the transmission revenue requirement for 2017 is \$64.3 million per year or \$5.36 million per month. This number would need to be adjusted to exclude generation-integration facilities, as described below. Customers with network service pay based on their load each month and the service is not limited to a contractually defined level.

- 59.1 Please further describe the network services provided under RS 100.
- 59.1.1 Please provide the formula used to calculate the charges for this service.
- 59.1.2 Please clarify why the monthly transmission revenue requirement needs to be adjusted to exclude generation-integration facilities.
- 59.2 Since they are not reviewed under a rate design application, what would prompt the review by FBC of such formula and rates? Please discuss.

**60.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.2, p. 92
Point-to-Point rate (PTP) language**

FBC states the following on page 92 of the Application:

Updates to the language contained in RS 101 (Long-term and Short-Term Firm Point-to-Point Transmission Service) and RS 102 (Non-Firm Point-to-Point Transmission Service) are required because the rate schedules, if used to facilitate services other than those anticipated at the time the schedules were originally approved, can be interpreted incorrectly with the potential to lead to FBC being deprived of appropriate revenue that could be used to lower rates for load customers. [Emphasis added]

- 60.1 Please discuss which load customers would benefit from lower rates, and why.
- 60.2 At present, do the revenues generated under RS 101 serve to reduce the revenue requirement for load customers? If so, please explain which customers benefit and reference where this is discussed in Chapter 5 of the Application (i.e. Cost of Service and Rate Rebalancing).

**61.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.2.1, pp. 92, 94
Regulatory history – Transmission access application**

On page 92 of the Application, FBC states: “On March 9, 1998, FBC (West Kootenay Power at the time) filed a Transmission Access Application seeking approval of wholesale transmission access and retail transmission access for its Industrial and Municipal customers.”

FBC further states on page 94: “No entity has ever used the Transmission Services for the provision of Wholesale or Retail Access as was originally intended.”

- 61.1 Please summarize the original purpose of the 1998 Transmission Access Application and explain why the Transmission Services for the provision of Wholesale or Retail Access have never been used as originally intended.
- 61.2 Please confirm, or explain otherwise, that access to FBC’s wholesale and retail transmission pursuant to the Transmission Access Application was/is not limited to FBC’s Industrial and Municipal customers.

**62.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.2.1, pp. 93–94
Regulatory history – Anti-pancaking principles**

On page 93 of the Application, FBC states: “This would prevent the stacking of transmission tariffs, which would result in customers paying the tariffs of both utilities when power was moved between the two service territories. Such stacking or ‘rate pancaking’, at the time, would have made wholesale transmission access uneconomic.”

FBC further states the following on page 93:

At the Commission’s behest, on October 5, 1998 BC Hydro and FBC jointly applied for amendments to their tariffs and power purchase arrangements which were intended to, *“relieve transmission service customers from the requirement to pay both B.C. Hydro’s and FBC’s transmission wheeling rates by charging only the transmission service rate of the utility within whose service area the customer taking service is located.”* (G-12-99 Recital C).

FBC further states on page 93: “It is clear from that 1998 harmonization application that a situation whereby BC Hydro would be purchasing power to serve its native load from within the FBC service territory was not addressed.”

On page 94, FBC states: “No entity has ever used the Transmission Services for the provision of Wholesale or Retail Access as was originally intended. However, the export of self-generation (SG) and Independent Power Producer (IPP) output has been facilitated by RS 101 and select ancillary services.”

- 62.1 Please provide a diagram to illustrate each of the situations described in the above four quotes. Please include in the diagram BC Hydro’s and FBC’s service territories, other jurisdictions’ service areas (e.g., the United States, Alberta, etc.), BC Hydro’s and FBC’s transmission service customers, third-party sources of power (other than FBC/BC Hydro), self-generators, IPPs, and Point of Delivery, as required.
- 62.2 Please clarify the phrase “the export of self-generation (SG) and Independent Power Producer (IPP) output.” Does FBC mean that the power output is sold by the SG or IPP to: (i) markets outside B.C.; (ii) a third party outside of FBC’s service territory; or (iii) a third party?

**63.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.2.1, pp. 92, 94–96; Appendix I-3, Order G-12-99 with Reasons for
Decision dated January 28, 1999
Anti-pancaking principles**

FBC states the following on page 95 of the Application:

The proposed addition to the RS 101 tariff schedule is below, with the added language underlined.

Under the heading in the RS 101 rate schedule, ANNUAL RATE FOR LONG-TERM FIRM SERVICE:

The Monthly Rate is billed on the sum of the Reserved Capacity at each POD. The Monthly Rate will be zero (\$0.00) where the POD is a point of interconnection between the Transmission System and the transmission system of the B.C. Hydro and Power Authority, and the power is being delivered to a load within or beyond the B.C. Hydro service area. For clarity, the zero rate is not available for the delivery of power to the BC Hydro system where there is no equivalent point-to-point transmission reservation on the BC Hydro system.

On page 96, FBC proposes to add the same language in the short-term section of the tariff schedule and in the RS 102 rate schedule.

On page 92, FBC states: “Prior to filing, FBC discussed these changes with BC Hydro and has confirmed that BC Hydro agrees that the Application is consistent with the anti-pancaking principles set out in Order G-12-99, which is discussed below.”

Order G-12-99 stated: “The Commission approves the joint B.C. Hydro/WKP rate harmonization proposal subject to review after two years, effective immediately. Reasons for Decision are attached as Appendix A to this Order.” (Directive 1)

On page 3 of the Reasons for Decision attached as Appendix A to Order G-12-99, the Commission stated the following:

The Commission supports a license plate approach for its simplicity. As well, the Commission sees few problems with its application as long as the use of wheeling tariffs is relatively low. Still, the license plate approach is probably not a harmonization method that could survive indefinitely, since in a high-use environment the shifting of revenue responsibility would reach unacceptable levels.

Therefore, the Commission accepts that a license plate approach to transmission wheeling rate harmonization is appropriate, subject to review after two years.

On page 94 of the Application, FBC states: “No entity has ever used the Transmission Services for the provision of Wholesale or Retail Access as was originally intended.”

- 63.1 Please clarify if a two-year review, or any review, was conducted subsequent to the issuance of Order G-12-99, as contemplated by the Commission in the Reasons for Decision attached to Order G-12-99.
- 63.1.1 If yes, please summarize the outcome of the two-year review and any other reviews of the anti-pancaking principles since the implementation of the harmonization proposal in 1999.

- 63.1.2 If there has been no review, please explain why.
- 63.2 Please clarify the meaning of the term “license plate approach.”
- 63.3 Please confirm, or explain otherwise, that FBC’s proposed clarification language is designed to be consistent with the joint BCH/WKP harmonization proposal approved in Order G-12-99.
- 63.4 Please comment on the actual use of wheeling tariffs over the last 20 years. Is the use still relatively low? Is it as low as it was when the tariff amendments were implemented in 1999? Please explain and provide supporting data.
- 63.5 Please comment on the extent to which the shifting of revenue responsibility has materialized and whether it has reached unacceptable levels.
- 63.6 In light of the Commission’s reasons for decision attached to Order G-12-99, stating that “the license plate approach is probably not a harmonization method that could survive indefinitely,” please discuss whether the current conditions continue to justify the license plate approach.
- 63.7 Given FBC’s statements that no entity has ever used the Transmission Services for the provision of Wholesale or Retail Access as was originally intended and the rate harmonization has given rise to unintended consequences for FBC through misinterpretation of the tariff language, please indicate whether a broader review of the tariff amendments approved by Order G-12-99 is warranted at this time.

**64.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.2.2, p. 95
Rationale for the clarification to the existing PTP rate language**

FBC states on page 95 of the Application: “As a result of the misinterpretation of the anti-pancaking language, FBC currently has two self-generating customers that are exporting power to BC Hydro and paying no transmission related charges except those for select ancillary services.”

- 64.1 Please indicate under which tariff(s) the two SG customers take service.
- 64.2 Please indicate when/how FBC was made aware of the issue of the misinterpretation of the anti-pancaking language for the first time and whether/how FBC tried to resolve it.
- 64.3 Please provide an estimate of the transmission-related revenues which FBC has not received since the issue materialized for the first time.

FBC provides the following description on page 95 of the Application which was provided by the Commission in its October 23, 1998 letter to interveners:

The purpose and effect of the amendments is to relieve wholesale transmission customers from the requirement to pay both B.C. Hydro's and FBC's wholesale transmission rate by charging only the wholesale transmission rate of the utility within whose service area the customer is located. [Emphasis added]

- 64.4 Please clarify whether the term “customer” in the above preamble would refer to BC Hydro or the SG customers located in FBC’s service territory.
- 64.5 If the term “customer” in the above preamble refers to the SG customers of FBC, please confirm, or explain otherwise, that pursuant to the 1998 amendments, these SG customers would only be paying transmission-related charges to FBC, since they are located in its territory.
- 64.5.1 If so, please clarify how FBC’s SG customers can simultaneously be charged FBC’s wholesale transmission rate and avoid paying transmission related charges to FBC.

**65.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.2, Footnote 59, p. 92; Section 7.3, p. 96; FBC Self-Generation
Policy Stage II proceeding, Exhibit B-2, BCUC IR 1.2
Transmission rate request 2 – removal of RS 102**

In Footnote 59, FBC references Section 11.2.2 of the Application where the removal of RS 102 is proposed.

65.1 Please confirm, or explain otherwise, that FBC meant to reference Section 7.3.

FBC states the following on page 96 of the Application:

The second revision is the removal of RS 102 from FBC Electric Tariff. Since the rates are the same as with RS 101, and given the fact that FBC lacks any significant use of its transmission system that would normally underlie the provision of a non-firm wheeling service and none is anticipated, FBC has concluded that RS 102 is not needed.

65.2 Please indicate whether FBC transmission service customers have ever taken service under RS 102 since its implementation. If yes, please indicate how many customers have taken service under RS 102, when this occurred and for how long.

65.3 Please indicate whether FBC conducted any consultations in relation to the closure of RS 102. If yes, please summarize the process and outcome related to the consultation. If no, please explain why not.

In its response to BCUC IR 1.2 in the Self-Generation Policy Stage II proceeding, FBC stated the following:

The recognition and sharing of the net-benefits of self-generation through the Self-Supply Obligation determination process or the setting of the Stand-by Billing Demand provides any self-generator with an enhanced opportunity to realize a greater return on its investment relative to the current situation, and does so without unreasonably impacting other customers. This fact can be viewed as either the removal of an economic barrier or an incentive. [...]

FBC does not believe that access to its system for the purpose of wheeling is a significant barrier to self-generation as the process is well established utilizing a standard and Commission-approved tariff supplement, and is subject to rates that are also subject to Commission approval and which have in fact already been found to be just and reasonable in previous Commission processes.

FBC considers that where the investment in self-generation is cost-effective to the customer (which is more likely given the proposed FBC SGP relative to the status quo) it is likely that the customer will make the rational economic decision, and where it is cost effective for FBC to consider the purchase of the self-generation output it will do so.

65.4 In light of FBC's view that its proposed Self-Generation Policy can be viewed as either the removal of an economic barrier or an incentive to self-generating customers, please explain how FBC determined that no significant use of its transmission system is anticipated.

**66.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.1, Tables 7-2, 7-3, 7-4, pp. 90–91; Section 7.2.3, pp. 96–97;
Appendix A (2017 COSA Report), Wholesale Transmission Rates, pp. 45–46
Transmission rate request 2 – updated prices**

On page 96 of the Application, FBC states: “The first revision is a simplification and update to the pricing attached to the service. The updated prices are derived from the 2017 COSA utilizing the Transmission Revenue requirement.” [Emphasis added]

On page 97, FBC states: “The Transmission Services rates have not been adjusted on any basis other than as the result of a Revenue requirement related increase since they were first put in place. As part of the current Application, a review of the assumptions and cost-based foundation of the rates was conducted.”

In the 2017 COSA Report, EES states the following:

At the time the wholesale tariff were first developed, they were set at retail wheeling rates for customers that could potentially acquire their power supply from an alternate source and use FortisBC for transmission and distribution delivery service. Therefore, they were basically the full retail rate less the power supply component. To date no customer has used the tariffs in that manner.

- 66.1 Please explain how the retail wheeling rates were initially set and what justified a pricing that included a customer charge and varied by customer type, connection voltage and by Reservation time period.
 - 66.1.1 Please explain why no customer to date has used the tariffs in the manner originally intended.
 - 66.1.2 Please explain how customers have used FBC’s transmission services tariff.
- 66.2 Please explain why the Transmission Service rates were not reviewed as part of the 2009 FBC RDA.
- 66.3 Please confirm, or explain otherwise, that the charge for reserved capacity for long-term service in Table 7-2 of the Application is a monthly rate.
- 66.4 Please explain why the rates for firm point-to-point transmission service and non-firm point-to-point transmission service, as provided in Tables 7-2 and 7-3 of the Application, are identical.
- 66.5 Please confirm, or explain otherwise, that the “Transmission Revenue Requirement” referred to in the preamble above can be found in Table 5-6 on page 48 of the Application in the column “Transmission” and is valued at \$64.3 million.
 - 66.5.1 If the Transmission Revenue Requirement is recovered through the rates of both load and transmission customers, please discuss how the rates are designed to avoid double or over recovering the transmission revenue requirement. Please discuss and show calculations.

67.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.3.1, Table 7-5, p. 97; Appendix A (2017 COSA Report), Point-to-Point Rates, pp. 46–47
Proposed transmission service rates

On page 47 of the 2017 COSA Report, it states: “Based on the \$4.67 per kW-month unit cost for transmission resulting from the COSA, a reduction of 10.2 percent would result in a PTP charge of \$4.20 per kW-month...For service at distribution voltage, the full amount would be based on the unit cost of the demand-related distribution costs, or \$3.87 per kW-month.”

67.1 Please provide the formulas used to derive the \$4.67 per kW-month unit cost for transmission and the \$3.87 per kW-month unit cost for the demand-related distribution costs and identify in which COSA schedules these calculations can be found.

68.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.4.1, Table 7-6, p. 98; Appendix A (2017 COSA Report), Ancillary Services, p. 47; Appendix H (Electric Tariff), Rate Schedule 103
Rate Schedule 103 – Scheduling, System Control and Dispatch Service

FBC states the following on page 98 of the Application:

FBC has reviewed the costs associated with this service and has determined that a single rate for all classes of customers is most appropriate as the cost of providing the service is not dependent on the customer class.

The existing rate for RS 103 is \$0.00126 per kWh. The proposed rate is \$0.00031 per kW of Reserved Capacity per hour...

...The rates are derived directly from the 2017 COSA utilizing the costs associated with the System Control Centre that provides the service, divided by the sum of the non-coincident system peaks. The COSA values, derivation, and COSA Schedule reference are shown in Table 7-6 below. [Emphasis added]

FBC provides the following table (Table 7-6) on page 98 of the Application:

Table 7-6: Derivation of RS 103

Description	Value	Reference
Expenses for System Control (Acct 556)	\$2,298,000	COSA Schedule 3.1
Non-Coincident Peak (Sum of 12 months)	13,768,020 kVA	COSA Schedule 2.1
Resulting Rate 103 per kW-month	\$0.1669 / kVA	Row 1 divided by Row 2

On page 47 of the 2017 COSA Report, EES states that “the costs are \$2.298 million. Based on NCP demand this would result in a rate of \$0.1669 per kW per month.”

68.1 Please explain why FBC determined that the cost of providing this service is no longer dependent on connection voltage (the rate used to distinguish between primary and transmission voltage).

68.1.1 Please outline the methodological differences to calculate the proposed rate versus the existing rate.

68.1.2 Please confirm, or explain otherwise, that the proposed rate is consistent with the standard Open Access Transmission Tariff (OATT) approach.

- 68.2 Please clarify whether the resulting rate for RS 103 is \$0.1669 per kW per month or \$0.1669 per kVA.
- 68.3 If the costs associated with the System Control Centre are a part of the 2017 COSA and already recovered through the rates of load customers, is there a risk of double or over recovering the transmission revenue requirement? Please discuss.
- 68.4 Will the proposed rate changes result in an increase or decrease of FBC's revenues? Please explain.

Appendix H (RS 103) shows as follows:

<p>MAXIMUM HOURLY RATE: \$0.00023 per kW.h of Reserved Capacity per Hour</p>

- 68.5 Please clarify whether the rate for RS 103 is \$0.00031 per kW of Reserved Capacity per hour or \$0.00023 per kW.h of Reserved Capacity per Hour.

**69.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.4.2, pp. 99–100; Appendix A (2017 COSA Report), Ancillary Services, p. 47; Appendix H (Electric Tariff), Rate Schedule 104
Rate Schedule 104 – Reactive Supply and Voltage Control**

FBC state on page 99 of the Application that it “has reviewed the costs associated with this service and has determined that a single rate for all classes of customers is most appropriate as the cost of providing the service is not dependent on the customer class.”

FBC further states on page 100: “The charge for Reactive Supply and Voltage Control is based on the BC Hydro rate. FBC believe it is appropriate to use a provincially calculated number since there is no calculated entitlement MVAR availability under the Canal Plant Agreement with BC Hydro.”

- 69.1 Please explain why FBC determined that the cost of providing this service is no longer dependent on connection voltage (the rate used to distinguish between primary and transmission voltage).
- 69.2 Please explain why the proposed rate is not based on updated costs from the 2017 COSA, similar to RS 103 or RS 105.
- 69.3 Please provide a copy of the BC Hydro tariff for Reactive Supply and Voltage Control.
 - 69.3.1 Please explain the method used by BC Hydro to derive its rate and outline the differences between BC Hydro’s method and the one underlying the existing rate.
 - 69.3.2 If FBC had used the same method as BC Hydro to calculate its own rate, what would that rate be?
- 69.4 Will the proposed rate changes result in an increase or decrease to FBC’s revenues?

FBC states on page 99: “The existing rate for RS 104 is \$0.00141 per kWh. The proposed rate is \$0.825 per MW of Reserved Capacity per hour.”

The Electric Tariff (Appendix H of the Application) shows as follows:

<p>RATE: \$0.82500 per kW.h of Reserved Capacity per Hour</p>

69.5 Please clarify whether the proposed rate should be \$0.825 per MW or \$0.825 per kWh of reserved capacity per hour.

**70.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.4.3, p. 100; Appendix A (2017 COSA Report), Ancillary Services,
p. 47
Rate Schedule 105 – Regulation and Frequency Response (RFR) Service**

FBC states on page 100 of the Application: “RFR Service is accomplished by committing on-line generation whose output is raised or lowered (predominantly through the use of automatic generating control equipment) and by other non-generation resources capable of providing this service as necessary to follow the moment-by-moment changes in load.”

70.1 Please describe the “other non-generation resources” that are capable of providing RFR Service.

FBC provides the proposed rate based on updated costs from the 2017 COSA in Table 7-7:

Table 7-7: Derivation of RS 105

Description	Value	Reference
COSA Costs for Demand-Related Production	\$46,785,544	COSA Schedule 2.1
Sum of Monthly System Coincident Peak Demand (kW)	6,883,787	COSA Schedule 8.5
Resulting Rate on per kW-month Basis	\$6.80	Row 1 divided by Row 2
Average Hours per Month	730	
Resulting rate on per kW per hour Basis	\$0.00931	Row 3 divided by Row 4

FBC further states on page 100: “The resulting rate as expressed in the tariff is \$9.31 per MW per hour of generating capacity requested for RFR. The existing rate is \$13.62 per MW per hour of generating capacity requested for RFR.”

On page 47 of the 2017 COSA Report, EES states that “BC Hydro’s rate is \$6.37 per MW per hour with the same 2% minimum. If you were to take the average cost of FortisBC’s own generation (capacity portion only) per kW it would result in a comparable charge of \$9.31 per MW per hour.”

70.2 Please explain why FBC chose to take the average cost of FBC’s own generation (capacity portion only) to derive the proposed RS 105 rate. In particular, what is the link between such metric and the provision of RFR Service as described in the above preamble?

70.2.1 Was FBC’s goal to arrive at a rate comparable to that of BC Hydro? Why or why not?

70.2.2 What is BC Hydro’s method to calculate the rate for this ancillary service?

70.2.3 Please clarify whether FBC meant to state that \$9.31 per MW per hour is comparable to \$6.37 MW per hour.

70.3 Please confirm, or explain otherwise, that the above methodology is the same as the one underlying the existing rate. Please also indicate whether it is consistent with the standard OATT approach.

70.4 Please explain why the significant rate reduction of about 32 percent from the existing rate is reasonable.

**71.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.4.4, pp. 100–103; Appendix A (2017 COSA Report), Ancillary Services, p. 48
Rate Schedule 106 – Energy Imbalance Service**

On page 48 of the 2017 COSA Report, it states the following:

Schedule 106 – Energy Imbalance

The current rate uses a 1.5% hourly balance limit. For positive balances the credit is \$0.05043/kWh for wholesale transmission, \$0.048/kWh for wholesale primary and \$0.04798/kWh for large commercial transmission. Negative balances are charged at the actual cost to the Company plus 10%. The BC Hydro rate uses a 4 MW per hour balance limit and applies a BC Hydro buy price (mid-C less BPA wheeling) with certain factors to go from the mid-C off-peak rate to an hourly rate.

The proposal for FortisBC is to use the 4 MW balance limit along with actual hourly costs for FortisBC. Costs associated with wheeling would be subtracted.

FBC states on page 101 of the Application: “While the proposed pricing of other Ancillary Services included in the Application has remained generally consistent with past practice, FBC is proposing to update RS 106 to reflect current practice and consideration of the Company’s operations.”

- 71.1 Please confirm, or explain otherwise, that the “current practice” FBC is referring to above is that of BC Hydro.
- 71.2 Please provide a comparative table of the BC Hydro and FBC rates for Energy Imbalance and explain any differences.
- 71.3 Please provide numerical examples to illustrate how FBC would calculate the credit resulting from a positive imbalance or the charge resulting from a negative imbalance, both less than or equal to 4 MW and greater than 4 MW.
- 71.4 Please provide a copy of Bonneville Power Authority’s (BPA) wheeling rate.

**72.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.4.5, 7.4.6, pp. 103–104; Appendix A (2017 COSA Report), Ancillary Services, p. 48
Rate Schedule 107 and 108 – Operating Reserve – Spinning & Supplemental**

FBC states the following on page 103 of the Application: “Operating Reserve (OR) – Spinning Service is needed to serve load immediately in the event of a system contingency and may be provided by generating units that are on-line and loaded at less than maximum output and by non-generation resources capable of providing this service.”

FBC further states on page 104: “Supplemental Reserve Service may be provided by generating units that are on-line but unloaded, by quick-start generation or by interruptible load or other non-generation resources capable of providing this service.”

FBC further states on page 104: “As with the case in the current tariff, the proposed rate is the same as that proposed for RS 105, Regulation and Frequency Response, which is \$9.31 per MW per hour and is derived using the same data” [Emphasis added]

On page 48 of the 2017 COSA Report, it states the following:

Schedule 107 and 108– Operating or Spinning Reserves

The current FortisBC rate is \$13.62 per MWh of generating capacity requested, with a minimum of 2.5% or 3.5%. This is the same rate as Schedule 105. BC Hydro's rate is \$6.20 per MWh, which is close to their regulation and frequency response rate.

The proposed rate should be the same \$0.0825 per MW per hour used for Schedule 105.

- 72.1 Please describe the “other non-generation resources” that are capable of providing these services.
- 72.2 Please confirm, or explain otherwise, that the statement in the 2017 COSA Report that “the proposed rate should be the same \$0.0825 per MW per hour” is in error and should read “the proposed rate should be the same \$9.31 per MW per hour used for Schedule 105.”
- 72.3 Please explain the rationale behind the need for RS 107 and RS 108 to be the same as RS 105.

**73.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.4.7, pp. 104–105; Appendix H (Electric Tariff), Rate Schedule 109
– Transmission Losses
Rate Schedule 109 – Loss Compensation**

FBC states the following on page 105 of the Application:

Loss compensation is required for all transactions under RS 100, RS 101 and RS 102, which under the only option current available to customers, will be assessed power losses as follows:

- Transmission Connected Service – 2.86 percent (currently 6.08 percent)
- Distribution Connected Service – 4.26 percent (currently 11.53 percent)

FBC further states the following:

If the customer chooses the added option to settle losses financially based on the Mid-Columbia market price rather than being required to physically deliver power to FBC as compensation for losses pricing would be as follows:

RATE:

- (i) The hourly Powerdex Mid-Columbia (Mid-C) per kWh price for the hour in which the schedule occurred. In hours in which the Mid-C price is negative, a zero value will be used; plus
- (ii) The Bonneville Power authority's (BPA) wheeling rate from B.C.-U.S. Border to Mid-C per kWh; plus
- (iii) An administrative premium of 10 percent.

The following changes to the Electric Tariff are shown in Appendix H:

RATE SCHEDULE 109 - TRANSMISSION LOSSES

APPLICABLE: All transactions under rate Schedules 100 and 101, will incur real power losses as follows:

Wholesale Service - Transmission	6.08%
Wholesale Service - Primary	11.53%
Large Commercial Service - Transmission	6.08%

Deleted: ,

Deleted: , and 102

- 73.1 Please explain the basis by which FBC Engineering Services determined the losses at transmission and distribution voltages.
- 73.2 Please confirm, or explain otherwise, that FBC's proposed changes are consistent with the standard OATT approach.
- 73.3 Please update RS 109 in the Electric Tariff to reflect the proposed changes.
- 73.4 Please explain the factors that caused the loss percentages to decrease significantly since the tariff was first implemented.

FBC states the following on page 105:

This added option increases customer choice and is expected to be more administratively efficient for some customers to implement. In addition, FBC has the potential to reduce overall costs to the extent that FBC can obtain replacement power at a lower cost as a result of overall system optimisation.

- 73.5 Would FBC be able to generate a profit from the additional option it is proposing for customers to settle losses financially? Please discuss.

**74.0 Reference: TRANSMISSION SERVICES
Exhibit B-1, Section 7.4, pp. 97–104
Ancillary services**

FBC states on pages 99 through 104 of the Application that the methodology for discounting the services provided under RS 103 to RS 108, which is contained in Section 3 of Electric Tariff Supplement No. 7, remains unchanged.

Section 3 of Tariff Supplement No. 7 states as follows:

The specific Ancillary Services, prices and/or compensation methods are described on the Schedules that are attached to and made a part of the Tariff. Three principal requirements apply to discounts for Ancillary Services provided by the Transmission

Provider in conjunction with its provision of transmission service as follows: (i) any offer of a discount made by the Transmission Provider must be announced to all Eligible Customers solely by posting on the OASIS; (ii) any customer-initiated requests for discounts (including requests for use by one's wholesale merchant or an affiliate's use) must occur solely by posting on the OASIS, and (iii) once a discount is negotiated, details must be immediately posted on the OASIS. A discount agreed upon for an Ancillary Service must be offered for the same period to all Eligible Customers on the Transmission Provider's system. Sections 3.1 through 3.6 below list the six Ancillary Services.

74.1 Please confirm, or explain otherwise, that the above methodology for discounting services is consistent with the standard OATT approach.

G. OPTIONAL TIME OF USE RATES

**75.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 6.1.5, p. 74; Section 8, p. 108
General**

On page 108 of its Application, FBC states that: "TOU rates are generally intended to incent customers to shift the time of consumption in a manner that allows a utility to reduce costs or generate incremental revenue such that a rate benefit will accrue to all customers."

Further, on page 74 FBC states that it "will provide those customers that may be adversely impacted by the return to flat rates over the five years with information that will help them assess whether they could benefit from the residential TOU rate, as discussed in Section 8 of the Application."

75.1 In FBC's view, can TOU rates be implemented to achieve other objectives in addition to those outlined in the first preamble above? If so, please discuss what these objectives are.

75.2 Given the optionality of the proposed TOU rate, how will FBC ensure that it continues to recover its revenue requirement?

**76.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 1.8, p.8; Section 8, pp. 108–109; Appendix A (2017 COSA Report),
p. 40; Appendix A (2017 COSA Report), Appendix D, Canadian Jurisdictional Review
Current TOU rates**

On page 8 of the Application, FBC states:

FBC has offered optional Time of Use (TOU) rates to all of its customer classes since 1998, pursuant to the 1997 COSA and RDA. Therefore, TOU rates are not new and require no blanket approval for implementation. However, since 1997, the TOU rates have not seen much customer uptake, and had not subsequently been examined against the original rationale behind either the TOU time periods or the pricing... However, there is uncertainty regarding customer participation rates and behaviour, as well as the ability of FBC to realize savings from the shifting of load.

FBC further states the following on page 108:

FBC currently offers time-differentiated, or time of use, rates for all of its retail rate classes, although the rate for residential customers has been closed to new participants since 2012. The closure of this rate coincided with the implementation of the RCR as the default rate for residential customers.

As part of the 2017 COSA and RDA process, FBC has completed the first comprehensive review of these rates in 20 years. FBC has updated the assumptions and cost allocations associated with the rates and is proposing to reconfigure and reprice the TOU rates for all classes, and to reintroduce a TOU rate for the residential class as an optional rate for eligible customers.

On page 109 of the Application, FBC states that “In 2016 there were approximately 175 customers taking service under RS 2A, 20 customers on RS 22A and one customer on RS 32. There are no customers on the remaining TOU rate schedules.”

On page 40 of the 2017 COSA Report, it states: “In 2016, there were roughly 1400 residential TOU customers.”

Appendix D of the 2017 COSA Report includes a Canadian Jurisdictional Review. With respect to Nova Scotia Power TOU rates, it states that eligibility is “restricted to defined electrical thermal storage with timing controls”.

- 76.1 Please elaborate on why there is uncertainty regarding the ability of FBC to realize savings from the shifting of load.
- 76.2 The list of current TOU rates offered by FBC is provided on page 108 of its Application. Please confirm, or explain otherwise, that RS 61 Irrigation and Drainage should be included in the list.
 - 76.2.1 Please provide the number of customers taking service under RS 61.
- 76.3 Please confirm whether there were 175 or 1,400 residential customers taking service under RS 2A in 2016.
- 76.4 What were FBC’s objective(s) for each TOU rate class in implementing these rates in 1998?
 - 76.4.1 Please explain if these objectives have been achieved.
 - 76.4.2 What are the lessons learned from the last 20 years?
- 76.5 Please describe the historical customer uptake for each of the TOU rates listed on page 108, including the now closed RS 2A – Residential TOU rate.
 - 76.5.1 Have there ever been customers signed up under RS 23A, RS 33, RS 42 and RS 43? If so, for how long?
 - 76.5.1.1 For those customers that signed up for these optional TOU rates and later opted out, what factors would explain why they opted out?
 - 76.5.2 What would FBC do differently moving forward to increase customer uptake for each of the TOU rate classes?
- 76.6 For each TOU rate class, please describe the resulting changes in consumption behavior for customers who signed up.
- 76.7 For each TOU rate class and pricing season, please indicate the average percentage reduction in peak hours consumption and provide the 95 percent confidence interval for each observation.

76.7.1 Is this load reduction associated with conservation or load shifting? Please discuss.

76.8 How does FBC adjust for other trends in changing energy consumption not directly attributable to TOU rates in its analysis?

76.9 Please provide examples of the types of activities that customers in each of the TOU rate classes listed on page 108 can adopt to shift their consumption from on-peak to off-peak.

76.10 What are FBC’s eligibility criteria for customers to opt in for TOU? Please discuss.

76.10.1 Are there any technologies, like those required by Nova Scotia Power, which customers must have to be eligible for TOU rates? Please discuss.

**77.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Analysis of Ontario’s Full Scale Roll-Out of TOU Rates–Final Study,
Executive Summary, pp. 21–22¹
Current TOU rates**

Page 21 of the Analysis of Ontario’s Full Scale Roll-Out of TOU Rates–Final Study states: “[T]here is significant evidence of load shifting across all LDCs for residential customers, with reductions in usage in the peak period and increases in usage in the off-peak periods. Results from the mid-peak periods are mixed. In general the magnitude of all load shifting impacts diminish over time.”

Page 22 of the Analysis of Ontario’s Full Scale Roll-Out of TOU Rates–Final Study states: “There was no evidence of conservation, with all estimates showing conservation elasticities that were statistically indistinguishable from zero.”

77.1 Has FBC found similar evidence regarding conservation elasticities to that found in the Analysis of Ontario’s Full Scale Roll-Out of TOU Rates–Final Study on page 22? Please discuss.

77.2 Has FBC found similar evidence regarding the diminishing load shifting impacts to that found in the Analysis of Ontario’s Full Scale Roll-Out of TOU Rates–Final Study on page 21? Please discuss.

77.2.1 What measures, if any, does FBC have to mitigate this impact?

**78.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 8.1, p. 109
Current TOU rates**

On page 109 of the Application, FBC states that “[t]he current TOU rates have pricing time periods as shown in Tables 8-1 and 8-2 below. Customers served at secondary voltage (including residential customers) have two pricing seasons. Customers served at primary voltage and above, and Irrigation customers have three pricing seasons.”

The following is an excerpt from Table 8-3 on page 109 of the Application:

5

Table 8-3: Current TOU Pricing

Rate Class	Winter		Summer		Shoulder	
	On-Peak	Off-Peak	On-Peak	Off-Peak	On-Peak	Off-Peak
Residential	\$0.19710	\$0.06383	\$0.19710	\$0.06383	\$0.19710	\$0.06383
Commercial Service - Secondary	\$0.15122	\$0.04900	\$0.15122	\$0.04900	\$0.15122	\$0.04900

¹ <http://www.ieso.ca/-/media/files/ieso/document-library/conservation-reports/final-analysis-of-ontarios-full-scale-roll-out-of-tou-rates.pdf>

- 78.1 How were the current on/off-peak pricing time periods and pricing seasons determined when TOU rates were first implemented in 1998? Please discuss.
- 78.1.1 How does the method described in the response to the preceding IR compare to the method FBC is using in the current Application to reconfigure and reprice the TOU rates for all classes?
- 78.2 FBC states that customers served at secondary voltage have two pricing seasons, yet Table 8-3 shows the same on or off-peak pricing throughout the year (i.e., only one pricing season) for residential and commercial service customers. Please reconcile.

**79.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 3.2, p. 16
Rate design principles for TOU rate design**

- 79.1 Please discuss how FBC has prioritized the eight Bonbright principles outlined on page 16 of its Application in designing the proposed optional TOU rates. When responding to this IR, please also consider the following:
- 79.1.1 What mechanisms will be in place to ensure FBC will recover its cost of service?
- 79.1.2 How will FBC ensure fairness among customers and minimize impacts on non-participants?
- 79.1.3 Will the optional TOU rate be revenue neutral on a class basis?
- 79.1.4 Will the proposed TOU rates encourage efficiency by setting TOU rates that reflect marginal costs?
- 79.1.5 How simple are the proposals and what has FBC planned in terms of customer education and communication?
- 79.1.6 How does FBC propose reconciling the additional complexity of an on-peak, mid-peak and off-peak TOU rate structure with the need for TOU rates to be simple for customers to understand and practical for FBC to administer? Please discuss.
- 79.1.7 How practical and cost-effective are the proposals to implement? Has FBC considered charging a program charge to cover incremental costs of administering the program?
- 79.1.8 Has FBC considered offering a first-year bill guarantee so that customers will not pay more on TOU than the default rate for the same usage?

**80.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 8.2.1, pp. 110-111; Section 8.3; Appendix A (2017 COSA Report),
Figure 1, pp. 36, 40–42
Time of Use rate periods**

On pages 110 to 111 of its Application, FBC states the following (emphasis added):

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. The 5-year time period was chosen in order smooth out variations in load that may be due to anomalies such as atypical weather patterns. The peak months of December/January and July/August periods were looked at in detail because these have the most potential for cost/revenue impacts.

The current TOU rates contain only an on-peak and off-peak period. However, the analysis revealed that it would better reflect system loads to incorporate an on-peak,

mid-peak and off-peak period. In developing the structure, EES consulting confirmed that this is consistent with typical TOU rates of utilities in other jurisdictions, where TOU period have changed from two to three TOU periods within certain months. 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. The same is true within days where loads and costs are highest in the morning and early evening.

The analysis also revealed that there is no clear delineation where loads change from one level to another, as changes throughout the day and across months are gradual. [...] Loads in each hour were compared to the average load for the day. If the load in these hours was 90 percent or more of the daily peak then the hours were generally considered to be on peak hours. Mid-peak hours generally reflected hours when loads were between 85 percent and 90 percent of the daily peak.

The load analysis confirmed this, as the loads for the shoulder months of March through June and September through November were not as high and warranted the use of a mid-peak period.

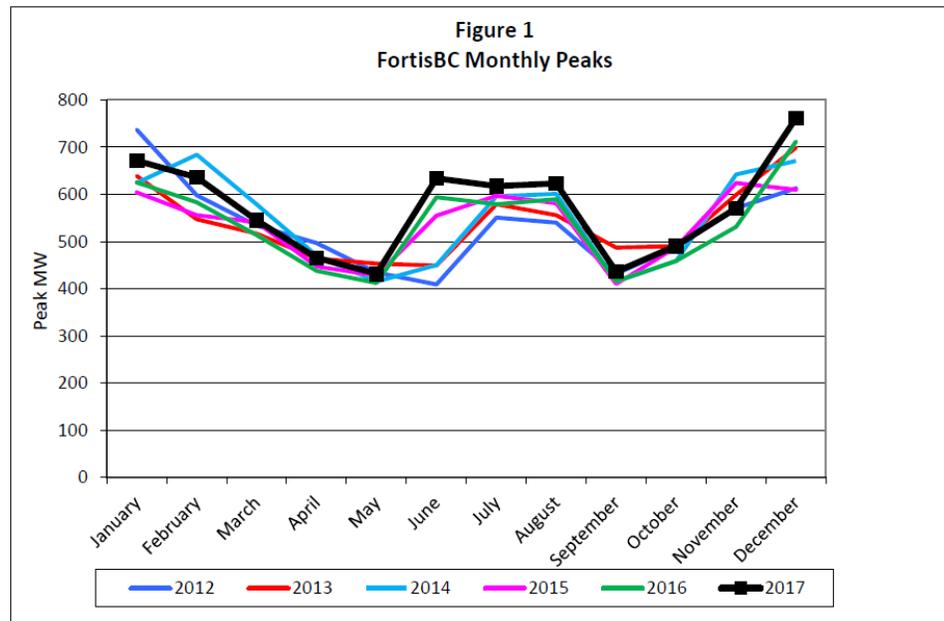
The load analysis indicated that July/August weekday TOU time periods should be set as follows:

Table 8-4: Summer (July – August) TOU Periods

TOU Period	Effective Hours
On-Peak	12:00 pm – 9:00 pm
Mid-Peak	7:00 am – 12:00 pm
Off-Peak	9:00 pm – 7:00 am Weekends

Page 40 of the 2017 COSA Report states: “Most current TOU rates for other utilities contain an on-peak, mid-peak and off-peak period because that better represents the cost differentials between periods. This is something that has evolved over time with other utilities, with many other utilities originally using just two time periods.”

The 2017 COSA Report includes Figure 1 on page 36:



- 80.1 FBC refers to the “analysis” or the “load analysis” throughout this section of the Application but only provides the results of such analysis. Please provide the 5-year load analysis, including any graphs showing daily loads during the on-peak, mid-peak and off-peak periods, for each of the three pricing seasons and for each customer class.
- 80.2 What determinants did FBC use to choose the 90 percent or more threshold for on-peak hours and the 85–90 percent range for the mid-peak hours?
- 80.2.1 Please explain the reason why the range for mid-peak hours is narrower than that of the on-peak hours.
- 80.3 Please confirm, or explain otherwise, that the summer peak months in the last two years of available data (2016 and 2017) were June and August, whereas the summer peaks months from 2012 to 2015 were July and August.
- 80.3.1 Based on Figure 1 above, please confirm, or explain otherwise, that the summer peak is trending toward a three-month peak (2015 to 2017) from a two-month peak (2012 to 2014).
- 80.3.2 Has FBC considered a summer TOU period consisting of three months (June, July and August)? Please discuss.
- 80.4 Please explain how the hourly loads over the 5 year period were grouped into similar load levels. Specifically, was this grouping performed on a relative or absolute basis?
- 80.4.1 What is meant by “similar load levels” as referenced on page 110 of the Application?
- 80.4.2 Was the total system load for each hour calculated based on the average load in each hour observed over the 5 year period? Please explain.
- 80.4.3 Would it be appropriate to time-weight this data, reducing the effects of historic data and reflect naturally occurring shifts in consumption patterns? Please discuss.

- 80.5 On page 111 of the Application, FBC states that the “analysis also revealed that there is no clear delineation where loads change from one level to another, as changes throughout the day and across months are gradual.” How did FBC conclude the effective periods and hours of TOU rates if no clear delineation was revealed in the analysis?
- 80.6 How were proposed TOU rates built upon a base energy price for each rate class which is “adjusted based on the time-delineated cost differentials”? Please discuss.
- 80.7 Please explain the purpose of comparing loads in each hour to the average daily load, when on-peak and mid-peak calculations are based upon daily peak loads.
- 80.7.1 Were on-peak and mid-peak levels calculated using the average daily load or the daily peak load?
- 80.8 Please explain why the sum of On-Peak, Mid-Peak and Off-Peak load in Table 8-9 on page 114 of the Application does not equal 100 percent for the small commercial rate class.
- 80.9 Please explain the calculation method used to obtain Total System percentages in Table 8-9 on page 114 of the Application by On-Peak, Mid-Peak and Off-Peak use.
- 80.10 Please confirm, or explain otherwise, that the breakdown of load to TOU period was based on the same 5 year hourly load data referenced in the above preamble, split by class.

81.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 8.1, Tables 8-1 & 8-2, p. 109; Section 8.2.1, Tables 8-4, 8-5 & 8-6, pp. 111–112
Comparison between current and proposed TOU periods

- 81.1 Please explain why the current TOU periods differentiate between customers served at secondary or primary voltage in regards to on-peak or off-peak hours while the proposed TOU periods no longer differentiate between customer types.

82.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 6.1.5, Table 6-10, p. 73; Section 8.2.1, Tables 8-4, 8-5 & 8-6, pp. 111–112; Section 8.3, Table 8-10, p. 115
Rate comparison for residential customers

- 82.1 Please combine the information contained in Tables 8-4, 8-5, 8-6 and Table 8-10 to illustrate graphically, in three separate graphs, the proposed residential TOU rates for: (i) the summer TOU period; (ii) the winter period; and (iii) the shoulder period.
- 82.2 For the average residential customer, please provide a comparison of the annual bill under the current RCR rate (first column of Table 6-10), under the FBC Residential Rate Proposal (flat rate at Year 5, last column of Table 6-10), and under the proposed residential TOU rate. Please include the calculation steps and assumptions in the table.
- 82.2.1 Please discuss the results from the above comparative analysis, along with the implications for the customer and the utility in terms of rate and revenue stability respectively.
- 82.3 What are FBC’s expectations in terms of on-peak hours load reduction from the customers’ behavioral change?

83.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 6.2.1.2, Table 6-13, p. 76; Section 8.2.1, Tables 8-4, 8-5 & 8-6, pp. 111–112; Section 8.3, Table 8-10, p. 115
Rate comparison for small commercial customers

- 83.1 Please combine the information contained in Tables 8-4, 8-5, 8-6 and Table 8-10 to illustrate graphically, in three separate graphs, the proposed small commercial TOU rates for: (i) the summer TOU period; (ii) the winter period; and (iii) the shoulder period.
- 83.2 For the average small commercial customer, please provide a comparison of the annual bill under the existing rate (second column of Table 6-13), under the FBC Proposed Rate (third column of Table 6-13), and under the proposed small commercial TOU rate. Please include the calculation steps and assumptions in the table.
- 83.3 Please discuss the results from the above comparative analysis, along with the implications for the customer and the utility in terms of rate and revenue stability respectively.
- 83.4 What are FBC’s expectations in terms of on-peak hours load reduction from the customers’ behavioral change?

84.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 8.1, Table 8-3, p. 109; Section 8.3, Table 8-10, p. 115
Comparison between current and proposed TOU rates

- 84.1 Please explain why the current TOU pricing differentiate between seasons in regards to on-peak or off-peak rates (Table 8-3) while the proposed TOU rates no longer differentiate between seasons (Table 8-10).

85.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 8.2.2, p. 113
TOU pricing

On page 113 of the Application FBC states:

For this purpose, power supply costs for 2016 were split into several different categories to cover capacity-related costs, energy purchases and baseload costs...

...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. These charges are incurred for the time periods when loads are higher than what can be generated by FBC’s own generation and contractual resources like the Brilliant plant. These charges best match the mid-peak TOU period where loads are expected to be higher than the base load of the system and the load during the potential on-peak hours. All other power costs are considered base costs that would apply to all TOU periods. [Emphasis added]

- 85.1 Please confirm, or explain otherwise, that the words “lower than” are missing from the second underlined statement in the preamble, which should read “and lower than the load.”
- 85.2 Please confirm, or explain otherwise, that the terms “baseload costs” and “base costs” have the same meaning.

86.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 8.2.2, Table 8-8, p. 113; Appendix A, Table 7, p. 29
TOU Pricing

Table 8-8 is included on page 113 of the Application, as follows:

Table 8-8: TOU Rate Differential Derivation

	Annual Cost	Energy Amount	Cost Differential per kWh
On-Peak Peak Capacity Cost of Both Purchased and Owned Resources	\$56 million	530 GWh On-Peak	\$0.1057
Mid-Peak Energy Purchases Beyond Output from Owned Resources	\$42 million	1,092 GWh Mid-Peak	\$0.0259

Table 7 is included on page 29 of the COSA Report, as follows:

Table 7 summarizes the output and costs associated with each of the power supply sources:

Table 7 Power Production Cost Detail			
	Capacity (MW)	Average Energy (MWh)	2017 Costs (Millions)
Kootenay River Plants	208	182	\$16.0
Brilliant Hydro	205	113	\$42.7
BCH 3808 Purchases	176	86	\$49.0
Waneta Expansion	87	0	\$38.3
Net Market Purchases	0	25	\$6.2
Total System	734	406	\$152.2

- 86.1 Please reconcile the power supply costs between Table 8-8 of the Application and Table 7 of the 2017 COSA Report. If the power supply costs are not sourced from Table 8-8, please provide the data source.
- 86.2 Please explain and provide the formula used to derive the mid-peak cost differential of \$0.0259 per kWh.

87.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 8.2.2, p. 113; Section 8.3, Table 8-10, p. 115
Off-peak rate

FBC states on page 113 of the Application that “[t]he proposed off-peak rate would be set so that the total forecast revenues collected are revenue neutral with the proposed non-TOU rates and the revenue requirement for each class.”

- 87.1 Please provide the assumptions used to determine the customer split between the default rate and the optional TOU rate for each TOU rate class (i.e., TOU rate customer uptake).
- 87.2 For the residential class, given that FBC proposes to transition from the RCR rate to a flat rate over four years, how did FBC take into account the impact of the Tier 1 and Tier 2 price elasticity of demand on electricity consumption, especially as the Tier 1 / Tier 2 differential decreases over the phase-in period, in setting the off-peak rate? Please discuss and provide assumptions.

87.2.1 Please indicate whether the residential TOU rates provided in Table 8-10 would be in effect for the entire proposed phase-in period. Why or why not?

87.3 If the off-peak rate is “set so that the total forecast revenues collected are revenue neutral with the proposed non-TOU rates and the revenue requirement for each class,” does that mean that FBC would over collect its revenue requirement when the cost differentials are added? Please explain.

**88.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 8.2.2, p. 114; Section 8.3, Tables 8-9 & 8-10, pp. 114–115; FBC 2014 Residential Conservation Rate Information Report, p. 20
Price elasticity**

On page 114 of its Application, FBC states that:

An elasticity factor was applied to the load in each time-period to account for the assumed impacts in usage associated with TOU rates. The elasticity factor accounts for the assumption that the price difference associated with the time periods will affect customer behaviour. Elasticity estimates were based on the most current data specific to FBC residential customers – those developed for the 2014 RIB report to the BCUC. There, an analysis found an elasticity of -0.14 for block 2 which as a proxy was applied to the on-peak period. The elasticity for the block 1 use was -0.07 (although not statistically significant) and was applied to the mid-peak and off-peak periods. Elasticity was applied to the usage levels and comparing the TOU rates in each period to the average energy rate. The result was a decrease in the on-peak period and on an overall basis. This in turn led to rates that needed to be slightly higher to maintain revenue neutrality to current rates. Additionally, the reduced power supply cost associated with overall reduced consumption was applied as an offset to the revenue when looking at revenue neutrality. The savings was based on the variable energy rate of \$0.04863 per kWh from the BC Hydro RS 3808 PPA...

...TOU pricing during the periods described above is built upon a base energy price for each rate class, which is then adjusted based on the time-delineated cost differentials developed as described in the previous section. Based on the TOU time-periods, the distribution of load into the time periods was developed. The residential breakdown was calculated based on a sample of residential load data. [Emphasis added]

Table 3-2 on page 20 of the FBC 2014 RCR Information Report is a summary of the updated estimate of RCR savings, including Tier 2 elasticity. The Tier 2 elasticity in Table 3-2 is -0.16 for the Measured Amount and -0.20 for the Upper End.

88.1 Please reconcile the Tier 2 elasticity in Table 3-2 of the FBC 2014 RCR Information Report to the elasticity described on page 114 of the Application.

88.1.1 Please provide the source for the elasticity for block 1 use of -0.07 referenced on page 114 of the Application.

88.2 Was the block 2 factor of -0.14 an average of summer and winter elasticities? Please explain.

88.2.1 Could this elasticity over or underestimate change in consumption patterns when applied to TOU rates, considering this was calculated using data specific to all residential customers? Please discuss.

- 88.2.2 How would the elasticity factor change if only data specific to residential TOU customers was analyzed, assuming that customers who opt into TOU rates may inherently have consumption patterns which take advantage of TOU pricing? Please elaborate.
- 88.3 Does the elasticity factor take into account the fact that the TOU rates are optional rather than mandatory? Please discuss
- 88.4 Given FBC's statement that the block 1 elasticity was found not to be statistically significant, please explain why FBC used it to calculate changes in usage resulting from the mid-peak rate.
- 88.5 How did FBC arrive at the breakdown of load between the different time periods for all non-residential TOU Rate classes, as outlined in Table 8-9? Please discuss.
- 88.6 Please clarify the meaning of the second underlined statement in the above preamble. Does FBC mean that usage decreases in the on-peak period and in all other periods?
- 88.7 Please clarify which rates FBC refers to in the third underlined statement in the preamble above.
- 88.7.1 If FBC is referring to default rates, please explain whether increasing the default rates due to uptake in optional TOU rates achieves the fairness rate design principle.
- 88.8 The BC Hydro 3808 PPA rate of \$0.04863/kWh is the rate from April to December, as shown on page 29 of the 2017 COSA Report. Please explain why FBC does not also take into account the BC Hydro 3808 rate of \$0.04699/kWh from January to March.
- 88.9 Please provide the fully functioning Excel model used to perform the rate calculations described in the preamble and presented in Table 8-9 and 8-10.
- 88.10 Please explain why the average off-peak to on-peak rate ratios decreased across all rate classes.

**89.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 8.3, p. 114
Characteristics of sample**

On page 114 of its Application, FBC states that:

Based on the TOU time-periods, the distribution of load into the time periods was developed. The residential breakdown was calculated based on a sample of residential load data. The following shows the split by time period in terms of the percent of load for each class.

- 89.1 Please describe the sample of residential load data (size, mean usage, etc.) and the method to select the sample. How did FBC ensure the sample is representative of the entire residential load?
- 89.2 Did FBC also use sample of load data for the other classes of customers? Please discuss.

**90.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 8.4, p. 115; FBC 2014 RCR Information Report, p. 28
Use of AMI information**

Page 28 of the FBC 2014 RCR Information Report states that "Once AMI is implemented, customers will have considerably more information available regarding their electricity consumption, enabling them to better understand and manage rates such as the RCR. AMI will also provide the Company with better information to determine whether such a cost-based TOU rate may be justified in the future."

FBC states on page 115 of its Application that "Implementation of the proposed TOU rates, which include an additional time period, Mid-Peak, will require additional AMI and billing related system work."

- 90.1 Please discuss the extent to which FBC used information provided by AMI to determine whether the cost-based TOU rate is justified.
- 90.2 Please discuss the additional AMI and billing related system work required. How will associated costs be recovered?
- 90.3 Please describe the technology that is required for customers on TOU rates to clearly understand both the TOU period and TOU rate applicable to their consumption and provide the associated cost per customer of the technology.
- 90.3.1 Can this information be displayed on the current generation of Smart/Advanced meters or through online web portals? If yes, please explain what information is displayed. If not, please elaborate on the costs of associated with upgrading technology to provide this information.
- 90.3.2 How will costs of technology upgrades or implementation be recovered? Will this be borne by customers or FBC? Please elaborate.
- 90.3.3 If costs are borne by customers, could this be a disincentive or barrier to entry to participate in TOU pricing? How can FBC address this issue? Please explain.
- 90.3.4 How does FBC anticipate this technology will aid customers to shift their time of consumption?

**91.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 8.2.1, Table 8-10, p. 110; Appendix A, pp. 40–43 and Appendix D
Jurisdictional analysis for optional TOU rate**

On page 110 of the Application FBC states: “The current TOU rates contain only an on-peak and off-peak period. However, the analysis revealed that it would better reflect system loads to incorporate an on-peak, mid-peak and off-peak period. In developing the structure, EES consulting confirmed that this is consistent with typical TOU rates of utilities in other jurisdictions, where TOU period have changed from two to three TOU periods within certain months.”

On page 40 of Appendix A, it states: “Most current TOU rates for other utilities contain an on-peak, mid-peak and off-peak period. This is something that has evolved over time with other utilities, with many other utilities originally using just two time periods.”

- 91.1 How many utilities who have implemented optional TOU rates did FBC and EES Consulting analyze in arriving at the TOU rate design proposals in the Application? Did this analysis include utilities outside of Canada? Please elaborate and provide the results of the analysis undertaken.
- 91.2 Please provide an analysis comparing FBC’s proposed TOU rates to electric utility TOU rates in other jurisdictions in both Canada and the US with optional TOU Rates. Please include the following information in the analysis:
- Comparison of the effective hours, duration and months in which the on-peak, mid-peak and off-peak periods are effective;
 - Comparison of the off-peak to on-peak ratios;
 - Comparison of the pricing structure;
 - Restrictions, if any, that were identified with respect to customer eligibility in optional TOU rate participation in other jurisdictions;
 - An explanation as to why optional TOU rates were implemented. Specifically, were TOU rates policy driven or as a result of other factors, such as conservation, peak load

reduction or load shifting; and

- Requirements in the terms and conditions for optional TOU rates, including minimum service periods and any required hardware.

91.3 Please discuss, or otherwise explain, why other utilities in other jurisdictions who have implemented optional TOU rates evolved from originally using two period TOU rates to on-peak, mid-peak and off-peak periods, as referenced on page 40 of the COSA Report.

91.4 How are three TOU periods more reflective of FBC's load profiles and generation costs as compared to two TOU periods? Please elaborate.

**92.0 Reference: OPTIONAL TIME OF USE RATES
Exhibit B-1, Section 8.2.1, Table 8-10, p. 110; Appendix A, pp.40–43; Analysis of Ontario's Full Scale Roll-Out of TOU Rates–Final Study , Executive Summary, pp. 21–22
Jurisdictional analysis for mandatory TOU rates**

On page 110 of the Application FBC states: "The current TOU rates contain only an on-peak and off-peak period. However, the analysis revealed that it would better reflect system loads to incorporate an on-peak, mid-peak and off-peak period. In developing the structure, EES consulting confirmed that this is consistent with typical TOU rates of utilities in other jurisdictions, where TOU period have changed from two to three TOU periods within certain months."

On page 40 of Appendix A, it states: "Most current TOU rates for other utilities contain an on-peak, mid-peak and off-peak period. This is something that has evolved over time with other utilities, with many other utilities originally using just two time periods."

Page 21 of the Analysis of Ontario's Full Scale Roll-Out of TOU Rates–Final Study states: "[T]here is significant evidence of load shifting across all LDCs for residential customers, with reductions in usage in the peak period and increases in usage in the off-peak periods. Results from the mid-peak periods are mixed. In general the magnitude of all load shifting impacts diminish over time."

92.1 How many utilities who have implemented mandatory TOU rates did FBC and EES Consulting analyze in arriving at the TOU rate design proposals in the Application? Did this analysis include utilities outside of Canada? Please elaborate.

92.1.1 Were there more or less instances of jurisdictions that had implemented mandatory TOU rates than optional? Please discuss why this may or may not be the case.

92.2 Please provide an analysis comparing FBC's proposed TOU rates to electric utility TOU rates in other jurisdictions in both Canada and the US with mandatory time of use rates. Please include the following information in the analysis:

- Comparison of the effective hours, duration, and months in which the on-peak, mid-peak and off-peak periods are effective;
- Comparison of the off-peak to on-peak rate ratios;
- Comparison of the pricing structure; and
- An explanation as to why mandatory TOU rates were implemented. Specifically, were TOU rates policy driven or as a result of other factors, such as conservation, peak load reduction or load shifting?

92.2.1 Please discuss how these factors differ from jurisdictions that implemented optional TOU rates.

**93.0 Reference: TIME OF USE RATES
Exhibit B-1, Section 8.4, p. 115
Mandatory TOU rates**

On page 115 of the Application, FBC states that it "... is proposing to track and review the results of the TOU program and after a period of three years, to provide a recommendation to the Commission regarding the continuation of the rates."

- 93.1 Please discuss the rationale for the proposal to continue with optional time of use rates in the Application, as opposed to introducing mandatory time of use rates.
- 93.2 Please explain why FBC is proposing to provide a recommendation to the Commission regarding time of use rates after a period of three years, as opposed to some other timeframe.
 - 93.2.1 Does FBC consider that its recommendation after a period of three years may include a proposal regarding mandatory versus optional time of use rates? Please discuss.
- 93.3 Assuming a scenario whereby FBC introduced mandatory TOU rates, please provide the expected avoided power purchase costs (in terms of both energy and capacity) and impact on system load.
- 93.4 Assuming a scenario whereby FBC introduced mandatory TOU rates, would the rate periods and pricing be the same as those proposed in the application for the optional TOU rates? Please discuss.
- 93.5 Assuming a scenario whereby FBC introduced mandatory TOU Rates, please discuss if it would be appropriate to phase this in over a number of years. Specifically, should this phase-in align with the phase out of the two-tier residential rate over a period of four years?
- 93.6 Please discuss the pros and cons of maintaining optional TOU rates as opposed to introducing mandatory TOU Rates.

**94.0 Reference: TIME OF USE RATES
FBC AMI CPCN Application proceeding, Exhibit B-1, p. 104**

FBC states the following on page 104 of the FBC AMI CPCN Application (Exhibit B-1):

FortisBC intends to continue researching AMI-enabled innovative rate structures. As part of any future rate study the Company will further determine and validate expected take up and participation rates for each rate structure. The Company will further define avoided power purchase costs in terms of both energy and capacity, and will consider potential impacts to system load. Finally, the Company will clarify implementation costs associated with each additional rate structure. If, after sufficient further investigation, it is determined that one or more innovative rate structures would enable a cost-effective means of allowing the utility to reduce the load it serves and helping customers exert control over their electricity bill, then the Company will enter into appropriate stakeholder consultation and regulatory processes, with consideration for the submission of a regulatory application in 2016 or later.

- 94.1 Please provide the expected take-up and participation rates for each class of optional TOU rates proposed in the application. Please provide the results and an explanation as to how they were determined and validated.
- 94.2 Please provide the expected avoided power purchase costs (in terms of both energy and capacity) resulting from the proposed TOU rates and the expected impact on system load.

- 94.3 What are the expected implementation costs associated with the optional TOU rates proposals included in the Application?
- 94.4 Please discuss if FBC considered alternatives to the optional TOU rates proposed in the Application, including critical peak pricing and/or pre-pay rate structures.
- 94.5 Has FBC considered a two-part TOU rate instead of a one-part TOU rate? Specifically, a two-part rate comprised of TOU energy rates and a balancing amount calculated as the revenue difference between billing the historical consumption under the default rate and the proposed TOU Rate using an assigned load profile.
 - 94.5.1 If so, what are the reasons why this option was not further explored?
 - 94.5.2 Please discuss the pros and cons of a two-part TOU rate structure. Specifically, please discuss how this would impact revenue neutrality.

**95.0 Reference: TIME OF USE RATES
Exhibit 1, Chapter 8
Customer consultation and education**

- 95.1 Please discuss the information and education FBC will provide customers in order to encourage shifts in time of consumption.
- 95.2 Please discuss any consultation regarding the TOU rates proposed in the Application that FBC has undertaken to date and the results of any feedback received.
 - 95.2.1 Has FBC conducted or considered conducting surveys to determine the customer interest in the proposed TOU rates?

**96.0 Reference: TIME OF USE RATES
Exhibit 1, Appendix G, Rate Schedules 2A, 22A, 23A, 32, 33, 42, 43, 61
Electric Tariff**

Rate Schedules 2A, 22A, 23A, 32, 33, 42, 43 and 61 of the blacklined FBC Electric Tariff all include the following statement:

Service under this Schedule is available for a minimum of 12 consecutive Months and will continue, at the election of the Customer, to be available for a minimum of 36 consecutive Months after commencement of service.

- 96.1 Please confirm, or explain otherwise, that the statement from the TOU rate schedules included in the preamble means that customers that elect to take service under TOU rates must commit to the rate for a minimum of 12 months.
 - 96.1.1 What is the penalty for those customers that cancel service under a TOU rate schedule prior to the end of the 12 month minimum time period?
 - 96.1.2 Please discuss why a 12 month minimum service period for the TOU rate schedules is considered appropriate, as opposed to some other timeframe.
 - 96.1.3 Did FBC consider any alternatives to the 12 month minimum service period for TOU rates? Please discuss.

H. GENERAL TERMS AND CONDITIONS

**97.0 Reference: RADIO-OFF ADVANCED METER OPTION
Exhibit 1, Chapter 10, p. 10
AMI Radio-off Shortfall Deferral Account**

On page 126 of its Application, FBC states that:

- the “impact of recovering the projected balance over the proposed five-year period is \$1.48 per meter read ($\$0.120 / 5 \text{ years} = \$0.024 / 16,146 \text{ reads per year} = \1.48 per read)
- FBC stated in response to BCUC IR 1.12.4 in the Annual Review of 2016 Rates proceeding, that its preferred approach was to recovery the costs from all customers until the fees could be reset

The projected 2018 balance of the AMI Radio-off Shortfall Deferral Account is \$0.120 million.

- 97.1 Please explain why FBC is proposing to recover the shortfall costs over a period of five years, as opposed to some other timeframe.
- 97.2 As noted in the preamble, FBC stated in the FBC Annual Review of 2016 Rates proceeding that its preference was to recover the shortfall from all customers. Please discuss why FBC proposes in the current Application to recover the shortfall from AMI radio-off customers only.
- 97.3 Please confirm the impact of recovering the balance of the AMI Radio-off Shortfall Deferral Account from all residential customers over a period of one year.
- 97.4 Please provide the impact of recovering the balance of the AMI Radio-off Shortfall Deferral Account from AMI radio-off customers over a period of one and three years.
- 97.5 Please discuss if there are any comparable rate schedules where FBC is allowed to recover the shortfall between revenues collected and costs incurred.
- 97.6 Is FBC applying for approval to record any future shortfall/over-recovery of AMI radio-off costs in the deferral account and provide a refund/recovery to AMI radio-off customers? Please discuss why or why not.
- 97.7 Please provide the supporting calculations for the projected 2018 balance of the AMI Radio-off Shortfall Deferral Account is \$0.120 million, including the shortfall by year.
- 98.0 Reference: RADIO-OFF ADVANCED METER OPTION
Exhibit 1, Chapter 10, p. 10, Appendix D, p. 16; 2016 Report on Radio-off AMI Meter
Option Participation and Costs
2016 Report on Radio-off AMI Meter Option Participation and Costs**

FBC filed its Report on Radio-off AMI Meter Option Participation and Costs (2016 Radio-off Report) with the Commission on September 30, 2016 and also filed the document as Appendix E to its Annual Review of 2018 Rates Application.² Page 5 of the 2016 Radio-off Report states:

Based on the Radio-off Option customer counts over the three months ending in August 2016, FBC forecasts an average Radio-off Option customer count of 2,800 and an average cost to manually read the Radio-off Option customer meters of approximately

² Exhibit B-2, Appendix E, FBC Annual Review of 2018 Rates proceeding:

http://www.bcuc.com/Documents/Proceedings/2017/DOC_49776_B-2_FBC_Annual_Review_2018_Rates_Application.pdf

\$18 per manual read, going forward. FBC considers the June to August 2016 time period, in which costs averaged \$18.26 per read, to be reflective of a stabilized environment for manual Radio-off reading and has forecast accordingly.

Table 2-1 on page 2 of the 2016 Radio-off Report includes a table of the monthly Radio-off option customer counts, costs incurred to manually read the radio-off meters and manual read fee revenue.

Appendix D, page 16, of the current Application includes the calculation of the cost per read based on actual 2017 costs and AMI Radio-off customers. The total labour amount is \$16,146.

- 98.1 Please discuss the reasons for the increase in the per-read fee costs between 2016, as described in the 2016 Radio-off Report, and 2017, as described in Appendix D of the current Application on page 16.
- 98.2 Please provide a table in the same format as Table 2-1 in the 2016 Radio-off Report for 2016, 2017 and 2018 to date.
- 98.3 Please discuss how FBC tracks and isolates labour costs related to manually reading the AMI radio-off meters.

**99.0 Reference: GENERAL TERMS AND CONDITIONS
Exhibit B-1, Section 10.1, p. 119
Introduction**

FBC states on page 119 of the Application that “the majority of the revisions are intended to update and clarify existing language, and where appropriate, to bring commonality with analogous sections in the proposed FEI General Terms and Conditions (GT&Cs) as set out in Appendix 11-1 of the FEI 2016 RDA.”

- 99.1 Please confirm, or explain otherwise, that the proposed changes in the FEI GT&Cs have not yet been approved by the Commission as part of the FEI 2016 RDA proceeding.
 - 99.1.1 If confirmed, please discuss how FBC would address a situation where changes proposed in the current Application to align with the proposed changes in the FEI RDA were not approved by the Commission in the FEI 2016 RDA.
- 99.2 Please discuss the considerations made to the differences in FEI’s gas service compared to FBC’s electrical service when determining whether alignment to various sections of the GT&Cs is appropriate.
- 99.3 Please explain if FBC reviewed BC Hydro’s Electric Tariff which was approved by Order G-5-17 as part of the BC Hydro 2015 Rate Design Application Decision and considered aligning its GT&Cs to the extent possible with BC Hydro.
 - 99.3.1 If no, please explain why not.

**100.0 Reference: GENERAL TERMS AND CONDITIONS
Exhibit B-1, Appendix G, Definitions
Month or Monthly**

FBC defines “Monthly”, for billing purposes, as 27 to 34 consecutive Days.

- 100.1 Please confirm, or explain otherwise, that BC Hydro defines a “Month” as a period of from 27 to 33 consecutive days.
 - 100.1.1 If confirmed, please explain whether it would be appropriate for FBC to shorten the time period from 34 to 33 consecutive Days.

**101.0 Reference: GENERAL TERMS AND CONDITIONS
Exhibit B-1, Appendix G, Definitions
Residential premises**

FBC proposes to revise the definition of “Residential Premises” to state the following:

<p><u>Residential Premises</u></p>	<p><u>Means a Premises used for residential and housekeeping requirements, including:</u></p> <p><u>(a) single family dwelling, including any outbuildings supplied through the same meter,</u></p> <p><u>(b) single or individually metered single-family townhouse, rowhouse, condominium, duplex or apartment, carriage house, farm building, or manufactured home;</u></p> <p><u>(c) at FortisBC’s discretion, any other types of living quarters.</u></p>	<p>Deleted: Means the Premises of a single Customer, whether single family dwelling, separately metered single-family townhouse, rowhouse, condominium, duplex or apartment, or single-metered apartment blocks with four or less apartments</p> <p>Deleted: .</p>
------------------------------------	--	--

- 101.1 Please explain in detail the rationale and purpose for the changes made to this definition.
- 101.2 Please explain what other potential types of “living quarters” may be considered by FBC to meet the definition of “Residential Premises.”
- 101.3 Please explain why FBC considers it necessary to include more open-ended wording in the definition, as has been proposed with item (c) in the definition, and what implications this may have for ratepayers.

**102.0 Reference: GENERAL TERMS AND CONDITIONS
Exhibit B-1, Appendix G, Definitions
Termination**

FBC defines “Termination” as follows: “The cessation of FortisBC’s ongoing responsibility with respect to the supply of Service to the Premises independent of whether or not the Service is suspended.”

- 102.1 Please describe a scenario where a “Termination” has occurred (i.e. a cessation of FBC’s ongoing responsibility with respect to the supply of Service to the Premises) but the Service has not been suspended.

**103.0 Reference: GENERAL TERMS AND CONDITIONS
Exhibit B-1, Appendix G, Application for Service
Security deposit for payment of bills**

FBC provides the following revised terms and conditions for security deposits in Section 2.5 of the GT&Cs in Appendix G:

<p>2.5 Security Deposit for Payment of Bills</p> <p>If a Customer or applicant cannot establish or maintain credit to the satisfaction of <u>FortisBC</u>, the Customer or applicant may be required to make a security deposit in the form of cash or an equivalent form of security acceptable to <u>FortisBC</u>. <u>As security for payment of bills, all Customers who have not established or maintained credit to the satisfaction of FortisBC, may be required to provide a security deposit or equivalent form of security, the amount of which may not:</u></p> <p><u>(a) be less than \$50; and</u></p> <p><u>(b) exceed an amount equal to the estimate of the total bill for the two highest consecutive Months consumption of Electricity by the applicable Premises.</u></p>
--

BC Hydro's terms and conditions related to security deposits are as follows:

2.6.3 Security Deposits

The amount of security deposit required will in each case be determined by BC Hydro in its discretion based on factors such as Energy consumption at the Premises and Customer account and credit history, provided that the security deposit required by BC Hydro will not in any case exceed:

1. If the account is billed monthly, two times the average monthly bill of the Customer or, in the case of an applicant, two times the estimated average monthly bill; or
2. If the account is billed bi-monthly, three times the average monthly bill of the Customer or, in the case of an applicant, three times the estimated average monthly bill.

Security deposits must be in the form of cash or an equivalent form of security acceptable to BC Hydro.

- 103.1 Please explain why FBC has changed the wording for security deposits to state that a security deposit may not be less than \$50. As part of this response, please explain how FBC determined the minimum amount of \$50 and why FBC determined that a minimum amount was required.
- 103.2 Please explain why FBC has revised the wording to state that the security deposit may not exceed the estimate of the total bill for the "two highest consecutive Months consumption of Electricity."
- 103.3 Please explain whether, when comparing FBC's wording to BC Hydro's wording, it is likely that a security deposit charged to an FBC customer would be higher than for a BC Hydro customer.
- 103.4 Please explain whether FBC has considered aligning its wording for security deposits with BC Hydro's wording. Please discuss the reasonableness of such an alignment.
- 103.5 Please discuss the impact that FBC's changes to wording for security deposits may have on low-income customers and particularly whether the requirements may create greater challenges to such customers when seeking service from FBC.

**104.0 Reference: GENERAL TERMS AND CONDITIONS
Exhibit B-1, Appendix G, Term of Service Agreement
Termination by Customer**

In Section 3.3.1 "Termination by Customer" of the GT&Cs in Appendix G, FBC has changed the termination notice from 24 hours to 48 hours.

In Section 2.7 of BC Hydro's Electric Tariff Terms and Conditions, it states: "Except as otherwise provided in the Service Agreement, a Customer may Terminate Service by giving BC Hydro at least 24 hours' notice."

- 104.1 Please explain, other than the desire to align FBC's GT&Cs with FEI's GT&Cs, why the change in notice from 24 hours to 48 hours is necessary.
- 104.2 Please discuss whether FBC considered the wording in BC Hydro's T&Cs when determining the appropriateness of this change in notification period.

**105.0 Reference: GENERAL TERMS AND CONDITIONS
Exhibit B-1, Appendix G, Term of Service Agreement
Termination by FortisBC**

FBC has added the following wording under Section 3.3.4 in the GT&Cs: “Unless the Service Agreement or applicable Rate Schedule specifies otherwise, FortisBC may terminate the Service Agreement for any reasons by giving the Customer at least 48 Hours written notice.”

- 105.1 Please explain if FBC’s current Terms & Conditions contain a “Termination by FortisBC” clause and, if so, what the current notice period is.
- 105.2 If FBC’s current Terms & Conditions do not contain a “Termination by FortisBC” clause, please explain why the clause has been added, including what precipitated the need for this clause, and please explain how FBC determines an appropriate notice period for termination under the current Tariff T&Cs.

**106.0 Reference: GENERAL TERMS AND CONDITIONS
Exhibit B-1, Appendix G, Service Characteristics
Voltages supplied**

In Section 5.1.1 of the GT&Cs in Appendix G, FBC has changed the amount for a Single Phase pole-mounted transformer from a maximum of 600 amperes to a maximum of 400 amperes.

- 106.1 Please explain the reason for this change and what impacts this change may have on FBC’s customers.

**107.0 Reference: GENERAL TERMS AND CONDITIONS
Exhibit B-1, Appendix G, Type of Service
Residential Service**

FBC has added the following wording to Section 6.3 “Residential Service” in the GT&Cs: “At FortisBC’s option, for billing purposes multiple family dwellings used exclusively for living quarters and served through one meter, may have the kilowatt-hour blocks and customer charge increased in proportion to the number of single family living quarters served.”

- 107.1 Please explain the circumstances which necessitated FBC adding this wording and what issue(s)/circumstance(s) this wording is intended to address.
- 107.2 Please explain the implications of this change to FBC’s customers and provide a hypothetical scenario to illustrate the impact of this change on the type of dwelling described in the above preamble.

**108.0 Reference: GENERAL TERMS AND CONDITIONS
Exhibit B-1, Section 10.5.1, Table 10-3, p. 124; Appendix G, Standard Charges
Installation of new/upgraded services**

FBC provides the following table (Table 10-3) on page 124 of the Application summarizing the changes to the New/Upgrade Services Charges:

Table 10-3: New/Upgrade Services Charges

	Current	Proposed
Overhead – Single Phase		
200 Amps or Less	\$533	\$739
400 Amps	\$937	Removed
Underground – Single Phase		
200 Amps or Less	\$565	\$804

FBC states on page 124 that it is “proposing to remove the minimum connection charge for a 400 amp service to reflect that FBC already must develop a design and estimate of any service that is in excess of 200 Amps.”

108.1 Please clarify if FBC’s statement in the above preamble means that currently, if a customer requests service in excess of 200 Amps, including a 400-Amp service, that FBC must develop an individual design and estimate for that service.

108.1.1 If yes, please explain why under the current standard charges there is an amount for 400 Amps.

108.2 For each of the years 2010 through 2017, please provide the number of 400-Amp service requests received by FBC, the total revenue received and the actual cost per 400-Amp service request.

**109.0 Reference: GENERAL TERMS AND CONDITIONS
Exhibit B-1, Section 10.5.2, Table 10-4, p. 125; Appendix D, pp. 3–9; Appendix G,
Standard Charges
Connection charges**

FBC provides the following table (Table 10-4) on page 125 of the Application summarizing the changes to the connection charges:

Table 10-4: Connection Charges

	Current	Proposed
Meter connection, or manual reconnection ⁶⁹ of a meter after disconnection for violation of General Terms and Conditions		
Performed during regular working hours	\$100	\$135
Performed during overtime hours	\$132	\$224
Performed during callout hours	\$339	\$462
Each additional meter connection for one customer at the same time at one location	\$25	\$34
Remote reconnection ⁷⁰ of a meter after disconnection for violation of General Terms and Conditions	n/a	\$13
Disconnection and reconnection of meter	\$200	\$271
Relocation of Service	\$673	\$902

On pages 3 through 9 of Appendix D, FBC provides the calculations for the updated/proposed connection charges.

109.1 Please provide the calculations for the current connection charges in the same format as is provided in Appendix D. Please highlight the changes/differences which have resulted in the increased connection charges.

109.2 For each of the charges in Table 10-4, please explain the drivers of the cost increases for each connection charge.

On page 3 of Appendix D, FBC shows the standard labour rate for Crew Labour to be \$77.80 per hour.

109.3 Please provide the supporting calculations and breakdown for the loaded Crew Labour rate of \$77.80.

109.3.1 Please also provide the same breakdown for the standard labour rate currently being used for the Crew Labour component of the Connection Charge calculation.

On page 3 of Appendix D, FBC shows the standard labour rate for Admin to be \$56.25 per hour.

109.4 Please provide the supporting calculations and breakdown for the loaded Admin Labour rate of \$56.25.

109.4.1 Please also provide the same breakdown for the standard labour rate currently being used for the Admin Labour component of the Connection Charge calculation.

On page 3 of Appendix D, FBC shows the Vehicle Rate to be \$25.04 per hour.

109.5 Please provide the supporting calculations and breakdown for the Vehicle Rate.

109.5.1 Please also provide the same breakdown for the Vehicle Rate currently being used for the Connection Charge calculation.

109.6 Please explain how the Overhead loadings percentage of 33.4 percent is determined.

109.7 Please explain why there is a separate "Disconnection and reconnection of meter" charge of \$271 and why this action would not be encompassed by the "Meter connection, or manual reconnection of a meter after disconnection for violation of General Terms and Conditions."

109.8 Please explain in detail the activities which are involved in a "Relocation of Service" and when such an activity is required to be performed (i.e. under what circumstances).

109.8.1 Please explain why this charge has increased by 34 percent.

110.0 Reference: GENERAL TERMS AND CONDITIONS
Exhibit B-1, Section 10.5.3, Table 10-5, pp. 125–126; Appendix D, pp. 10–15; Appendix G, Standard Charges; FEI 2016 RDA proceeding, Exhibit B-1, Appendix 11-1, p. S-1; BC Hydro 2015 RDA proceeding, Exhibit B-1, Table 8-1, p. 8-6
Miscellaneous Standard Charges

FBC provides the following table (Table 10-5) on pages 125 to 126 of the Application summarizing the changes to the Miscellaneous Standard Charges:

Table 10-5: Miscellaneous Charges

Standard Charge Name			
Current	Proposed	Current	Proposed
Charge for Service	Account Setup or Transfer	\$15	\$13
Returned Cheque Service Charge	Return Payment Charge	\$19	\$13
Collection Charge	Collection Charge	\$12	Removed
Meter Access Charge – Single Phase Remote Meter	Meter Access Charge – Single Phase Remote Meter	\$152	\$206
Meter Access Charge – Poly Phase Remote Meter	Meter Access Charge – Poly Phase Remote Meter	\$310	\$419

Standard Charge Name			
Current	Proposed	Current	Proposed
False Site Visit Charge	False Site Visit Charge	\$182	\$246
Meter Testing	Meter Test Charge	\$25	\$135
Temporary Drop Service	Temporary to Permanent Service Charge	\$200	\$267
Temporary Drop Service	Salvage of Temporary Service Charge	\$200	\$267

On page 10 of Appendix D, FBC provides the calculation of the Account Setup or Transfer charge, which includes the total number of applications for new service and changes to existing accounts (moves) in 2016 of 19,981.

- 110.1 Please separately indicate how much of the 19,981 relates to the set-up of new accounts and how much relates to the transfer of existing accounts.
- 110.2 Please explain if the cost to set up a new account is higher than the cost to transfer an existing account. As part of this response, please provide the cost per account to set up a new account versus the cost per account to transfer an existing account, and provide all supporting calculations.
- 110.3 Please clarify if the Equifax credit check and ID validation cost per transaction relates to both the set-up of a new account and the transfer of an existing account, or if this cost only relates to the set-up of a new account.
- 110.4 Has FBC considered distinguishing the Account Charge between the set-up of a new account versus the transfer of an existing account so that there are separate charges related to each of those activities? Please discuss.

FBC proposes to reduce the Returned Payment Charge from \$19 to \$13, as shown in Table 10-5 of the Application.

In the FEI 2016 RDA, FEI requested approval to reduce the Returned Payment Charge from \$20 to \$8.

In the BC Hydro 2015 RDA, BC Hydro requested approval to reduce its Returned Payment Charge from \$20 to \$6.

- 110.5 Please explain why FBC's proposed Returned Payment Charge of \$13 is higher than FEI's proposed charge and BC Hydro's proposed (and approved) charge. As part of this response, please explain if FBC faces additional costs in which FEI and BC Hydro do not, or if certain components of FBC's costs are higher than FEI and BC Hydro (and if so, why).
- 110.6 Please describe the nature of each of the two Meter Access Charges, including when these services are performed and what work is entailed.
 - 110.6.1 For each of these two charges, please explain the drivers of the increases in costs.
- 110.7 Please describe the nature of the False Site Visit Charge, including when a "false site visit" is considered to have taken place, and why and how a "false site visit" would occur. Please also explain the drivers of the increased costs.
- 110.8 Please describe the nature of the Temporary to Permanent Service Charge and the Salvage of Temporary Service Charge, including how these costs are calculated and what these charges are related to. Please also explain the cause of the increase in cost of \$67 for each of the two charges.