Diane Roy
Vice President, Regulatory Affairs

Gas Regulatory Affairs Correspondence
Email: gas.regulatory.affairs@fortisbc.com

Electric Regulatory Affairs Correspondence
Email: electricity.regulatory.affairs@fortisbc.com

FortisBC
16705 Fraser Highway
Surrey, B.C. V4N 0E8
Tel: (604) 576-7349
Cell: (604) 908-2790
Fax: (604) 576-7074
Email: diane.roy@fortisbc.com
www.fortisbc.com

July 10, 2018

Kaslo Senior Citizens Association – Branch #81
c/o Andy Shadrack
Box 484
Kaslo, British Columbia
V0G 1M0

Attention: Mr. Andy Shadrack

Dear Mr. Shadrack:

Re: FortisBC Inc. (FBC)

Project No. 1598939

2017 Cost of Service Analysis and Rate Design Application (the Application)

Response to the Kaslo Senior Citizens Association – Branch #81 (KSCA) Information Request (IR) No. 2

On December 22, 2017, FBC filed the Application referenced above. In accordance with British Columbia Utilities Commission Order G-101-18 establishing the Regulatory Timetable for the review of the Application, FBC respectfully submits the attached response to KSCA IR No. 2.

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

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachment

cc (email only): Commission Secretary
Registered Parties

1. COSA Methodology and Analysis

1.1 In the Kaslo Senior Citizens Association Branch #81 (KSCA81) IR#1.12.1. response, FortisBC (FBC)/EES Consulting (EES) state that they:

"...*do not know whether the commissioners now on the WUTC do or do not agree with the views quoted above from earlier commissioners. FBC/EES are not aware of new WUTC decisions on the issue*".

1.1.i. How many times has EES appeared before the Washington Utilities and Transportation Commission (WUTC) as either a consultant or intervener, since Docket No. UE-920499 order was issued in 1992?

Response:

The Company consulted with EES to provide the following response.

EES participated in one proceeding in 2017. As with many cases before the WUTC, that case was settled and EES was not required to appear in a rate hearing.

1.1.ii. When was the last time EES appeared before the WUTC?

Response:

Please refer to the response to KSCA IR 2.1.1.i.

1.1.iii. In what other utility commission jurisdictions has EES appeared where "Minimum System" and/or "Zero Intercept" methodologies are not used?

Response:

The Company consulted with EES to provide the following response.

EES has appeared before the Regulatory Commission of Alaska (RCA), where code prohibits any amount of the wires related charges, as would occur in the Minimum System or Zero Intercept methodologies, to be collected through the customer charge.

1.1.iv. What other COSA methodologies does EES use other than "Minimum System" and/or "Zero- Intercept"?

Response:

The Company consulted with EES to provide the following response.

EES sometimes uses the 100 percent demand method for classifying distribution facilities.

1.2. Attached as Exhibit 12 please find a spreadsheet of the "Puget Sound Energy, Electric Cost Of Service Summary, Adjusted Test Year Twelve Months ended September 2016 @ Proforma Rev Requirement, Customer Charge Calculation".

In the British Columbia Sustainable Energy Association (BCSEA) IR#1.4.2., FBC, via EES, provides a breakdown *"...of the costs* [that] *can be found in the COSA Model in the Rev Req by Cust tab*" for the residential class.

1.2.i Using the COSA methodology allowed by WUTC for creation of the Puget Sound Energy, Residential Schedule 7, that creates a Monthly Customer Charge of $7.68, please develop a table that compares FBC's response to BCSEA IR#1.4.2 with Puget Sound Energy Residential Schedule 7.

Response:

The Company consulted with EES to provide the following response.

PSE's current basic charge of $7.49 per customer per month is analogous to the FBC proposed year 1 rate of $16.58 per customer per month in that is does not vary with consumption. It is not comparable to the unit cost provided in response to BCSEA IR 1.4.2. FBC/EES also notes that the current PSE basic charge is set below the COSA cost as evidenced by the fact that PSE testimony dated January 2017 states that PSE requested to increase its basic charge by 20 percent which would still under-recover the COSA customer-related amount by approximately 20 percent.[1]

[1] https://www.utc.wa.gov/_layouts/15/CasesPublicWebsite/GetDocument.ashx?docID=256&year=2017&docketNumber=170034.

The following table provides the breakdown of PSE customer-related costs provided in Exhibit 12, in the same format as the table presented in response to BCSEA IR 1.4.2.

	Residential Customer-Related Costs	Divided by Conversion Factor	Residential Costs per Customer
Distribution	$33,167,786	$44,083,529	$3.75
Customer Service	$12,028,660	$15,987,373	$1.36
Administrative & General	$14,546,664	$19,334,069	$1.64
Depreciation	$12,228,369	$16,252,808	$1.38
Property Taxes	$0	$0	$0.00
Return & Income Taxes	$11,144,173	$14,811,796	$1.26
Other Revenues	$0	$0	$0.00
Revenue Requirement	$83,115,651	$110,469,574	$9.39

Note that the first column reflects the detailed costs as provided in Exhibit 12 and the 2nd column reflects those costs divided by a conversion factor. In PSE's calculations, the total costs (not the detailed costs) were divided by a conversion factor of 0.75[2] to get the net results. We applied the conversion factor uniformly across all cost categories to provide comparable results. The total cost of $9.39 is higher than the $7.68 customer charge because PSE adjusted costs in Exhibit 12 to reflect the fact that it is only proposing to collect a portion of its customer-related costs in its proposed charge.

Information from other jurisdictions may be informative or interesting; however, the Commission has repeatedly cautioned that the costs and circumstances or different utilities are expected to result in rates that are different.

1.3 Attached as Exhibit 13, please find a memorandum from Economic and Engineering Services Inc, cited as "*Final Minimum System Analysis*", dated June 24, 1992.

[2] The conversion factor is described as an adjustment of the net operating income deficiency to account for revenue sensitive items such as bad debts, state utility tax and federal income tax.

1.3.i Please confirm that the change in the allocation of costs, 1981 as compared to 1992, between demand and customer for Conductors, Transformers and Power Poles was explained as due to inclusion of labour and equipment costs.

Response:

The Company consulted with EES to provide the following response.

The difference was due, in large part, to the inclusion of labour and equipment costs.

1.3.ii Please confirm that labour and equipment costs include both installation of new equipment and maintenance of existing equipment.

Response:

The Company consulted with EES to provide the following response.

Not confirmed. The labour costs were related only to the cost of new equipment.

1.3.iii Please confirm that, compared to the 1981 to 1992 period, the distribution system within the FBC service area is not expanding as fast, if it is expanding at all, in 2018.

Response:

The Company consulted with EES to provide the following response.

The information provided in Exhibit 13 does not provide any information that would indicate how fast the distribution system was growing at that time. The distribution system is still growing as new customers are added to the system each year. FBC cannot confirm whether or not the system was growing faster during the 1981 to 1992 period as compared to more recent growth.

The growth in the system does not impact whether or not the minimum system would be used. It would, however, influence the data used in developing the minimum system splits. Growth in customers would impact the number of poles rather than the size of the poles. Growth related

to use per customer would impact the size of the poles required. Average use per customer has been declining over time, which means that a split with a higher customer percent is not unexpected. A determination of whether there was more or less growth during different periods is not a relevant factor on its own.

1.3.iv What is the ratio of installing new distribution equipment versus upgrading and/or maintaining existing equipment?

Response:

FBC does not understand what such a ratio represents, what would be included in such a calculation, or the relevance to the current process and cannot provide a response.

1.3.v Please confirm the accuracy of the following statement:
"Distributing the costs of power poles between customer and demand is important, as much of the system's size is due to demand loads. Without high demand loads, a large portion of power pole costs would not be required".

Response:

The Company consulted with EES to provide the following response.

At the current time, this statement is no longer true. The largest portion of costs for poles is related to the number of customers on the system rather than high demand loads.

1.3.vi If not accurate, please state when FBC/EES changed its method of analysis and why.

Response:

The Company consulted with EES to provide the following response.

There has been no change in the method of analysis over time. It is simply the change in how FBC builds its system and the mix of customers on the system that has changed the results.

1.3.vii Please confirm that the demand portion for power poles decreased from 35% to 24% between 1981 and 1992.

Response:

The Company consulted with EES to provide the following response.

Confirmed.

1.3.viii Please confirm that the term "demand" refers to energy related costs at so much per kWh, or capacity costs at so much per KW.

Response:

The Company consulted with EES to provide the following response.

Demand refers to the portion driven by peak loads on a per kW or per kVA basis.

1.3.ix If not confirmed, please explain why "demand" is a customer charge rather than an energy charge, with examples for illustration.

Response:

Please refer to the response to KSCA IR 2.1.3.viii. In the context of utility planning and cost allocation, demand represents the peak load on either a portion of the system, or the entire

system at a particular point in time. It is neither a "customer charge" nor an "energy charge" as described in the question. For residential rates, that lack a Demand Charge, the fixed system costs are primarily recovered through the energy charge.

1.4 With reference to Appendix B of FBC's application, please illustrate how the Peak Load Carrying Capacity (PLCC) is calculated, giving an example to elaborate its computation.

Response:

The Company consulted with EES to provide the following response.

The data provided on pages 65 to 70 of Appendix B of the COSA Report (Appendix A of Exhibit B-1) provide the calculations used to develop the PLCC. It requires a complex engineering study related to each feeder. The resulting Peak Load Carrying Capacity derived from the engineering analysis was 140,336 kVA. This amount was divided by the number of customers, equal to 128,446. The result was a peak kVA per customer of 1.09.

1.4.i With reference to the minimum system cost of poles, in Appendix B, please confirm that $103.4 million divided by $131.4 million is 79% (78.7%), not 81%.

Response:

The Company consulted with EES to provide the following response.

The minimum cost associated with poles is $106.4 million, as shown on page 59 of Appendix B of the COSA Report (Appendix A of Exhibit B-1). Using this number, the correct percent is 81 percent, not 79 percent.

1.5 With reference to the unnumbered table provided as part of the response in KSCA81 IR#1.1.3, please explain why if "...it is expected that the allocated revenue requirements would be higher than the percent of energy use and lower than the percent of customers" that the inverse is true for the:

1.5.i. Commercial Schedules 21/22

Response:

The Company consulted with EES to provide the following response.

For all customer classes, the allocated revenue requirement is a function of the allocations of customer-related costs, demand-related costs and energy-related costs. Each class would be allocated a percent share of costs that would be in between the various percent allocations for customers, energy and demand. In the case of residential, where the percent allocation of customers is much larger than the percent allocation of energy or demand, the percent share of costs would be less than the percent share of customers and higher than the percent share of demand or energy. For other classes, where the percent allocation of customers is below the percent share of demand and energy, the percent share of costs would be greater than the percent share of customers and less than the percent share of demand and energy.

1.5.ii. Large Commercial Primary Schedules 30/32

Response:

Please refer to the response to KSCA IR 2.1.5.i.

1.5.iii. Large Commercial Transmission Schedule 31

Response:

Please refer to the response to KSCA IR 2.1.5.i.

1.5.iv. Lighting

Response:

Please refer to the response to KSCA IR 2.1.5.i.

1.5.v. Wholesale Primary Schedule 40

Response:

Please refer to the response to KSCA IR 2.1.5.i.

1.5.vi. Wholesale Transmission Schedule 41

Response:

Please refer to the response to KSCA IR 2.1.5.i.

1.5.vii What is the significance of citing both the Coincident Peak Demand and the percent of Coincident Peak Demand, noting that the numbers are different for Commercial Schedule 20, Large Commercial Primary 30/32, and Lighting.

Response:

The Company consulted with EES to provide the following response.

Both the Coincident Peak Demand and the percent of Coincident Peak Demand were shown for informational purposes. Any differences between the numbers and percentages are due to the

fact that the CP number was rounded to the nearest whole number for the table but was not rounded when calculating the percent.

1.5.viii What is the difference in use of the term Coincident Peak and non-Coincident Peak, other than time at which it occurs?

Response:

The Company consulted with EES to provide the following response.

For an individual customer, the Coincident Peak (CP) and Non-Coincident Peak (NCP) differ only in relation to the time the peak occurs. When looking at the class as a whole, the CP is the load of all of the customers at the peak hour for the system. The NCP for a class would be the NCP values for each customer in the class summed together. The time of the NCP could be different for each customer but they would still be added together.

1.5.ix Please explain the concerns with using non-Coincident Peak cost allocation, both from an intra- class and an inter-class point of view as it relates to section 59(1)(a), 59(2)(b) and 59(4)(b) of the *Utilities Commission Act (UCA),* especially, for example, as it occurs for commercial and industrial businesses that have peak demands at different times of the day.

Response:

The Company consulted with EES to provide the following response.

There are no concerns with the use of the NCP related to the cited sections of the UCA. The NCP is used as an allocator because it best captures the cost-causation related to certain costs within the COSA. The NCP is used for those items, such as transformers, that are designed and built to meet the peak load of the local customers they serve, regardless of when that peak occurs for each customer. This is different than the CP method used for other items, such as power generators, that are designed and built to meet the system peak that occurs in the same hour for all customers.

COSA: Growth in Energy Sales and Customer Classes

1.6 With reference to the two unnumbered tables provided in FBC's response to KSCA81 IR#1.1.4.:

1.6.i Please confirm that, between 2009 and 2016, Industrial, Commercial and Lighting energy sales increased by 57.9%, 33.2% and 19.1% respectively, while Residential declined by 14%, Irrigation by 6% and Wholesale by 4%.

Response:

Not confirmed.

As explained in the response to KSCA IR 1.1.4, the City of Kelowna (CoK) wholesale energy sales were added to the residential class from 2009 to 2013. This is not an accurate representation of the CoK since it included not only residential energy but also industrial and commercial energy. The CoK energy could not be further broken out since the information was not provided to FBC by the the CoK's billing company. Therefore FBC is unable to provide the requested information related to the energy table in KSCA IR.1.1.4, since it not an accurate representation of CoK energy sales from 2009 to 2013.

1.6.ii Please also confirm that the Commercial customer class grew by 18.6% between 2009 and 2016, the Residential class by 7%, the Industrial class by 5% and the Irrigation class by 3.8%, while the Lighting class declined by 20%.

Response:

Not confirmed.

To determine the customer growth from 2009 to 2016 from the tables provided in KSCA IR 1.1.4 the 2016 customers were divided by the 2009 customers to get the percentage growth. The customer growth increase for each class from 2009 to 2016 is below.

Table 1: 2009 to 2016 Customer Counts from KSCA IR 1.1.4

Year	Residential	Commercial	Wholesale	Industrial	Lighting	Irrigation	Net
2009	109,396	12,653	6	45	1,874	1,066	125,040
2016	115,772	15,073	6	50	1,559	1,090	133,550
Growth (%)	5.8%	19.1%	0.0%	11.1%	-16.8%	2.3%	6.8%

Please note that, as was requested in the KCSA81 IR 1.1.4, the customer count unnumbered table provided in FBC's response added the CoK customers to the residential, commercial and industrial classes from 2009 to 2012.

1.6.iii Please confirm that, between 2009 and 2016, for every percent by which the residential customer class grew, overall energy sales declined by 2%.

Response:

Please refer to the response to KSCA IR 2.1.6.i. Please also refer to the response to BCUC IR 2.113.1.

1.6.iv What are the Residential class actuals for 2017, and does FBC have projections for this class out to 2023?

Response:

The 2017 normalized actuals, and the after savings forecast from 2018 to 2023, from the 2018 Annual Review Application, are below.

Table 1: 2017 Normalized Actuals and 2018 to 2023 Forecast from the 2018 Annual Review

Residential		
	Customer Count	**Energy (GWh)**
2017	117,748	1,320
2018	117,774	1,280
2019	118,895	1,273
2020	120,025	1,265
2021	121,159	1,255
2022	122,301	1,245
2023	123,421	1,248

1.6.v With reference to Schedule 1.1 Appendix A, COSA Schedules, please confirm that even though Residential energy sales declined by 14% between 2009 to 2016, EES Consultants are proposing to increase allocated revenues by 1.7%, while, in contrast, even though Commercial energy sales increased by 33.2%, allocated revenues for various Commercial rate schedules are proposed for a pricing decline of between 2.1% to 6.5%.

Response:

FBC consulted with EES to provide the following response.

FBC/EES can confirm the values cited, but not the implied conclusions that are tied to them. Note that revenues are not allocated, only revenue requirements or costs are allocated to classes. The revenue requirements (costs) allocated to the residential and other classes are related to more than just the energy sales. Each class is allocated costs on the basis of customers, demand and energy. That is why in the case of the residential class, there are more costs allocated to them than would be indicated by the percent of energy they use alone. Even if energy use has declined, the number of customers and the peak demand has increased.

1.6.vi Please explain why any reference to Industrial rate schedules are missing from Schedule 1.1.

Response:

The Large Commercial rate schedules that appear in the FBC Tariff are considered to be Industrial Customers. The terms are used interchangeably.

COSA: Energy Costs

1.7 With reference to FBC's response to KSCA81 IR#1.1.5, please confirm that, because FBC only creates 44.8% of its energy supply and therefore has to purchase the remaining 55.2%, this in part explains why some of FBC's energy prices are in fact higher than respective BC Hydro prices.

Response:

The Company consulted with EES to provide the following response.

It is confirmed that the cost of energy factors into the total cost of service and therefore to the rates charged to customers. In addition, there are differences in the costs related to the delivery of power to customers between the two utilities and the time period over which those costs are being recovered. More generally, as the Commission has recognized, the circumstances of the utilities are different; their rates would not be expected to be the same.

1.7.i Given that Nelson Hydro has a similar percent of power purchase to FBC, please list the different variables that cause Nelson Hydro to have a lower and different rate structure.

Response:

There is no reason that two utilities that may purchase similar percentages of overall power requirements would be expected to have similar rates – either in structure or level. Percentage of purchased power does not infer that the timing or cost of the purchases should be similar. In the case of Nelson Hydro, it has a different service area, customer composition, cost structure, services provided, and regulatory environment. Rates for the unregulated portion of the Nelson Hydro service are set through the bylaw process as opposed to through a Commission process.

As a general matter, the rates charged by Nelson Hydro have no bearing on the cost of service or rate setting for FBC.

1.8 With reference to FBC's response to KSCA81 IR#1.1.5 and IR#1.1.5.5, please list the dates by which all current short and long term energy purchase and capacity contracts are up for renewal and/or are due to expire.

Response:

FBC's PPA with BC Hydro expires September 30, 2033. The Brilliant Agreements include the Brilliant PPA which expires in 2056, and the Brilliant Expansion contract, which expires in 2027. The WAX CAPA expires in 2055. Furthermore, FBC has entered into various market contracts that do not exceed three months in length, and have various terms, none of which extend beyond March 2020.

1.8.i If energy and capacity purchase prices began to rise above the current cost of building new production facilities, how long would it take FBC to bring those new production facilities online, and what would FBC's preferred new production option be and why?

Response:

Within the 2016 Long Term Electric Resource Plan, FBC identified Wind, Biogas, and a Simple Cycle Gas Turbine (SCGT) as new resources within FBC's preferred portfolio. The identification of new resources within the preferred portfolio is the result of a Mixed Integer Linear Programming optimization routine. The preferred portfolio strategy is contingent on a number of dynamic factors such as, but not limited to, load forecasts, market pricing, governing policy, technology advancement, and assumed resource costs at the time of filing.

The lead time needed to get to commercial operation date (COD) would depend on the generation type, size, and who is developing the project (i.e., an Independent Power Producer (IPP) versus FBC). For example, a small SCGT would require about 14 months to construct. A large SCGT would require 24 to 32 months to construct. Projects greater than 50 MW will have to go through a potentially longer federal environmental assessment process, while projects under 50 MW go through the Provincial Environmental Assessment Office.

Note that many of the better project opportunities in B.C. already have IPP proponents with an Investigative Licence for the site and that are investing in pre-construction development work in anticipation of future calls. A 100 MW on-shore wind project that only has its Investigative Licence could take five years for completion of the necessary work to achieve a COD. However, if an IPP has already installed a meteorological tower, has one year's worth of wind data and has done the field studies, the project may only need another 3.5 years to do the permitting and engineering required to get to COD.

COSA: Energy Loss

1.9 With reference to FBC's response to KSCA81 IR#1.15.6. and a statement made by FBC by email to a residential customer, October 26th, 2017:

"Gross system losses (ie the difference between generation/purchases and billed energy) is about 8%. Transmission losses are in the range of 1-3% and distribution and unaccounted for energy is the balance".

1.9.i What percentage of residential customers' costs for transmission and distribution does the energy charge of $0.044 per kWh represent?

Response:

The Company consulted with EES to provide the following response.

Note that the $0.044 per kWh is a unit cost calculation and not a proposed energy charge. The $0.044 per kWh unit cost represents 55 percent of the total transmission and distribution costs allocated to the residential class.

1.9.ii If gross system losses are about 8% and transmission losses are in the range of 1% to 3%, what is the exact percent (%) loss during distribution?

Response:

The Company consulted with EES to provide the following response.

The losses estimated for distribution are 5.5 percent for the system as a whole. However, distribution losses do not apply to customers served at transmission voltage and only a portion of them apply to customers served at primary voltage. For that reason, the 5.5 percent is a weighted average of distribution losses over all classes. For a customer class served at secondary voltage, such as residential, they would see an estimated 2.86 percent transmission loss, a 1.5 percent transformation loss and a 5.75 percent secondary loss. The combined distribution loss would be 7.25 percent.

Please also refer to the response to BCUC IR 1.73.1.

1.9.iii What is the cost per kWh charged to residential customers for these transmission and distribution line losses, both individually and collectively?

Response:

The Company consulted with EES to provide the following response.

The unit costs for the residential class as a whole include an amount for losses equal to $0.0040 per kWh for transmission losses and $0.0101 per kWh for distribution losses. There is no equivalent value that can be attributed to an individual customer.

1.9.iv Please confirm that FBC is charging residential customers for both capacity and energy that is not actually being delivered to that customer.

Response:

The Company consulted with EES to provide the following response.

Not confirmed. FBC is charging all residential customers according to the class-average costs associated with delivering the metered amount of electricity to that customer.

COSA: Customer and Energy Costs by Class

1.10 With reference to FBC's response to KSCA81 IR#1.1.5.7. and Schedule 1.1, Appendix A, COSA Schedules, please create a table comparing both current customer and energy charges per kWh by class compared to the proposed customer and energy costs per kWh by class in this application, using the "Combined Average Cost $/kWh" as found in Schedule 1 as a reference point. Please include the Industrial class and any other missing rate schedules in the table.

Response:

The Company consulted with EES to provide the following response.

KSCA IR 1.1.5.7 appears to be the wrong reference as it is related to RS 41 only.

The following table shows the average revenue per kWh under current and proposed rates along with the average cost per kWh resulting from the COSA and shown in Schedule 1.1. In all cases, the $ per kWh number reflects total charges/costs, including amounts for customer, demand and energy charges/costs. There are no missing customer classes.

	Average Revenue at Current Rates $/kWh	Average Revenue at Proposed Rates $/kWh	Average Cost from COSA $/kWh
Residential	$0.1367	$0.1366	$0.1390
Small Commercial 20	$0.1126	$0.1127	$0.1103
Commercial 21/22	$0.0921	$0.0921	$0.0880
Large Comm Primary 30/32	$0.0828	$0.0828	$0.0797
Large Comm Transmission 31	$0.0739	$0.0740	$0.0691
Lighting	$0.1990	$0.1990	$0.2158
Irrigation	$0.0819	$0.0821	$0.0843
Wholesale Primary 40	$0.0845	$0.0845	$0.0874
Wholesale Transmission 41	$0.0785	$0.0785	$0.0756
Total	$0.1098	$0.1098	$0.1099

1.11 With reference to FBC's responses to KSCA81 IR#1.1.11.1 and 1.1.11.2., please find attached, as Exhibit 14, a table entitled: "Change in Cost of Electrical Service

for Kaslo Low Income Household 2006-2023". (FBC is requested to verify the numbers in this table with the billing statements provided to this customer household for the years 2006 to 2013, and to contact KSCA81 if they are unclear as to which residential customer's billing the attached table is referring to).

Response:

The questions in this series of IRs (KSCA IRs 2.1.11 to 2.1.11.vii) ask FBC to comment on and/or confirm a number of the facts and calculations contained in Exhibit 14 attached to KSCA IR2. Even if the simple math in Exhibit 14, such as dividing one number by another, is correct, the results presented are not meaningful and do not have any useful purpose in the current proceeding. The most obvious issue that makes Exhibit 14 problematic is that it attempts to make bill comparisons and develop unit costs at varying electricity consumption levels (6,216 kWh at the high end (2006) to 783 kWh at the low end (2017 through 2030)). The fact that FBC has provided some comments in the responses to KSCA IRs 2.1.11.i to 2.1.11.vii should not be understood as adding credibility or validity to Exhibit 14.

1.11.i With reference to FBC's response to BCSEA IR#1, specifically Attachment 1.4b, Table 3, "RCR Bill Impact by Consumption (2015 Rates), British Columbia Utilities Commission (the Commission) Residential Inclining Block (RIB) Rate Report to the Government of British Columbia FortisBC Inc. (FBC) RIB Rate Report, Errata" dated March 6, 2017, please confirm that the increase in the Basic Customer Charge in Exhibit 14, between 2006 and 2023, is 77.6%.

Response:

The residential Customer Charge approved by the Commission for January 1, 2006 was $10.59 per month. The current Customer Charge approved for RS 03, and proposed to be in effect at the beginning of 2023 (exclusive of any general rate increases) is $18.70 per month. This represents an increase of 76.6 percent (($18.70-$10.59)/$10.59). This increase is in accordance with approved general rate increases and is not impacted by structural rate changes such as those resulting from rate design applications such as this one.

1.11.ii Please confirm that, with the exception of 2012 and 2013, the overall increase in Exhibit 14 in the energy charge per kWh is from 6.6 to 11.75 cents – a 78% increase.

Response:

The residential energy charge approved by the Commission for January 1, 2006 was $0.06658 per kWh. The current equivalent energy rate approved for RS 03 $0.11749 per kWh. This represents an increase of 88.3 percent (($0.11749-$0.06658)/.06658). This increase is in accordance with approved general rate increases and is not impacted by structural rate changes such as those resulting from rate design applications such as this one.

The level of rates is not under consideration in the current COSA/RDA process as general rate levels are determined as part of the Company's revenue requirements applications.

1.11.iii Please confirm that, with the exception of 2013, the overall per kWh cost of service between 2006 and 2023 in Exhibit 14 increases from 8.7 cents to 40.4 cents – a 364.4% increase.

Response:

Within the discussion of utility regulation, the term, "cost of service" has a specific meaning related to the utility cost of providing service to customers. Within this context, the cost of service to any class of customers has not risen by 364.4 percent. Rather, the cost of service has risen by the percentages discussed in the previous responses to the KSCA IR 2.1.11 series. The cost to serve an individual customer cannot be determined, nor can a customer's year-to-year bill changes be used to make any meaningful comments about what the utility rate changes have been.

With respect to the information provided in KSCA Exhibit 14, it appears that the information provided is stated in terms of total billed amount divided by the number of billed kWh. As expected, this value will rise as consumption falls since the fixed portion of the bill related to non-consumptive charges increases as a percentage of the total bill.

1.11.iv Please confirm that, with the exception of the period after enrollment in the Net Metering (NM) Program, and before implementation of the "Kilowatt Hour Bank", there is no decline in the Basic Customer Charge cost in Exhibit 14.

Response:

While there may be a reduction in the Customer Charge shown in Exhibit 14, FBC notes that the Customer Charge rate for RS 03 has not been decreased in any of the years over the period covered.

1.11.v Please confirm that the decline in energy charge costs in Exhibit 14 per kWh between 2011 and 2013 was 2.2% and that the decline in total customer costs in 2013 per kWh was 2.05%.

Response:

Assuming that “energy charge costs” are those from the column labeled “Energy in cents Cost Per kWh” in Exhibit 14, the values are:

2011	9
2013	8.8

This represents a decrease of 2.2 percent. There is an increase in total customer costs per kWh between 2011 and 2013 rather than a decrease, but in any case the calculation does not produce meaningful results because there are usage differences between the two years.

1.11.vi Please explain the variation in price decline of approximately 2% for one or two years in Exhibit 14, as compared with the claim made by FBC in Table 3 "RCR Bill Impact by Consumption (2015 Rates)" that for customers consuming less than 5,000 kWh the price decline was 13.8%.

Response:

FBC assumes that the Table 3 "RCR Bill Impact by Consumption (2015 Rates)" being referred to is that on page 311 of 670 of the Company's responses to BCSEA IR1, Exhibit B-12.

In the table, the bill impact for customers consuming between zero and 5,000 kWh is an average reduction of 12.8 percent. This value represents that difference in annual bills for those customers when billed on the RCR versus the flat rate in effect at the time. The percentage impacts for individual customers within this consumption range may vary significantly from the 12.8 percent average reduction.

This represents an entirely different calculation than provided in Exhibit 14, which is based on the billing information of a single customer that does not correct for year-to-year electricity usage differences or the potential bill impacts of differing rates over time.

1.11.vii Please confirm that there is no cumulative decline in Exhibit 14 Basic Customer Charge or the per kWh energy rate after introduction of the Residential Conservation Rate (RCR).

Response:

One would not expect to see a decrease in the Customer Charge since the Customer Charge itself has not declined in the period in question. Similarly, since the introduction of the RCR, and because the customer in question is never consuming energy subject to the Tier 2 rate, one would not expect the average energy rate to decline. This customer would have seen a one-time decrease in the average energy rate upon the introduction of the RCR since the Tier 1 rate applicable to all kWh was lower than the previous flat rate.

Electric Heat Service

1.12. With reference to FBC's response to KSCA81 IR#1.1.12, when did West Kootenay Power or its successor end rate Schedule 4 and why?

Response:

Until 1993 RS 3, Non-Electric Heat, and RS 4, Electric Heat were identical in terms of costs. RS 1 applied to non-electrically heated customers in the Trail/Rossland area and had a lower cost second rate block. Commission Order G-41-93 ordered that rate schedules 1, 3, and 4 be made identical in terms of pricing, effective October 1, 1993. On June 17, 1994, the Commission, as part of its Decision on the Company's 1993 Rate Design Application, approved a request to combine the three identical rate schedules into one rate schedule (RS 1).

COSA: Basic Customer Charge and Service Costs

1.13. With reference to FBC's response to KSCA81 IR#1.1.13, please explain the reasons why West Kootenay Power and its successors have repeatedly applied to increase the percentage recovery of certain COSA costs through the Basic Customer Charge.

Response:

FBC has not, "…repeatedly applied to increase the percentage recovery of certain COSA costs through the Basic Customer Charge."

Neither the 1997 COSA nor the 2009 COSA made any request to increase the percentage of COSA costs recovered through the Customer Charge.

1.13.i. Please create a table showing the breakdown in the percentage of customer costs collected via the Basic Customer Charge versus the percentage of customer costs collected from the per kWh energy charge for 1997, 2009, 2017 and as proposed for 2023, for all clasess of customer.

Response:

Please find the requested information in the table below. FBC has completed the request to the extent possible; however, the rates in 1997 are not generally comparable to the rates that exist today and in 2009. The rate categories were not broken out in 1997 in the same manner as in

the current COSA and not all data from 1997 required to isolate energy charge revenue is still available. FBC has provided data for 1997 where the rates were of a similar structure as today and revenue calculation data could be located.

For example, in 1997, the default residential rate was an inclining block rate, all Commercial rates were declining block, and the Industrial and Wholesale rates lacked a Customer Charge.

FBC cannot provide the information for 2023 since a COSA study for that year cannot be completed.

	2017		2009		1997	
	Customer Charge Percent Recovery	**Energy Charge Percent Recovery**	**Customer Charge Percent Recovery**	**Energy Charge Percent Recovery**	**Customer Charge Percent Recovery**	**Energy Charge Percent Recovery**
Residential (RCR)	45%	288%	n/a	n/a	n/a	n/a
Residential (Exempt)	53%	281%	41%	283%	35%	n/a
Small Commercial	46%	231%	43%	305%	n/a	n/a
Commercial	17%	132%	25%	240%	44%	n/a
Large Commercial Primary	64%	145%	77%	178%	n/a	n/a
Large Commercial Transmission	54%	145%	61%	158%	n/a	n/a
Irrigation	52%	194%	41%	209%	41%	n/a
Wholesale Primary	32%	140%	90%	150%	n/a	118%
Wholesale Transmission	76%	115%	79%	149%	n/a	121%

1.14. With reference to FBC's response to KSCA81 IR#1.1.14, with regard the attribution of residential Customer Costs at $427.18 at annual consumption rates of 730 kWh, 12,045 kWh and 36,500 kWh respectively, in 1964, in Public Utility Economics at p 163, Garfield and Lovejoy state that:

"The longer the period of time that a particular service pre-empts the use of capacity, the greater should be the amount of capacity costs allocated to that service".

1.14.i. Can FBC confirm that a higher capacity is required to deliver 2 kWh during a twenty-four hour day as compared to 33 kWh and 100 kWh over the same twenty-four hour period?

Response:

The Company consulted with EES to provide the following response.

The quote provided by Garfield and Lovejoy uses confusing language; however, we assume it means that a customer using a higher amount of peak demand would be allocated a higher amount of demand or capacity related costs. Note that capacity refers to the peak output of facilities whereas demand refers to the load of the customer at peak periods. A customer does not have a "capacity". The costs related to the capacity of the power plants, for example, would be allocated to customers on the basis of their peak demand. The peak demand is measured in kW and not kWh.

The question asks about energy use (kWh) during a day but not about the peak demand of the customer. The peak demand of a customer can vary considerably based on the load shape of that customer within the day. Listing the kWh use during a 24-hour day does not provide the peak demand for the customer. For example, a customer using 24 kWh in 24 hours could use 1 kW in each hour or could use 24 kW in the peak hour and 0 kW in each the remaining hours. The relationship between the peak demand and the energy used is referred to as the load factor.

Assuming the customers in question all have the same load factor, a customer with 2 kWh usage over 24 hours would require less capacity from power plants than a customer using 33 kWh or 100 kWh in that same 24 hours. For two customers using the same amount of energy in 24 hours, the amount of capacity required to serve them might differ if one has a higher peak demand than the other.

Because demand-related costs are allocated on the basis of peak demand, the peak demand in a given hour rather than the energy used over a number of hours is the basis for the cost allocation.

1.14.ii. If FBC confirms that a higher capacity is needed to deliver larger amounts of daily energy use, can FBC please explain why each customer, contrary to the principle outlined by Garfield and Lovejoy in 1964, is not allocated a..."greater...amount of capacity costs...to that

service", depending on the amount of capacity used in a twenty-four hour period, a week or a month.

Response:

Please refer to the response to KSCA IR 1.1.14.i.

1.14.iii. The household cited as Exhibit 14, for example, had an average daily use of just under 10.5 kWh for the six months from November 1st, 2017 to April 30th, 2018, which was partially offset by a transference of Net Metered energy to the FBC grid of around just under 3.4 kWh per day. Peak demand was 20 kWh on December 21st in 2017 and 34 kWh on February 28th so far in 2018.

1.14.iv. Is FBC calculating that it costs as much, or more, to service this residential customer as it does to service a residential customer who uses an average of 29.6 kWh per day (10,800 kWh per year)?

Response:

The information provided in the response to KSCA IR 1.1.14 shows that the customer related costs do not vary with the level of consumption. Total cost to serve increases with consumption and the cost per kWh declines with increasing consumption. Due to the lower consumption, total cost to serve the customer in Exhibit 14 would not be higher than a customer consuming 10,800 kWh.

1.14.v. If every residential customer had a peak demand of between 20 kWh and 34 kWh per day, would the size of the transmission and distribution system be smaller?

Response:

The Company consulted with EES to provide the following response.

The hourly peak demand of a typical residential customer is 7.7 kW. If the question means to refer to a peak demand of between 20 and 34 the correct measurement would be 20 to 34 kW

in the peak hour and the transmission and distribution system would need to be larger. If the question is referring to 20 to 34 kWh per day that reflects average daily energy use and is not related to the peak demand (which is defined as the maximum use in an hour). The average daily energy use is not an indication of the peak demand and it is unclear whether the peak demand would be higher or lower than the typical customer in this case. The hourly shape of the electric use is what drives the peak demand level.

If residential customers already on the system reduced their peak demand below the average 7.7 kW, there would be no change in the transmission and distribution system because the facilities have already been built and are being paid for based on the higher peak demand level.

1.14.vi. Please illustrate by providing a comparison of the two residential customers' actual cost of service versus EES constructed cost, in accordance with their daily consumption patterns.

Response:

The Company consulted with EES to provide the following response.

FBC does not draw a distinction between the "actual cost of service" and the "EES constructed cost", which are the costs developed in the COSA. The reason that a COSA is performed is to identify the costs of providing service to customers.

The following illustrates the costs of the two customers described based on multiplying the usage levels for demand and energy by the residential unit costs resulting from the COSA. While the costs for Customer 1 are lower on a monthly basis, they are higher on a per kWh basis.

	Customer 1	Customer 2
Average daily use	10.5 kWh/day	29.6 kWh/day
Net daily use	7.1 kWh/day	29.6 kWh/day
Net annual energy (kWh)	2,592	10,800
Annual load factor	10%	17%
Annual peak demand (kW)	2.9	7.2
Sum of monthly peaks (kW)	23.4	69.5
Customer-related cost/month	$35.60	$35.60
Demand-related cost/month	$18.39	$72.29
Energy-related cost/month	$9.04	$36.90

Total cost/month	$63.02	$144.79
Average cost per kWh	$0.2918	$0.1608

1.15. With reference to the FBC response to KSCA81 IR#1.2.1, EES states:

"While the customer-related costs are 21.2 percent higher on a per customer basis, they are 13 percent lower on a per kWh basis because NM customers have a larger average use per customer. The overall 4.7 percent difference is a weighted average of combined demand and energy costs per kWh that are 11 percent higher and customer-related costs per kWh that are 13 percent lower".

1.15.i. KSCA81 is unable to verify the numbers cited. Please provide the statistical source for this statement and explain why this would be a representative sample of all NM residential customers.

Response:

The Company consulted with EES to provide the following response.

The numbers used to calculate the percent differences can be found in the unit cost summary (Schedule 2.1). The following table provides the numbers used for each percent difference referenced.

	Residential w/o Net Metering	Net Metering	Percent Difference
Customer-related costs per customer	$35.60	$43.15	+21.2%
Customer-related costs converted to a per kWh basis	$0.0365	$0.0317	-13.0%
Demand & energy-related costs per kWh	$0.1025	$0.1139	+11.0%
Total average cost per kWh	$0.1390	$0.1456	+4.7%

The load data used to develop the cost allocations and per unit costs in the COSA are based on actual billing kWh amounts for net metering customers and associated AMI data showing hourly peak demand levels specific to net metering customers.

1.15.ii. Is FBC saying, via EES, that NM residential customers have above average or above median levels of kWh consumption compared to overall average and median levels of residential class consumption?

Response:

The Company consulted with EES to provide the following response.

Yes.

1.15.iii. Please illustrate with an example, as compared to a non-NM residential customer, why customer-related costs are 21.2% higher, while at the same time being 13% lower on a per kWh basis because of larger average usage on a per kWh basis.

Response:

The Company consulted with EES to provide the following response.

The numbers provided in the response to KSCA IR 1.1.15.i. show the customer-related costs on both a per customer basis and a per kWh basis and provide an example of why the percent differences are not the same. When a fixed dollar amount is spread over a larger kWh usage level, the costs on a per kWh basis are lower.

1.15.iv. With reference to FBC's response to KSCA81 IR#1.2.1.1, please illustrate why, if the cost is 21% higher, the actual dollar ($) figures supplied are $45.6 for a non-NM residential customer and $91.10 for an NM one, by itemizing the actual costs in a comparative table.

Response:

The Company consulted with EES to provide the following response.

The weighting factors of $45.60 for a non-NM customer and $91.10 for a NM customer provided in KSCA IR 1.2.1.1 were inadvertently taken from an old file and are incorrect. The weighting factors should be $115 for a non-NM customer and $125 for a NM customer. The response to KSCA IR 1.2.1.1 has been corrected in the Errata filed concurrently with these IR responses. These numbers reflect the cost of the meter installed for each type of customer. Not every customer has the exact same meter installation. The weighting factor is an average of the meter costs installed for the class. For example, for NM customers there are 130 customers that have a meter cost of $104.13 and 14 customers with a meter cost of $317.53. The average for residential customers differ because of a different mix of meter costs.

The weighting factors are used to weight customers when developing one of the customer allocators used in the COSA. This weighting factor applies only when allocating the costs of meters and services in the COSA. Other customer-related costs are allocated on the basis of actual unweighted customers or customers weighted for customer accounting/metering.

The 21 percent difference in customer-related unit costs is a result of all of the different customer-related costs in the COSA added together, not just the costs allocated on the basis of customers weighted for meters and services.

1.15.v. With reference to FBC's response to KSCA81 IR#1.2.1.3., please confirm that the term "marginal costs" refers to "long run marginal costs". If not, please illustrate how this particular "marginal cost" calculation would differ from an embedded cost calculation.

Response:

The Company consulted with EES to provide the following response.

Not confirmed. In the cited response marginal cost refers to the short term marginal cost rather than the long term marginal cost. The marginal cost would reflect, for example, the cost of a new residential meter times the number of total residential customers on the system. The embedded cost would reflect the dollars spent on meters for every year in the past, less the amount that had already been depreciated.

1.15.vi. Please explain why, if as a matter of principle embedded costs are based on actual costs, BCH RS 3808 is being used as a surrogate for any of the cost calculations.

Response:

The Company consulted with EES to provide the following response.

Embedded costs are used to develop the amounts in the various cost accounts within the rate base and revenue requirement of the utility. That is an entirely different issue than how the costs are classified and allocated in the COSA. The BCH RS 3808 values are being used only to split the embedded costs between demand and energy in the COSA. Those values are not used to develop the total power supply costs included in the revenue requirements, apart from the cost of purchases from BCH.

1.16. With reference to FBC response to KSCA81 IR#1.2.2.1., please provide the calculations behind the statement:

"...peak demand for a NM customer is nearly double the peak demand for a Non-NM customer. NM customers have a much lower load factor than Non-NM customers due to the intermittent use of power taken from the utility".

Response:

Please refer to the responses to KSCA IRs 2.1.14.vi and 2.1.15.i.

1.16.i. With reference back to the data given in 1.14.iii., as an example, is FBC calculating that because an NM customer has a lower load factor due to intermittent use of energy, it therefore costs the Company more to service that customer?

Response:

Please refer to the response to KSCA IR 2.1.14.vi.

1.17. With reference to FBC's response to KSCA IR#1.2.2.4, it is stated:

"Because of different load factors by class, the results vary when demand-related costs are spread on a per kWh basis".

Please confirm whether or not FBC is implying that a higher load factor causes demand-related costs per kWh to be higher and explain why it is calculated that way.

Response:

The Company consulted with EES to provide the following response.

Not confirmed. Customers with a higher load factor will have a higher kWh usage and a lower demand-related cost when it is spread out on a per kWh basis. For example, if two customers have the same peak demand levels they would have the same demand-related costs assigned to them. Assume this cost is $100. If customer 1 has a low load factor and kWh use of 600 kWh per month, the $100 demand-related cost would be $0.167 on a per kWh basis. If customer 2 has a higher load factor and therefore higher use of 1,000 kWh per month, the $100 demand-related cost would be $0.100 on a per kWh basis.

1.18. With reference to FBC's response to KSCA IR#1.2.3, it is stated:

"...the NM group has a lower load factor than the Non-NM group...this results in a higher energy rate base per kWh for the NM group, it also results in a lower demand-related rate based per kW for the NM group".

Please illustrate by providing the calculations that prove this statement.

Response:

The Company consulted with EES to provide the following response.

1 The following table shows the numbers used to provide the cited statement. The numbers are
2 taken from Schedule 2.2 of the COSA.

	Residential without Net Metering	Net Metering
Total Demand-Related Rate Base	$375,455,645	$979,342
Total Demand (kW)	8,695,402	25,178
Demand-related Rate Base per kW	$43.18 per kW	$38.90 per kW
Total Energy-Related Rate Base	$80,595,255	$172,341
Total Energy (kWh)	1,350,990,999	2,787,141
Energy-related Rate Base per kWh	$0.060 per kWh	$0.062 per kWh

3
4

2. Residential Time-of-Use (TOU) Pricing

With reference to David DeBiasio's letter of comment, E-7, and FBC's response to KSCA81 IR#1.2.5.3, attached please find Exhibit 15 which compares winter residential load by time of day with system load by time of day based on the data in Table 1 provided by FBC in the Revised Response to KSCA81 IR#1.15.1.

As mentioned earlier, Garfield and Lovejoy stated in Public Utility Economics:

"*The longer the period of time that a particular service pre-empts the use of capacity, the greater should be the amount of capacity costs allocated to that service*" (p 163).

In the Revised Response to KSCA81 IR#1.15.1 FBC states in reference to residential winter load:

"*Given the residential load shapes shown below, it is clear that the residential load shape is similar to the system load shape, and in fact, the percent of residential load relative to total system load is highest in the hours with the highest total system load levels. This would indicate that the residential class is driving the peak demand for the system as a whole*".

While it is true that the residential load is the majority of the load for the three peak hours of 6.00 PM to 8.00 PM during the winter months, it is not true that residential demand drives the majority of load requirements beyond four hours of the day, and in fact residential load is only 43% to 44% of system load demand for twelve of the twenty-four hours of the day. Further, if "On-Peak" times are measured as being above 90% of peak, then the residential class is only at "On Peak" time for five hours from 5.00 PM to 9.00 PM.

In contrast, the system winter load is at "On-Peak" times for ten hours a day, from 8.00 AM to Noon, and in fact only a shave off "On-Peak" at 1.00 PM, and then again at "On-Peak" from 5.00 PM to 9.00 PM. Clearly factors other than the residential class are driving system load requirements for six of the ten "On-Peak" hours. During the proposed "On-Peak" residential period from 7.00 AM to Noon, for example, the residential load requirement declines from 84.4% at 8.00 AM to 78.7% at Noon, so it is not even at "Mid-Peak" (85%), whereas the system load peaks in the morning at 9.00 AM at 95%, declining to 91.4% at Noon.

2.1.i. If the purpose of setting rates is to deal with cost causation, and in light of the cost allocation principle stated by Garfield and Lovejoy above, please justify creation of an "On-Peak" TOU period for the residential class between 7.00 AM and Noon instead of "Mid-Peak" pricing from 8.00 AM to Noon, and "Off-Peak" pricing until 8.00 AM, and from Noon to 3.00 PM.

Response:

The Company consulted with EES to provide the following response.

The TOU periods and price differentials were set for the system as a whole, not for the residential class alone. Even if the residential class is not contributing as much to the loads in some of the hours within the on-peak period, FBC is facing higher costs in all of the on-peak hours and does not want residential customers to increase their loads during those hours thereby causing higher overall power supply costs. Similarly, industrial customers may not cause the system to peak during the on-peak hours but they would still be subject to higher prices in all of the on-peak hours to avoid increasing power supply costs for FBC overall.

2.1.ii. Likewise, if the purpose of setting rates is to deal with cost causation, please explain why the evening "On-Peak" period should start at 4.00 PM when the residential demand is only 46% of system load at the start of that hour, and only at 81.4% of residential peak demand as well, instead of "Mid- Peak" pricing from 3.00 PM to 5.00 PM.

Response:

Please refer to the response to KSCA IR 2.2.1.i.

2.1.iii. Please explain why it is not preferable, under cost causation principles, to target the class or classes of customers responsible for the increase in load during those hours?

Response:

The Company consulted with EES to provide the following response.

The TOU periods and price differentials are not set in the COSA using allocations of costs. Instead they were based on the overall system loads and overall difference in power supply costs by TOU period for the system as a whole.

Unlike the COSA, the cost causation related to TOU rates is not differentiated by customer class but is instead differentiated by TOU period.

Because the TOU rates are set to be revenue neutral with non-TOU rates, the amounts collected from each rate class will reflect the appropriate amount of costs allocated to that rate class in the COSA.

2.2. With reference to the Revised Response to KSCA81 IR#1.15.1, FBC states:

"In the summer months, the total system load for the hour ending at 1:00 pm is 460 MW compared to 498 MW in the hour ending at 6:00 pm. The difference between these two hours is only 8 percent. What this shows is that, in both seasons, it would not take a large shift in loads to shift the peak hour without reducing the overall peak level".

Further, attached please find Exhibit 16, which compares summer residential load by time of day with system load by time of day based on the data in Table 2 provided by FBC in the Revised Response to KSCA81 IR#1.15.1.

For twelve of twenty-four hours in the summer the residential class only requires 34% to 35% of the system load, peaking at 44% of system load between 7.00 PM and 9.00 PM. Again, with reference to Garfield and Lovejoy, while it is true that residential peak load coincides with system peak load at 6.00 PM and 7.00 PM, at no time during the day does residential load become the majority of the load. In fact there are only five hours during the day when residential load is above the "On-Peak" threshold: between 5.00 PM and 9.00 PM. Whereas the system load is above "On-Peak" from Noon to 9.00 PM – for nine hours.

2.2.i. If the purpose of setting rates is to deal with cost causation, then given that 86.4% of the customer base, the residential class, only requires 34% to 35% of the load for twelve of twenty-four hours in the summer period, and never exceeds requiring 44% of the load even during peak system load hours, please explain why, when 13.6% of the customer base requires 66% of the load for twelve hours and even 56% of the system load for peak load hours, the residential class "On-Peak" hours are from Noon to 9.00 PM, instead of from 5.00 PM to 10.00 PM, with

"Mid-Peak" from 3.00 PM to 5.00 PM, and with "Off-Peak" from 10.00 PM to 3.00 PM.

Response:

Please refer to the response to KSCA IR 2.2.1.i and 2.2.1.iii.

2.2.ii. Again, with reference to rate setting as a cost causation principle, KSCA81 is extremely concerned that at a point of time in the day when most young families are off at the beach or out recreating in the summer months, including those visiting the grandparents, energy prices are being pushed unnecessarily higher at a time in the year when power bills are usually at their lowest, for those residential customers not using air conditioning.

KSCA81 therefore asks if residential customers are not driving the summer peak load, why are they being proposed as the customer class to pay for it?

Response:

The Company consulted with EES to provide the following response.

If customers are not using power during the time of day when they are “off at the beach or out recreating” they will not be paying the higher on-peak prices in those hours. The Commercial and industrial customers that are using power during those hours will, however, be facing the higher on-peak price.

The assertion that the residential class is being asked to pay for the costs associated with the summer peak is incorrect. Only the customers with use during the on-peak periods in the summer months will pay the higher costs during that time period. If the Commercial class is driving the summer peak, then under TOU rates they will pay the largest share of the on-peak costs in the summer.

2.3. With reference to the Revised Response to KSCA81 IR#1.15.1, FBC provides an Off-Season Load Table 3 for March to June and September to November. This period of the year shows the greatest difference between residential customer load and system load, in that residential customer peak does not occur until 8.00 PM, whereas system peak occurs at 6.00 PM, as with other periods of the year.

As per the attached Exhibit 17, the difference between the percentage of residential peak load and system peak load ranges from 16.9 at 9.00 AM to a high of 22 at 1.00 PM, and does not fall below 20 until 4.00 PM. In fact residential load is only above 95% of peak from 6.00 PM to 9.00 PM and only above 90%, otherwise, from 5.00 PM to 6.00 PM. In contrast the system load is above 95% of peak from 9.00 AM to 1.00 PM, and then again from 5.00 PM to 9.00 PM, and above 90%, otherwise, at 8.00 AM, from 2.00 PM to 4.00 PM, and again at 10.00 PM. The entire system load is above 90% for fifteen of twenty-fours hours, whereas the residential load only is above 90% for five hours.

2.3.i. If the purpose of setting rates is to deal with cost causation, then given that 65% of the system load is non-residential from 11.00 AM to 3.00 PM, and 60% or higher from 8.00 AM to 5.00 PM, with reference again to Garfield and Lovejoy, please explain why it is proposed to charge a "Mid-Peak" TOU rate from 7.00 AM to 9.00 PM, instead of from 4.00 PM to 10.00 PM.

Response:

Please refer to the responses to KSCA IRs 2.2.1.i and 2.2.1.iii.

3. Cost Allocation Method and Calculations

With reference to FBC"s response to KSCS81 IR#1.2.7, it is stated:

"*Customer charges are based on customer-related costs. Those costs are allocated on the basis of the number of customers or in some cases a weighted average number of customers, as explained in the section "Customer Allocation Factors" starting on page 37 of the Cost of Service Study (Exhibit B-1, Appendix A). Residential customers make up 86.4 percent of the total number of customers. The percent of customer charge revenues paid for by the residential class is unrelated to the amount of energy used by the class*".

At page 37, referenced above, under "Other Allocation Factors", it is stated:

"*Other costs are allocated based on specific rate base items, O&M function totals, revenues, labour ratios and other allocation factors*.

3.1. Please explain the criteria used to allocate various costs to customers and customer classes versus costs charged to energy use, which presumably are allocated based on the amount of capacity and energy a customer class and individual customers use.

Response:

The Company consulted with EES to provide the following response.

Within the COSA it is first determined whether a cost item should be allocated on the basis of customers, demand or energy. Some costs are related to all three of these factors. Cost causation is the criteria used to determine the appropriate allocator. Those items that are not specific to customer, energy or demand are often allocated on the basis of those "other allocation factors". For example, property taxes are not specifically related to customers, demand or energy. Instead property taxes are based on the value of FBC assets. Therefore, the cost is split on the same basis as the FBC assets, with costs allocated on a combination of customers, demand and energy.

3.2. With reference to FBC's response to KSCA81 IR#1.2.10., it is stated:

"When a class, such as residential, has a lower load factor than other classes it means that the peak demand is higher in relation to energy use than for those classes with higher load factors. This will result in a higher demand allocation and a higher revenue requirement for the class".

In Table 1, KSCA81 IR#1.1.15.1., FBC data indicates that the residential class morning peak demand at 8.00 AM on weekdays in winter is 49.45% higher than at 3.00 AM, and the evening peak, at 6.00 PM, is 77% higher than at 3.00 AM. In contrast Total System peak is 42% higher at 9.00 AM than at 3.00 AM, and 49.5% higher at the 6.00 PM evening peak.

3.2.i. Is FBC stating that because the residential class (86.4% of the customers) are responsible for causing 67.3% of the growth in hourly demand during the day, whereas the rest of the classes (13.6% of the customers) only cause 32.7% of the growth in hourly demand, they, the residential class, should pay for a higher proportion of the revenue requirement because they are responsible for causing a higher portion of the rise in demand?

Response:

The Company consulted with EES to provide the following response.

Customer classes are allocated demand-related costs in accordance with their peak demand. If they have a higher contribution to the peak demand than other classes, they will be allocated a higher share of demand-related costs. Note that this is true only for demand-related costs and not the total revenue requirements and is related to the forecast level of demand, not the *rise* in demand. Energy-related costs would follow the class contribution for total energy use and customer-related costs would follow the contribution for the total number of customers.

3.2.ii. Is FBC stating that because the residential class is utilizing less of its peak demand capacity during the day than compared with other classes it should therefore pay more of the idle capacity costs?

Response:

The Company consulted with EES to provide the following response.

No. FBC allocates demand-related costs on the basis of peak demand. This is not based on the load for each hour of the day but on the peak hourly load. Costs are not allocated on the basis of loads during times with idle capacity on the system.

3.2.iii. Please illustrate how much capacity is idle in winter, and at what times, in order to meet residential customer demand at peak times, explaining whether the source is own production, long term contract or market purchase.

Response:

The Company consulted with EES to provide the following response.

As stated in the response to KSCA IR 2.3.2.ii, the relevant factor in determining the appropriate allocation of capacity related costs is the peak demand. The capacity related costs are not broken down into "idle" and "used" segments. There is only one capacity related cost category. Therefore, the amount of idle winter capacity and from which resource is not relevant to the cost allocation.

However, to respond to the question asked, the BC Hydro PPA agreement was not expected to be fully used, providing about 40 MW of "idle" generation at the time of the expected winter peak. There were also no costs associated with this unused BC Hydro PPA capacity. There was also about 10 MW of unused Waneta Expansion generation that was made available to Powerex under the terms of the CEPSA agreement that was used to offset power purchase expense. There were no wholesale market purchases assigned to capacity costs.

3.2.iv. If FBC production from its own plants is not idle, and if the Company is close to maximizing utilization of long term contracts, please explain why, when peak demand presumably comes primarily from market purchases, the residential class should pay a higher cost than what it is consuming, which is in effect a subsidization of the other classes?

Response:

Please refer to the responses to KSCA IRs 2.3.2.ii and 2.3.2.iii. It is not clear how the assumptions included in this question lead to a conclusion that the residential class is or should pay a higher cost than what it is consuming, and that the residential class is subsidizing other classes. The overall power purchase costs of FBC are considered within the COSA utilizing reasonable and consistent methodologies that are designed to equitably allocate those costs among the customer classes.

3.2.v. Please explain how this cost allocation methodology meets the energy objective as defined in 2(b) of the *Clean Energy Act (CEA)*?

Response:

The Provincial Energy Objective described in 2(b) of the CEA is:

> …to take demand-side measures and to conserve energy, including the objective of the authority reducing its expected increase in demand for electricity by the year 2020 by at least 66%.

FBC does not see a relationship between the cited energy objective and the information provided in the referenced information request.

CEA 2(b) states that demand side measures and conservation form part of the province's energy objectives. (The second part of 2(b) is specific to BC Hydro).

The information provided in the response to KSCA IR 1.15.1 is not itself an allocation methodology and has little bearing on the allocation of costs to the residential class.

4. Customer Service Policies

With reference to all of FBC's responses to KSCA81 IR#3., now that the redacted materials, previously filed in-camera, have been provided to FBC, could the company please review their responses to KSCA81 IR#1.3, especially IR#1.3.1.3, IR#1.3.2.1., IR#1.3.2.7., IR#1.3.2.8., IR#1.3.2.11 and comment further accordingly?

4.1.i. With reference to FBC's response to KSCA81 IR#1.3.1.2 and IR#1.3.2.5, given the outlined policy, please explain why section 6.5 of terms and conditions of FBC's Electric Tariff were not followed with regard an elderly senior couple who had an automatic paying account transferred to a Canada Post mailing account, and then when the mailed bill was not paid the account was cut off without the customer being contacted in person?

Response:

FBC respectfully submits that the information request process of the 2017 COSA and RDA is not the appropriate forum for responding to specific customer billing issues. Furthermore, due to customer privacy, FBC is not able to provide details regarding a specific customer situation on the public record in a regulatory proceeding.

4.1.ii. Does FBC acknowledge that, especially in winter, some senior customers are away from their residence for prolonged periods of time, and therefore cutting electrical service could result in pipes freezing, etc.

Response:

Please refer to the response to KSCA IR 1.3.1.2.

FBC seeks to work with all customers' individual circumstances and disconnection of service is a last resort. In addition, customers have the option of accessing their account information through FBC's online portal, mobile app, or by phone, as a way to ensure their account is in good standing and prevent disconnection.

4.1.iii. With reference to FBC's response to KSCA81 IR#1.3.2.4., of .4%, please give the exact number as originally requested.

Response:

The question posed in KSCA IR 1.3.2.4 was,

> Of the customers in the VOG 1M0 portion of the service area, for what percentage of them did the company try to raise their Equal Payment Plan amount based on estimates of consumption rather than actual readings of the meters?

The original response of 0.4 percent in 2017 remains accurate and translates to 5 customers.

4.1.iv. With reference to FBC's response to KSCA81 IR#1.3.2.3., there are approximately sixty-four members of KSCA81, of whom in excess of six members, plus other seniors, have made verbal complaints about billing procedures, such as the Letter of Comment by Ms Kubara in E-19. Irregardless of these billing issues relating to "Radio-Off" meters, KSCA81 is not aware of any of those raising concerns about billing issues as having aggressive pets.

Of primary concern, as raised by Ms Kubara, are attempts by FBC to raise individual customer electricity charges after a period of estimates, once the meter is read. The concern here is that if the meters were read all the time, more accurate reading of energy use would emerge, instead of fluctuating charges based on an estimate, which can cause huge financial problems for low income seniors on fixed monthly incomes.

There is a correlated concern being expressed from some seniors and other low-income customers on fixed incomes about the FBC Equal Payment Plan, which may be related to the increased energy use during the 2017 winter.

Is FBC willing to sit down with representatives of KSCA81 to discuss the various billing issues that have arisen?

One solution might be to provide the Seniors Advocate in Kaslo with the name and number of a specific FBC representative that can be called when billing disputes arise.

Response:

FBC is in the early planning stages of organizing a public meeting in Kaslo and looks forward to the opportunity to answer any questions that members of the KSCA may have. In addition, FBC encourages customers who have concerns to call the Contact Centre at 1-866-436-7847.

Due both to a consideration of customer privacy and to the fact that individual customer interactions are not relevant to the matters being considered in this COSA and RDA process, FBC is not able to provide details regarding a specific customer situation on the public record in a regulatory proceeding. In reference to aggressive pets, FBC notes that this was used as an example of the many possible reasons why a meter is not accessible, as required by Section 9.2 of the Terms and Conditions of the Electrical Tariff, which requests, "…safe and ready access to the meter…", such as a gate or other obstruction.

FBC reiterates that any proposed changes to a customer's Equal Payment Plan (EPP) amount, regardless of whether they are radio-on or radio-off customers, are based on the annual consumption, thereby mitigating the effect of recent estimates. More importantly, FBC displays the proposed amount on the bill immediately prior to the change taking effect. Customers who disagree with the proposed future amount of the EPP installment are encouraged to contact FBC to discuss the amount and consider having it raised or lowered to minimize anticipated financial impacts.

The situations where safe and ready access to the meter and estimated readings are an issue have been greatly reduced due to the implementation of AMI.

4.2. In response to BCUC IR#1.90.3, FBC states:

"FBC intends to provide customers with the ability to connect in-home displays they purchase (at a cost of $100-$400 per customer) and to provide web-based access to TOU period consumption information. The information provided through these services will help customers on TOU rates clearly understand their consumption".

Attached please find Exhibit #18 – the online account information for an NM customer. Currently, as stated in Exhibit #18:

"Detailed consumption information is not available for your Net Metering rate."

In fact the data provided is the gross transfer of electrical energy from this household's solar PV system onto the FBC grid, and no consumption information is available whatsoever.

4.2.i. In what time frame can NM customers expect to be offered the same level of service as that proposed for TOU customers, including hourly access to consumption and transference information, currently collected by the smart meter?

Response:

FBC expects that net metering customers will be able to access hourly and daily consumption information by the end of 2018.

4.3. In response to KSCA81 IR#1.8.3.1., FBC states:

"Depending on the circumstances of the customer and regardless of whether they may be considered low income or not, FBC may adjust charges where there is flexibility in the applicable tariff provisions and there is a reasonable basis to do so.

4.3.i. Please illustrate how FBC can implement these options by first listing them and then illustrating how it would work where applicable, and please provide the link to the location on the FBC website where this information can be found for use by customers.

Response:

FBC clarifies that "adjusting charges" refers to the ability to: extend payments into the future, place customers on the Equal Payment Plan, and defer deposit requirements. These options are considered in regard to an individual customer's personal circumstances and are discussed with the individual customer and are therefore not posted on FBC's website.

"Adjusting charges" does not refer to the removal of the Customer Charge, standard fees, or kWh consumption charges that are correctly billed.

4.4. FBC then continues on in response to KSCA81 IR#1.8.3.1.to state:

"*Beyond that, the government of BC has various programs that are designed to assist with the affordability of energy for low income households. Examples of programs specifically designed for low income residential customers include those run by the Ministry of Social Development and Poverty Reduction, which consist of crisis assistance programs that specifically help utility customers*".

Please list the various programs that are available and from which BC Ministry, and then please provide a link to the location on the FBC website where this information can be found for use by customers.

Response:

The programs run by the Ministry of Social Development and Poverty Reduction (the Ministry) include the following that may be available to FBC's customers depending on their specific circumstances:

- Hardship Assistance Program[3]: Hardship assistance is intended to meet the essential needs of persons or families who are not eligible for income assistance under the Employment and Assistance Act or disability assistance under the Employment and Assistance for Persons with Disabilities Act. While this program is not limited to essential utility services, it can be used to assist with utility payments and avoiding disconnections. The hardship program is provided on a temporary basis, for only one month at a time. Eligibility for hardship assistance must be re-established each month.

- Essential Utilities Supplement Program[4]: Under the Essential Utilities Supplement Program which is available to a family unit eligible for income assistance, a crisis supplement for essential utilities (fuel for heating and cooking, water and hydro are considered by this program as essential utilities) may be provided if recipients have reached their monthly or annual limit for crisis supplements (meaning this is in excess of what is available under other crisis assistance amounts), exhausted all resources, and do not have the ability to maintain essential utilities for their home when served with a disconnection notice or faced with the inability to re-establish essential utilities. The essential utilities supplement counts towards a recipient's cumulative annual limit for crisis supplements.

[3] https://www2.gov.bc.ca/gov/content/governments/policies-for-government/bcea-policy-and-procedure-manual/hardship-assistance/eligibility-for-hardship-assistance.

[4] https://www2.gov.bc.ca/gov/content/governments/policies-for-government/bcea-policy-and-procedure-manual/general-supplements-and-programs/crisis-supplement.

- Utility Security Deposit Program[5]: Another program administered under the Ministry's supervision is the Utility Security Deposit program under which a supplement may be provided to assist recipients of income, hardship, and disability assistance with the cost of securing service for electricity. This supplement is available under the Employment and Assistance Regulation.

FBC does not provide a link to these programs on its website as these programs are taxpayer funded and not administered by the Company. However, as explained in response to KSCA IR 1.8.3.1, FBC customer service representatives who work with customers on an individual basis to find appropriate payment arrangements may introduce and refer customers to these programs depending on their specific circumstances.

4.5. Attached please find Exhibit 19, a letter dated July, 2013 from an FBC representative to the then Mayor of Kaslo concerning replacement of a retired FBC powerline technician. It is now nearly five years since the letter was written and FBC has yet to fill the permanent position in Kaslo.

4.5.i. In how many other rural areas of the FBC service area has FBC withdrawn permanent powerline technician service?

Response:

FBC has not withdrawn any permanent power line technicians in other rural areas since 2013.

4.5.ii. Please list the number of Full Time Equivalent (FTE) powerline (field) technician positions directly employed by FBC for 2012 through 2018.

[5] https://www2.gov.bc.ca/gov/content/governments/policies-for-government/bcea-policy-and-procedure-manual/general-supplements-and-programs/utility-security-deposits.

Response:

Please find the requested information in the table below. Note that these values include apprentices, pre-apprentices and open positions.

	2012	2013	2014	2015	2016	2017	2018
FTE Power Line Technician Positions	**70**	**72**	**71**	**62**	**61**	**65**	**67**

4.5.iii. When will FBC fulfill the promise to continue supplying a permanent powerline technician to the Kaslo and Area D portion of their service area, and will that technician also be contracted to help service the adjacent Lardeau BC Hydro service area, as occurred in the past?

Response:

Prior to 2013, FBC relied on an agreement with BC Hydro to provide standby coverage as well as perform trouble calls in their Lardeau service area. This agreement supported the need and offset the costs for a permanent full time Powerline Technician in Kaslo.

However, BC hydro decided to provide coverage for the Lardeau service area utilizing crews located in Nakusp. Without the supplementary work provided by the previous arrangement with BC Hydro, there is insufficient work in Kaslo to warrant a permanent PLT position.

Further, the installation of the AMI system provides safety and operational tools that did not exist in 2013. For example, in the event of a public safety concern with an energized line, after communication with the local first responders, the Company now has the ability to perform a remote disconnect of the line from our system control center and de-energize the line to eliminate the safety risk. And, where in the past disconnections required a PLT to be present, the AMI system allows for remote disconnect instead.

FBC now provides all emergency and non-emergency support from the Kootenay Operations Center in Castlegar, as well as Creston.

5. Multiple Metered Accounts

Please reconcile the response given in BCOAPO IR#1.25.3 with the different responses given in KSCA81 IR#1.4.1 through KSCA81 IR#1.4.1.3 and KSCA81 IR1.4.3.3.

Response:

There is no discrepancy between the response provided to BCOAPO IR 1.25.3 and the responses provided to KSCA IRs 1.4.1 to 1.4.1.3 and 1.4.3.3.

Within the context of the COSA model, as noted in the response to BCOAPO IR 1.25.3, the Wholesale Primary class is the only class that is assumed to have more than one delivery point per customer (i.e. customer account). The customer counts used within the COSA model account for the fact that some customers may have more than one delivery point and connection to the FBC system. In these cases, each delivery point is counted as a customer.

The responses to KSCA IRs 1.4.1 to 1.4.1.3 and 1.4.3.3 are answered in the context of customer billing, where one customer may have multiple customer accounts, or several delivery points consolidated into one customer account.

6. Schedule 105: Regulation and Frequency Response Service

6.i. With reference to FBC's response to KSCA81 IR#1.6.1. and IR#1.6.2., please explain why the cost of delivering rate Schedule 105 is based only on the cost of the Company's own production instead of a composite of the value of production and purchase of electricity.

Response:

As explained in the response to BCUC IR 1.70.2 which KSCA IR 1.6.1 referred to, RS 105 is not based on the cost of the Company's own production, but FBC's overall average cost of capacity.

There is an error on page 47 of the 2017 COSA Report, last paragraph, when it states, "…the average cost of FortisBC's own generation…" in relation to Schedule 105. However, this mis-statement is in the text of the report only, and the rate for RS 105 was determined as described above and remains appropriate.

6.ii. If FBC does not know how and why the original calculation was made, how can customers be assured that it is a fair and reasonable price for the service in 2018?

Response:

The rates for ancillary services were the subject of a Commission process when established and were approved as reasonable by the Commission at the time. Since that time, the rates have been approved each year as part of the general approval of the Company's electric Tariff. While FBC has proposed a revised rate setting basis for RS 105, this does not indicate that current rates are not fair and reasonable.

6.iii. Please list any other rate schedules that are based only on FBC's own production costs and explain why this cost causation preference is made over a composite price.

Response:

Please refer to the response to KSCA IR 2.6.i.

6.iv. Please explain why this pricing preference is not a subsidization of those using the service as surely the composite price would in fact be higher than FBC's own production price.

Response:

Please refer to the response to KSCA IR 2.6.i.

7. Non-Customers Wheeling Power In and Out of the FBC Service Area

With reference FBC's response in KSCA81 IR#1.7.1, in Tariff Supplement 7 under 1.11 it states:

"Eligible Customer: (i) Any electric utility...or <u>any person generating electric energy for sale for resale is an Eligible Customer under the Tariff</u>. Electric energy sold or produced by such entity may be electric energy produced in Canada,...;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".

7.i. Please confirm that BC Hydro, or any other Canadian utility, could provide electricity to any person within the FBC service area using Tariff Supplement 7.

<u>Response:</u>

This is not confirmed. The only customers to which retail or wholesale access can be provided are those Eligible Customers as defined by the Access Principle Settlement Agreement (as attached to Order G-27-99) which are those customers whose eligibility is set by the Commission from time to time. Currently, the Commission has provided for retail and wholesale access only to the Company's wholesale and largest industrial customers. In addition, FBC only has wheeling rates for customers connected at primary or transmission voltages.

7.ii. Please confirm that any person, not just any customer of FBC, could offer for sale electricity to BC Hydro and/or any other Canadian utility in accordance with Tariff Supplement 7 to transmit that electricity.

<u>Response:</u>

Not confirmed for the reasons stated in the response to KSCA IR 2.7.i.

7.iii. Please confirm that a FBC NM customer could switch from the Company to BC Hydro using Tariff Supplement 7.

Response:

Not confirmed for the reasons stated in the response to KSCA IR 2.7.i.

7.iv. If 7.i., 7.ii. and 7.iii. are not confirmed, please indicate which sections of Tariff Supplement 7 supercede or contradict the wording in 1.11 or any other sections of the FortisBC Tariff Schedule or Articles of Incorporation.

Response:

Please refer to the response to KSCA IR 2.7.i.

7.v. Please state which rate schedules would apply if a FBC residential customer were to switch to BC Hydro as its electricity service provider, and with reference to KSCA81 IR#1.7.2, please provide the exact proposed cost per MW for each rate schedule, and, if available, that cost per MW over what time period: month, year, etc.

Response:

FBC residential customers are not eligible to receive service from BC Hydro.

7.vi. Please then provide the cost per MWh.

Response:

Please refer to the response to KSCA IR 2.7.v.

8. Rate Design Impacts on Low Consumption/Income Residential Customers

In response to BCUC IR#1.3.3. bullet point six, last sentence, FBC states:

"As a counterpoint, for lower consumption customers the FortisBC Inc. (FBC or the Company) price signal to conserve under a flat rate will be stronger since the flat rate will be higher than the lower block rate in an inclining block structure."

In response to BCUC IR#1.4.3., FBC further responds with a quote from a "...2015 study by Faruqui et al entitled 'the paradox of inclining block rates", and states:

"Paradoxically, if a large share of consumption is concentrated in the lower tiers that are going to face higher prices under a flatter IBR, then a revenue neutral rate change that 'flattens' the tiers might lead to additional conservation".

8.1. With reference to Table 6-10: FBC Residential Rate Proposal, please create a table that provides the percentage of overall residential kWh consumption for the last five years, by the same intervals as those listed in Table 6-10.

Response:

In response to this question, FBC has compiled data provided to the Commission in previous RCR Reports for the timeframes noted in the table below.

Annual Consumption	July 2012 to June 2013	June 2013 to June 2014	Table 3 2016 BCUC RIB Report	2017 RDA
Above 35,000	2%	2%	3%	2%
30,000 - 35,000	2%	2%	2%	1%
25,000 - 30,000	3%	3%	3%	2%
20,000 - 25,000	6%	6%	6%	5%
15,000 - 20,000	11%	12%	13%	10%
10,000 - 15,000	20%	21%	23%	22%
5,000 to 10,000	31%	31%	34%	37%
0 to 5,000	25%	22%	16%	21%

8.1.i. Please explain why, with reference to section 61 of the UCA, causing costs to rise for residential customers who are actively conserving

electricity, including NM customers, and for those who already have low consumption, is not a discriminatory rate design under section 59 of the UCA and is in fact contrary to the spirit, if not the letter, of the law with regard sections 2, 6 and 19 of the CEA.

Response:

FBC does not accept the premise of the question that the transition to a flat rate will necessarily cause bill increases to customers that are actively taking conservation measures. Conservation measures (as well as Net Metering) can be undertaken at all levels of consumption. With regard to low consuming customers, it is the case that most low-consuming customers with typical load profiles will experience annual bill increases under FBC's proposals. However this is not an objective of the rate design, it is an outcome of moving towards cost based rates (i.e. from the RCR to a flat rate) and is not discriminatory, just as the increase in some customers bills was not found to be discriminatory as an outcome of the RCR as it currently exists.

Section 61 of the Utilities Commission Act (UCA) generally describes the requirements for the filing of rate schedules with the Commission.

As noted in Section 59(4), the Commission is the sole judge of:

(a) whether a rate is unjust or unreasonable,

(b) whether, in any case, there is undue discrimination, preference, prejudice or disadvantage in respect of a rate or service, or

(c) whether a service is offered or provided under substantially similar circumstances and conditions.

Further, Section 59(5) states the reason why the Commission may find that a rate is "unjust" or "unreasonable" if it is,

(a) more than a fair and reasonable charge for service of the nature and quality provided by the utility,

(b) insufficient to yield a fair and reasonable compensation for the service provided by the utility, or a fair and reasonable return on the appraised value of its property, or

(c) unjust and unreasonable for any other reason.

While the Commission is the sole judge with respect to rates, FBC does not believe that the transition to a flat rate violates either part a or b of Section 59 of the UCA. Prior to the

introduction of the RCR, FBC operated with a flat residential rate for many years during which time the rate structure was accepted as just and reasonable by the Commission.

With regard to the CEA, FBC notes that section 2 deals with British Columbia's energy objectives. FBC does not consider that its proposal to return to a flat rate is inconsistent with any of the listed objectives. However, to the extent that some customers have indicated that the RCR has prompted them to increase the use of fuels with higher greenhouse gas emissions (such a burning wood for heat), and when combined with a higher rate for low consumption customers, will help to mitigate any decreased incentive to conserve electricity resulting from a move away from the RCR.

Section 6 of the CEA provides that a utility must consider British Columbia's energy objective to achieve electricity self-sufficiency in planning for the construction of generation facilities and energy purchases in a long-term resource plan. The objective of "electricity self-sufficiency" is described in section 6(2) of the CEA as holding "the rights to an amount of electricity that meets the electricity supply obligations solely from electricity generating facilities within the Province". FBC does not see a particular relevance between the residential proposals contained in the Application and the self-sufficiency objective of the Province.

Section 19 of the CEA, which addresses clean or renewable resources, is only applicable to "the authority" (i.e. BC Hydro) or a "prescribed public utility". FBC is not a prescribed public utility and, accordingly, section 19 of the CEA is not strictly applicable to it, nor are there are any regulations under the CEA prescribing "targets in relation to clean or renewable resources" for FBC. Again, the residential proposals in the Application do not seem contrary to either the spirit or the letter of these provisions.

8.1.ii. Why, for example, would any residential customer undertake to make an investment to lower their overall consumption if FBC is going to be consistently asking the BCUC for permission to raise the cost of the Basic Customer Charge and to charge the same energy price to low end users as it does to high end users for energy.

Response:

There is no basis for the supposition that FBC is going to be consistently asking the BCUC for permission to raise the Customer Charge.

If the Customer Charge for the RCR is increased to the level currently used in the equivalent flat rate, as requested in the current Application, a low consumption customer may face a higher flat

rate for the energy consumed as well, and in that case there is a financial incentive to conserve energy as compared to existing rates (refer to the response to KCSA IR 2.8.1.iv).

Once a rate is approved by the Commission, regardless of what it is, a customer with any consumption will save money, and therefore have a financial incentive to conserve, by taking conservation measures.

There is no reason to believe that having a flat rate will lead to less conservation action by a given customer as opposed to a rate structure that charges a completely different customer a different or higher rate.

8.1.iv. Where in this proposed rate design is the financial incentive to conserve, as FBC appears to be implying from the statements made, as quoted in 8 above, that those who conserve should be priced to pay a higher electricity rate than those who do not conserve?

Response:

FBC is not suggesting, in the referenced passage or otherwise, that that those who conserve should be priced to pay a higher electricity rate than those who do not conserve.

The referenced statements make the observation that where a customer that normally is faced with only the lower priced first tier pricing of an inclining block rate may, with a change to a flat rate, be faced with a relatively higher flat rate, conservation will be incented.

8.1.v. Why is this not financially de-incentivizing energy conservation?

Response:

For the reason stated in the response to KSCA IR 2.8.1.iv, there is a stronger financial incentive to conserve energy, if a low consumption customer is going to face a higher flat rate for energy consumed.

8.2. In response to BCUC IR#1.6.3., FBC states:

The Company considers that removal of the RCR will have customer impacts based primarily on consumption levels, with customers having relatively low consumption generally experiencing annual bill increases. There will be low-income customers spread throughout the range of annual consumption. For this reason, FBC does not view the RCR removal as having an impact that either adds to or reduces the burden on customers based on income".

Below are links to the 2016 Canadian Census for:

Central Kootenay:

http://www12.statcan.gc.ca/census-recensement/2016/as-sa/fogs-spg/Facts-CD-Eng.cfm?_TOPIC=6&LANG=Eng&GK=CD&GC=5903

Kootenay Boundary:

http://www12.statcan.gc.ca/census-recensement/2016/as-sa/fogs-spg/Facts-CD-Eng.cfm?_TOPIC=6&LANG=Eng&GK=CD&GC=5905

Okanagan Similkameen:

http://www12.statcan.gc.ca/census-recensement/2016/as-sa/fogs-spg/Facts-CD-Eng.cfm?_TOPIC=6&LANG=Eng&GK=CD&GC=5907

Central Okangan:

http://www12.statcan.gc.ca/census-recensement/2016/as-sa/fogs-spg/Facts-CD-Eng.cfm?_TOPIC=6&LANG=Eng&GK=CD&GC=5935

8.2.i. Can FBC confirm that the 2016 Canada Census data for these four regional districts finds the instance of low income persons as follows:

Central Kootenay 20.3% average, with a peak of 37% in the Village of Slocan

Kootenay Boundary 16.3% average, with a peak of 35% in Electoral Area E – West Boundary

Okanagan-Similkameen 16.4% average, with a peak of 26.1% in Electoral Area G

Central Okanagan 12.5% average, with a peak of 16.8% in Electoral Area J

Response:

FBC confirms the figures provided in the question, but is compelled to reiterate that in the absence of a change to the statutory framework, the Commission does not have jurisdiction to approve or require rates based on a consideration of income.

8.2.ii. Can FBC also confirm that the 2016 Canada Census data for these four regional districts finds median household income as follows:
Central Kootenay $55,532, with the lowest median income being the Village of Slocan with $37,888.

Kootenay Boundary $59,721, with the lowest median income being Greenwood with $38,784.

Okanagan-Similkameen $57,069, with the lowest median income being Electoral Area G with $42,069.

Central Okanagan $71,127, with the lowest median income being Duck Lake 7 (Indian Reserve) $50,987.

Response:

Please refer to the response to KSCA IR 2.8.2.i.

8.2.iii. Can FBC confirm that the reported median household income in the Central-Okanagan is 87.7% higher than the median household income in the Village of Slocan, 83.4% higher than Greenwood, 69.1% higher than Electoral Area G in Okanagan-Similkameen and 39.5% higher than the First Nation community of Duck Lake 7?

Response:

Confirmed.

	Median Household Income	Central Okanagan divided by referenced area
Central Okanagan	$71,127	100%
Village of Slocan	$37,888	187.7%
Greenwood	$38,784	183.4%
RDOS Electoral Area G	$42,069	169.1%
Duck Lake 7	$50,987	139.5%

8.2.iv. Does FBC agree that there appears to be a statistical correlation between instance of low income persons and size of median household income in the various municipalities and Electoral Areas found in the 2016 Canadian Census data for these four regional districts?

Response:

FBC cannot draw any conclusions about the correlation or statistical significance of the referenced data but finds it reasonable to expect that the instance of low income individuals and median household income would be related.

8.2.v. Does FBC agree that if a similar pattern of median household electrical energy consumption could be found between the various communities of these four regional districts, there could be a correlation found between median household income and median electrical energy consumption?

Response:

In order for it to be established that there is a correlation between household income and household energy consumption in the areas noted, the issue would need to either be studied in a dedicated fashion or have the information required to make such a determination drawn from other sources and verified for statistical integrity.

However, as noted in the response to KSCA IR 1.8.1.i, the existence of such information would not inform the development or approval of rates in the present statutory environment.

8.2.vi. Please create a table showing the number of residential households and annual median kWh electrical consumption per household, from 2012 to 2017, for the following municipalities:

Lake Country (District Municipality)

West Kelowna (District Municipality)

Slocan (Village)

Kaslo (Village)

Keremeos (Village)

Greenwood (City)

Response:

FBC does not have information for Lake Country or West Kelowna, as it does not serve these areas

For the balance of the information, please see the table below, noting the following:

- The consumption information uses 2016 accounts with consumption greater than 0 kWh as a base as this is the year for load data in the COSA. The other years reflect information for the same accounts as provided for the 2016 year. Therefore, if an account that existed in 2016 did not exist in other years there is no data for that account, or an account may have had no consumption in 2016 but did in 2017. This is why there may be more or less accounts in years other than 2016.

- Accounts were drawn from a feeder trace of the feeders that serve the listed communities. However, these may be different than municipal boundaries but are reasonably close and provide a good basis for comparison across the years.

- Weather can cause significant variation in consumption each year.

1

	2012		2013		2014		2015		2016		2017	
Community	Accounts	Median kWh	Accounts	Median kWh	Accounts	Median kWh	Accounts	Median kWh	Accounts	Median kWh	Accounts	Median kWh
Slocan	147	11,402	163	12,220	169	11,925	186	11,503	189	12,343	189	13,339
Keremeos	413	7,093	445	7,316	508	8,404	566	8,890	570	9,035	570	9,756
Kaslo	360	9,667	378	9,503	412	11,158	449	10,741	456	10,842	452	11,966
Greenwood	262	7,036	265	6,493	270	7,298	276	6,694	303	7,670	306	8,613

2

8.3. In response to BCSEA IR#1.16.2. FBC states:

"Generally speaking, customers with higher consumption are better off with a flat rate than with an inclining block rate".

In response to BCUC IR#1.6.3., FBC further states:

With respect specifically to the Customer Charge, where an increase in the Customer Charge is included in a change to rates, the bill impact is also related to consumption rather than income. An increase in the Customer Charge necessarily requires a decrease in the energy rate. Therefore, past a certain consumption level a Customer Charge increase provides a benefit to customers.

"...The consumption level above which a customer is better off with the higher Customer Charge can be found by dividing the annual difference in the customer charges by the difference in the energy rates.

($18.70 per month – $16.05 per month) x 12 months / ($0.12021 / kWh – $0.11749 / kWh) = 11,691 kWh.

In response to BCUC IR#145.1, FBC further states:

"It is the case that approximately 63 percent of residential customers consume less than 10,800 kWh, and that on average, these customers would experience annual bill increases of 11.5 percent based on 2016 consumption. FBC considers an 11.5 percent bill increase to be significant".

8.3.i. Approximately what percentage of residential customers would have an annual consumption level of 11,691 kWh or less, and what would be the range of bill impacts on those customers from say 0 kWh to 11,691 kWh annually.

Response:

Based on the 2016 consumption used throughout the Application materials, approximately 67 percent of customers had annual consumption of 11,691 kWh or less. In comparing annual bills under the rates used in the response to BCUC IR 1.6.3, and assuming that all customers are billed first on the current flat rate (Customer Charge of $18.70 per month and energy at $0.11749/kWh) and then are billed on the alternate flat rate (Customer Charge of $16.05 per month and energy at $0.12021/kWh), all customers would be either better off or indifferent by an amount between zero and $31.80.

8.3.ii. Please explain why this acknowledged "11.5% bill increase", with reference to section 61 of the UCA, including NM customers, is not a discriminatory rate proposal under section 59 of the UCA and is in fact contrary to the spirit of, if not the letter of the law, with regard sections 2, 6 and 19 of the CEA.

Response:

The bill increase being discussed is the average annual impact that could result for customers consuming less than 10,800 kWh per year if the RCR was phased out in a single year and replaced with a flat rate incorporating the current Customer Charge.

The magnitude of this bill increase is a contributing factor to the FBC proposal to phase out the RCR over a longer period of time.

Whether or not a rate is discriminatory is determined by the Commission after reviewing the matter.

With respect to the role, if any, of sections 2, 6, or 19, please refer to the FBC response to KSCA IR 2.8.1.i.

8.3.iii. Why, for example, would any residential customer want to undertake any investment to reduce their consumption under 10,800 kWh annually if FBC is asking for an "11.5% bill increase" or more, and a bill decrease for anyone consuming above $10,800 kWh annually.?

Response:

FBC is not asking for a bill increase for customers consuming less than 10,800 kWh annually. Nor is FBC asking for a bill decrease for customers consuming more than 10,800 annually.

FBC is not requesting approval of the rate that was the subject of the referenced question. FBC is not requesting a single year implementation.

However, it remains the case that once a rate is approved by the Commission, regardless of what it is, a customer will save money, and therefore have a financial incentive to conserve, by taking conservation measures.

The question seems to posit that a customer would not attempt to use less energy if doing so would reduce consumption and lead to a bill increase. This is incorrect in both the assumption and the understanding of the outcome.

8.3.iv. Where, in this proposed rate design, is the financial incentive to conserve, as FBC appears to be implying in the statement made in 8.3 above that those who conserve below 11,691 kWh annually should be priced to pay a higher electricity rate than those who consume more than 11,691 kWh annually?

Response:

FBC is making no such inference in the response. The information is simply intended to explain the level of consumption above which a customer will benefit by the combination of a higher customer charge and lower energy rate.

No representation has been made about charging customers different rates on the basis of consumption.

At all levels of consumption, and under any rate structure, a customer will be incented to conserve given that the level of a bill will always be lower with relatively lower consumption.

8.3.v. Why is this not financially de-incentivizing energy conservation?

Response:

Please refer to the response to KSCA IR 2.8.3.iv.

8.4. In response to BCUC IR#1.44.3.1., FBC states:

"*This is not the same as saying that all customers within a given range will experience bill decreases, and in fact, some customers in those ranges will have bill increases and some customers in the lower ranges will have decreases*".

Can FBC please confirm that what they are obliquely referring to is the fact that, beyond annual consumption level, the percentage of Tier II energy that a residential customer currently uses annually is a key variable, such that the less Tier II energy a customer currently uses, the greater the financial impact from the proposed rate design will be on that customer?

Response:

It is not the case that the less Tier 2 energy a customer uses the greater the financial impact from the proposed rate design will be on that customer. The proposed change in rate structure can have a significant impact on the annual bills of customers with large amounts of Tier 2 consumption as well as for customers with no Tier 2 consumption at all. The referenced statement was intended to clarify that the average values for bill impacts contained in the Application do not apply to all customers within a given consumption range. While the average impact may indicate either a bill increase or decrease, due to the annual load profile of the customer, especially if there is a high degree of variability throughout the year, some customers will have impacts that are not typical of the range within which they fit.

8.5. In response to BCUC IR#1.79.1.6., FBC states:

"...to the extent that the implementation of TOU rates results in cost savings over the long term, these savings will offset any additional cost for implementation, customer communication and outreach".

8.5.i. Please explain why, beyond any additional costs to implementation of the proposed TOU program, any savings will not be shared with the customers enrolled in the TOU program.

Response:

FBC has not indicated that savings will not be shared with customers enrolled in the TOU program. FBC expects that all customers (including TOU customers) will share in any benefit that flows from the TOU program.

8.6. Further, FBC additionally states in response to BCUC IR#1.79.1.6:

"FBC believes that any costs of making programs available to customers should be borne by all customers and not by those customers that choose to participate".

8.6.i. Please list all of the incurred costs that FBC is thinking of when making this philosophical statement.

Response:

Offering a program such a TOU to customers may increase costs related to administration and customer service, such as account setup and reviews performed by customer service staff, reporting and monitoring in order to inform the Commission of program results, meter maintenance and programming updates, as well as communication and public awareness. At the current time, the TOU program is offered to eligible customers without any additional charges in support of their participation. FBC in not requesting approval to change the status quo with respect to additional charges.

8.6.ii Please list all of the other rates and programs implemented by FBC where the same incurred costs are borne by all of the ratepayers and not the participants, and would this same philosophy apply to, for example, the NM program?

Response:

Where the establishment of a program is expected to return a net benefit to ratepayers in general, the costs are generally also borne by ratepayers in general whether or not a particular customer participates. For example, in British Columbia, Demand Side Management services are seen as being in the public interest. For utilities, such mechanisms are intended to create opportunities for them to financially benefit from actions they take to reduce the amount of energy used by customers, and consequently, customers are not charged an additional fee for the program element that they use.

The net metering program also carries no additional cost for making the program available to customers from FBC.

8.7. In response to BCUC IR#1.6.3., FBC states:

"The introduction of an optional TOU rate will provide an opportunity for customers at all income levels to reduce annual bills, although customers with higher incomes may be better able to install the types of equipment that allow for the shifting of consumption to periods with lower energy rates".

8.7.i. With reference to section 59(1)(a), 59(2)(b) and 49(5)(c) of the Utilities Commission Act, what measures and/or programs is FBC prepared to offer "low income" residential customers so that they can afford "...to install the types of equipment that allow for the shifting of consumption to periods with lower energy rates"?

Response:

FBC has several offers for low income customers to reduce their energy consumption including providing Energy Saving Kits and the direct installation of measures through the Energy Conservation Assistance Program. The measures included in these offers, including lighting and low flow fixtures, have the potential to reduce energy consumption during periods with higher energy rates.

8.8. A Social Planning and Research Council Study of BC report entitled BC Seniors' Poverty Report Card was released June 12th, 2018:

https://www.uwlm.ca/wp-content/uploads/2018/06/B.C.-Seniors-Poverty-Report-Card.pdf

This report found that the Low Income Measure, after-tax poverty rate[6], for seniors 65 and over by community in the FBC service area was as follows:

Peachland 2.3%

[6] The Low Income Measure threshold is defined as 50% of the median adjusted income of the unit of analysis assigned at the person level. A person is deemed to be in low income if their adjusted income is less than this Low Income Measure threshold.

Westbank 2.5%
West Kelowna 2.7%
Trail 3%
Castlegar 3.1%
(Summerland 3.7%)
Okanagan Falls 3.8%
Kelowna 3.9%
(Penticton 4%)
(Grand Forks 4.3%)
Fruitvale 4.3%
Lake Country 4.4%
Oliver 4.5%
Creston 4.6%
Osoyoos 4.7%
(Nelson 4.8%)
Kaslo 5.6%
Rossland 5.7%
Keremeos 6%
Princeton 6.7%

In response to KSCA81 IR#1.8.3. FBC states:

"*There will be low-income customers spread throughout the range of annual consumption*".

8.8.i. KSCA81 is unable to verify the accuracy of this statement. Please provide the source of the statistical data and the data itself that confirms that low-income customers are "spread throughout the range of annual consumption" in numbers equal to the statistical percentages shown in Table 6-10 of the application.

Response:

FBC did not state that low income customers are distributed through the consumption ranges, "in numbers equal to the statistical percentages shown in Table 6-10 of the application" and cannot therefore provide a source for this statement. However, support for FBC's statement quoted in the preamble can be found in the Commission's RIB Report dated March 28, 2017. This can be seen in Table 10 of the RIB Report (p.17) and a quote from the same page where the Commission "also notes that there are consumers across all income categories who are in the highest use bands".

8.9. In FBC's response to KSCA81 IR #1.8.3.2, it is stated:

"FBC also notes that for a minimum charge to be equal to FBC's current monthly Customer Charge the threshold should be much higher than 5 kWh assumed in the question (close to 160 kWh per month).

8.9.i. Does FBC agree that it was stated in the information request KSCA81 IR#1.8.3.2:

"Would FortisBC consider, instead, a minimum charge equivalent to 5 kWh per day, such that if a customer uses no kWh in a day they still pay for 5 kWh, if they use 4 kWh per day they still pay for 5 kWh, if they use 5 kWh they pay for 5 kWh and if they use 6 kWh they pay for 6 kWh, and so on?"

Response:

FBC agrees that the quoted text appears in the question portion of KSCA IR 1.8.3.2.

8.9.ii. Can FBC please confirm that "5 kWh per day", as originally stated in the information request, is the equivalent of 150 kWh per month (times 30 days) and is therefore close to the 160 kWh cited in the Company's response to KSCA81 IR#18.3.2 above.

Response:

Confirmed.

8.9.iii. Earlier the Company states in response to KSCA81 IR#1.8.3.2. that:

"In addition, the minimum charge approach is less aligned with the cost causation principle since customers who consume less than the pre-determined threshold in a month shall pay for the electricity they have not

consumed. A Customer Charge is designed to recover a portion of fixed customer- related costs and not to recover a portion of variable power purchase costs".

Please confirm that the "Basic Customer Charge" is currently $16.05 and that a 5 kWh per day "Minimum Monthly Charge" for 30 days is $15.18.

Response:

Confirmed.

8.9.iv. Does FBC acknowledge that a low-income customer with a budget of $30 per month for electricity can only access approximately 138 kWh per month, 4.6 kWh per day, when a Basic Customer Charge of $16.05 per month is implemented. Whereas, with a Minimum Monthly Charge of $15.18, a low-income customer can access nearly 297 kWh per month, 9.9 kWh per day?

Response:

FBC first responds to the question as posed but then explains the repercussions of adopting the suggested approach which make this approach inappropriate.

The current monthly Customer Charge is $16.05. Assuming that the customer is consuming only Tier 1 energy, the remaining $13.95 ($30.00 - $16.05) would purchase a further 138 kWh.

FBC assumes that the question is describing a rate where the $15.18 includes 5 kWh per day, or 150 kWh per month. In this case, the remaining $14.82 ($30.00 - $15.18) would purchase an additional 146 kWh per month for a total of 296 kWh per month.

The repercussions of adopting the minimum charge approach suggested in the question are as follows:

1. It is conceptually inappropriate because it turns the recovery of customer-related fixed costs from a fixed charge basis to an energy charge basis (by blending an energy allowance into the minimum charge).

2. The approach, if adopted, would lead to a significant loss of revenues that would need to be recovered through increased residential energy charge rates. The revenue loss would have the following two components:

A reduction in revenue to FBC would occur equal to the reduction in the fixed monthly charge of:

115,595 customers x ($16.05 - $15.18) x 12 months = $1,206,812.

Also, since the $15.18 Minimum Charge includes 150 kWh per month per customer there is a further revenue reduction at the Tier 1 rate of:

150 kWh x $0.10117/kWh x 115,595 customers x 12 months = $21,050,542.

While the revenue reduction may be somewhat less than the $22.25 million (the sum of the above two figures) since not all customers consume 150 kWh per month, it represents 12% of the forecast residential revenue at current rates that would need to be recovered from residential customers in general. This would increase either or both of the Minimum Charge and the Energy Rate, and therefore erode the additional energy that could be purchased under the scenario set out in the question.

8.9.v. Please, therefore, explain why a "Minimum Monthly Charge" does not accomplish the same goal that FBC has of having each customer pay a minimum amount each month towards the upkeep of the Company's grid (irregardless of whether or not the customer uses any electricity from the grid), while allowing low-income customers to access more than double the electricity each month than if a Basic Customer Charge was in place?

Response:

Please refer to the response to KSCA IR 2.8.9.iv.

8.9.vi. Further, given the huge range of median community income found by the 2016 Canada Census, ranging from $71,127 in Central Okanagan to $37,888 in the Village of Slocan, and the considerable range in seniors' after-tax poverty levels, ranging from 2.3% in Peachland to 6.7% in Princeton, why is FBC so opposed to having a dialogue with

seniors about finding creative ways to address their ability to pay ever increasing, above inflation, power bills?

Response:

FBC is not opposed to discussing the measures that are available to help customers manage energy expenses with seniors and understands that a change in rate structure can have a financial impact that needs to be considered alongside the impacts on all of our customers.

FBC is working within the statutory framework that exists in BC to provide assistance to all customers, and has particular programs targeted to low income customers in particular.

FBC's low income DSM program is designed to meet the needs of qualified low income customers within the Company's service area and is provided at no cost to eligible participants. It is offered in collaboration with FEI and BC Hydro. The eligibility criteria for low income DSM programs are established in section 1 of the DSM Regulation.

The DSM Low Income Program portfolio includes Energy Saving Kits (ESKs) (both mail-out and bulk distribution), and the collaborative BC Hydro and FortisBC Energy Conservation Assistance Program (ECAP) for single-family and housing society operated multi-unit residential buildings (MURB). Qualifying housing society buildings can also access the Commercial MURB rebate programs with a 40 percent incentive increase (to address affordability issues) for common area improvements.

However, it should also be noted that while the change in rate structure will have different impacts based on consumption, there are different customers advocating for either the removal of or retention of the RCR based on similar income-related concerns.

9. Household Size and Income as a Factor in Energy Consumption

In 2011 Statistics Canada published a study entitled Households and the Environment: Energy Use:

https://www150.statcan.gc.ca/n1/en/pub/11-526-s/11-526-s2013002-eng.pdf?st=UY2rFOCi

This publication found that:

i. 28% of BC households used electric baseboard heaters as the main heat source in 2011 – Table 1

ii. 39% of BC Households used electricity as the main heating fuel in 2011 – Table 2

iii. BC residential dwellings 56 to 95 square meters in size used 47% the amount of energy of a dwelling 231 square meters or more in 2011 – Table 4.2

iv a BC apartment dweller used 36% of the amount of energy used by a single detached dwelling in 2011 – Table 4.3

v. BC renters used 55.5% the amount of energy used by home owners in 2011 – Table 4.4

vi. While the amount of energy used per square meter was similar, BC households earning less than $20,000 used 40.4% of the energy used by households earning $150,000 or more – Table 4.6

9.1.i. Does FBC acknowledge that the 2011 Statistics Canada's study found a significant statistical correlation between square meter size of dwelling, household income and the amount of household energy use?

Response:

Care must be taken in interpreting statistical data. While the findings described in items i. through v. above are as reported in the referenced document, they do not, alone or in conjunction with Table 4-6 (item vi.) allow for conclusions to be drawn as suggested.

Table 4-6 is composed of two distinct sections. The first reports on the number of gigajoules of energy (not electricity alone) consumed by households of varying income levels, by province.

The second portion reports on the gigajoules per square metre consumed by households of varying income levels, by province.

The first part of the table show a general trend of increasing consumption with household income (although the $80,000-$100,000 category consumes less than the $60,000-$80,000 category).

The second part of the table shows much less variation across income level when dwelling size is included.

FBC is not prepared to state that there is a "…significant statistical correlation…" between these factors and could not find such a statement in the report.

For reference, FBC includes Table 4-6 below.

Table 4-6
Average household energy use, by household and dwelling characteristics, 2011 — Household income

	Less than $20,000	$20,000 to less than $40,000	$40,000 to less than $60,000	$60,000 to less than $80,000	$80,000 to less than $100,000	$100,000 to less than $150,000	$150,000 and over	Not stated	All households
	gigajoules per household								
Canada	**68**	**81**	**94**	**108**	**109**	**129**	**141**	**104**	**105**
Newfoundland and Labrador	148	92	111 E	119	106	102	121	103	111
Prince Edward Island	F	122	F	168 E	F	F	F	120	142
Nova Scotia	81	81	108	112	108	103	F	114	101
New Brunswick	73	76	84	96	118	108	119	102 E	92
Quebec	61	78	94	111	112	121	129	77	95
Ontario	61	76	100	108	114	128	141	104	107
Manitoba	52 E	90	74	97	118	142	146	92	98
Saskatchewan	98	88	105	131	104	128	139	100	110
Alberta	99 E	113	97	118	136	159	155	119	130
British Columbia	57 E	78	79	93	89	125	141	120	99

	Less than $20,000	$20,000 to less than $40,000	$40,000 to less than $60,000	$60,000 to less than $80,000	$80,000 to less than $100,000	$100,000 to less than $150,000	$150,000 and over	Not stated	All households
	gigajoules per m^2 of heated area								
Canada	**0.65**	**0.75**	**0.82**	**0.85**	**0.79**	**0.86**	**0.75**	**0.76**	**0.79**
Newfoundland and Labrador	1.15	0.80	0.85	0.83	0.73	0.67	0.68	0.69	0.80
Prince Edward Island	F	1.05	F	0.78 E	F	F	F	0.75	0.87
Nova Scotia	0.68 E	0.79	0.89	0.73	0.66	0.63 E	F	0.77	0.74
New Brunswick	0.60	0.75	0.70	0.71	0.84	0.68	0.71	0.77	0.72
Quebec	0.63	0.75	0.93	1.00	0.96	0.90	0.74	0.70	0.84
Ontario	0.61	0.68	0.75	0.80	0.74	0.81	0.67	0.72	0.74
Manitoba	0.61 E	0.97	0.77	0.87	0.99	1.11	0.84	0.85	0.89
Saskatchewan	0.95	0.86	0.98	1.10	0.90	1.03	1.07	0.81	0.95
Alberta	1.08 E	1.10	0.93	0.95	0.96	1.07	1.02	0.96	1.00
British Columbia	F	0.60	0.70	0.65	0.64	0.79	0.61	0.74	0.67

Source(s): Statistics Canada, Environment Accounts and Statistices Division.

9.1.ii. With reference to FBC's response to BCSEA IR#1.15.3, has the Company done a literature search to see if there are other Canadian studies, by province, that attempt to find statistical correlations between dwelling size, household income and energy use?

Response:

FBC has not done such a literature search. In the view of FBC there is not a need to seek this information in the context of the current rate design. Within the current statutory framework in BC, the Commission does not have jurisdiction to approve or require rates based on a consideration of income without a cost basis to do so (the subject of recent proceedings involving BC Hydro in which no cost basis was found), and dwelling size is not under consideration as a factor in setting rates because it is not a driver of the cost to serve. The cost of providing service tends to vary primarily with load and load profile, and not demographic attributes.

10. Utility Residential Customer Costs Compared

Nelson Hydro, in the Final Argument for its 2018 Rate Design application, provides a table entitled "2018 Estimated Monthly Residential Electric Bill":

http://www.bcuc.com/Documents/Arguments/2018/DOC_51675_2018-05-25_Nelson-Hydro-_FinalArgument.pdf

For every level of consumption up to and including 9,000 kWh per year, FBC has the highest electricity rate of all the public utilities in the region. Thus while KSCA81 is not disputing that FBC has a different set of cost causation parameters as compared to either BC Hydro or Nelson Hydro, the fact remains that FBC electricity rates range anywhere from 10.9% to 20.8% higher than Nelson Hydro rates and anywhere from 21% to 10.9% compared to BC Hydro.

10.1. With reference to Letters of Comment Hutter E-5, Roberts E-10, Symmes E-16, O'Keefe E-18, Kubara E-19, Dallyn E-20 and especially Louise E 11-1, does FBC acknowledge that seniors living in the service region, especially if they are living on primarily government pensions and programs, are experiencing difficulty paying their annual power bills?

Response:

With respect, while FBC understands that some customers, whether seniors or otherwise, may be in financial circumstances that make meeting obligations related to living expenses difficult, FBC is not going to comment on individual customers, particularly at the request of a third party. FBC works with customers to address billing concerns and makes arrangements to help manage payments to the extent possible and is sensitive to such occurrences, and has numerous programs specifically targeted to low-income. However, neither the general level of rates, the revenue requirements of FBC, nor the rates of neighbouring utilities are the subject of, or relevant to, the current COSA and RDA process.

10.2. With reference to E-20, the Letter of Comment from the Kaslo Food Hub (operating under the North Kootenay Lake Community Services Society), does FBC acknowledge that some of those employed persons who work for minimum wage, those who are unemployed and receiving Employment Insurance or provincial Social Assistance, or a provincial Disability Pension, or Canada Pension Plan (CPP) Disability pension, etc are having to choose between eating and heating their dwellings?

Response:

Please refer to the response to KSCA IR 2.10.1.

10.3. In the absence of any oral discussion with FBC outside of this hearing, previously requested via the BC Utilities Commission, and in the absence of any oral hearing process with this application and/or any oral settlement process, how does FBC suggest any kind of dialogue take place with seniors and low income customers over cost of electrical service to residential ratepayers?

Response:

The cost of service to residential customers is (from a utility perspective) an aspect of the current Application that is being considered by the Commission. In the view of FBC all of the matters related to this Application are not only effectively explored through a written process, but in the case of the technical and financial nature of the material, can be better addressed through a written process rather than an oral hearing.

To the extent that the KSCA intends an oral process to relate to what is described in Exhibit C4-6 as a "…concern that many residential customers will either not write down their concerns and issues and/or send them in as letters of comment to this hearing. However, when given the opportunity to attend a meeting where they can make oral submission…" FBC points out that an oral hearing is not a forum for free-flowing discussion or the exchange of opinions. An oral hearing, where convened, is rather a formal part of the process where the legal or other representative of an intervener may cross-examine FBC and other panels put forward by participants that have filed evidence. If there are oral submissions at the conclusion of the hearing, they would be based on the evidentiary record, and made by a representative (often legal counsel, for example Ms. Worth for the BCOAPO or Mr. Andrews for the BCSEA) of the party rather than by members of that party even where it is an association.

As discussed in the response to KCSA IR 2.4.1.iv , FBC is in the planning stages for a public meeting in Kaslo.

Further, FBC has had a range of other interactions with customers in relation to the present proceeding, including the information sessions held in Castlegar, Osoyoos and Kelowna in the summer of 2017.

10.4 Does FBC acknowledge that, unlike all other customer classes, Residential customers cannot pass on increased electrical consumption costs to their "customers" as they are the customer for all of the service.

Response:

Residential customers are typically end-use customers. Each customer class has its rates determined in reference to its cost of service, not on the end-use to which the energy is put.