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June 9, 2017

British Columbia Public Interest Advocacy Centre
Suite 208 – 1090 West Pender Street
Vancouver, B.C.
V6E 2N7

Attention: Ms. Leigha Worth, Executive Director

Dear Ms. Worth:

Re: FortisBC Energy Inc. (FEI)

Project No. 3698899

2016 Rate Design Application (the Application)

Response to the British Columbia Public Interest Advocacy Centre representing the British Columbia Old Age Pensioners' Organization, Active Support Against Poverty, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, and the Tenant Resource and Advisory Centre *et al.* (BCOAPO) Information Request (IR) No. 1

On December 19, 2017, FEI filed the Application referenced above. In accordance with the British Columbia Utilities Commission Order G-30-17 setting out the Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to BCOAPO IR No. 1.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties

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1.0 CHAPTER 1 – OVERVIEW

Reference: 1.3 Table 1.1 (Table 12-3) / 12.1.4

1.1 Please explain why FEI has chosen to move Rate 22 to 100% R/C ratio as opposed to 110% which is within the stated band of reasonableness?

Response:

Please refer to the response to BCUC-FEI IR 1.42.1.

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1.2 Please amend Table 1.3 (Table 12-3), Table 12-1 and Table 12-4 to show the revenue adjustments if Rate 22 were moved to the 110% level.

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Response:

Setting the RS 22 firm rates to 110 percent of the proposed rates results in a Firm Demand Charge (\$ / Month / GJ) of \$27.50¹, a Firm MTQ (\$/GJ) of \$0.165² and an Interruptible MTQ (\$/GJ) of \$1.069³. These rates will notionally collect an incremental \$1,456 thousand from RS 22 firm customers compared to their existing firm revenues. However, because BC Hydro Island Generation has a contracted rate of \$0.958 per GJ (the contract does not expire until 2022), its rates will not change, resulting in a revenue shortfall of \$1,860 thousand. The net difference between the incremental revenue of \$1,456 thousand and the BC Hydro Island Generation shortfall of \$1,860 thousand equals a \$405⁴ thousand shortfall. FEI would propose to shift this revenue shortfall to RS 1.

Because of the relationship between the derived rates and the shortfall from the BC Hydro Island Generation contract rates, it is not possible at this time to bring the RS 22 to a resulting 110 percent R:C ratio, as can be seen in Table 1-1 below. To achieve an R:C ratio of 110 percent for RS 22 the effective rate per GJ would need to be approximately \$1.40 which is nearly the same level as RS 7/27. As the RS 22 effective rate moves closer to the Rate Schedule 27 Delivery Charge rate it could incent customers in RS 22 to migrate to RS 27 where the Basic Charge for these customers is much lower (\$3,664 versus \$880).

¹ Proposed Firm Demand Charge (\$ / Month / GJ) of \$25.00 x 110%

² Proposed Firm MTQ (\$/GJ) of \$0.15 x 110%

³ Proposed Interruptible MTQ (\$/GJ) of \$0.972 x 110%

⁴ Application section 12.1.3 proposed a revenue responsibility shift from RS 22 to RS 1 of \$754 thousand

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Tables 1-1, Table 12-1 and Table 12-4 have been amended below to show the results of setting the RS 22 Firm rate at 110 percent of FEI's proposed rates. This does not leave RS 22 as a whole at a 110 percent R:C ratio because the revenues for the class as a whole are the weighted average of BC Hydro IG at its fixed contract rate and the remaining RS 22 firm customers at 110 percent of the proposed rate.

Table 1-1 (Adjusted): R:C and M:C Results before and after Rate Design Proposals and Rebalancing

Rate Schedule	Initial COSA		Revenue Shifts and Rebalance Amount (\$000)	Approximate Annual Bill Change	COSA after Rate Design Proposals and Rebalancing	
	R:C	M:C			R:C	M:C
Rate Schedule 1 <i>Residential Service</i>	95.6%	93.1%	498.3	0.1%	96.4%	94.3%
Rate Schedule 2 <i>Small Commercial Service</i>	101.3%	102.5%	(1,174.1)	-0.5%	102.2%	104.1%
Rate Schedule 3/23 <i>Large Commercial Sales and Transportation Service</i>	101.6%	103.3%	1,174.1	0.6%	103.6%	107.6%
Rate Schedule 5/25 <i>General Firm Sales and Transportation Service</i>	104.9%	112.2%	45.2	0.0%	106.3%	116.0%
Rate Schedule 6/6P <i>Natural Gas Vehicle Service</i>	131.2%	159.1%	(61.6)	-16.5%	110.0%	119.1%
Rate Schedule 22A <i>Transportation Service (Closed) Inland Service Area</i>	109.5%	109.8%			113.0%	113.4%
Rate Schedule 22B <i>Transportation Service (Closed) Columbia Service Area</i>	99.7%	99.7%			103.1%	103.1%
Rate Schedule 22 <i>Large Volume Transportation Service</i>	1425.5%	1864.4%	(404.6)	-1.8%	101.6%	101.6%

Rate Schedule <i>(rates not set using allocated costs)</i>	Initial COSA		Revenue Shifts and Rebalance Amount (\$000)	Approximate Annual Bill Change	COSA after Rate Design Proposals and Rebalancing	
	R:C	M:C			R:C	M:C
Rate Schedule 4 <i>Seasonal Firm Gas Service</i>	147.4%	550.9%	13.3	1.9%	150.1%	578.4%
Rate Schedule 7/27 <i>General Interruptible Sales and Transportation Service</i>	139.6%	712.3%	(90.7)	-0.3%	139.2%	712.2%

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Table 12-1 (Adjusted): Revenue Changes from Rate Design Proposals

Rate Schedule	Revenue Change (\$000)
2	-\$1,174.1
3 / 23	+\$1,174.1
4	+\$13.3
5 / 25	+\$45.2
7 / 27	-\$90.7
22	-\$404.6
Total	-\$436.8

Table 12-4 (Adjusted): FEI Rate Proposal Summary

Rate Schedule	Estimated COSA-Based 2018 Rates	Proposed Rate Changes	Estimated 2018 Rates After Proposed Changes
RS 1 – Residential			
Basic Charge (daily)	\$0.3890	\$0.0195	\$0.4085
Delivery Charge (\$/GJ)	\$4.821	(\$0.079)	\$4.742
RS 2 – Small Commercial			
Basic Charge (daily)	\$0.8161	\$0.1324	\$0.9485
Delivery Charge (\$/GJ)	3.850	(\$0.186)	3.664
RS 3/RS 23 – Large Commercial			
Basic Charge (daily)	\$4.3538	\$0.4357	\$4.7895
Delivery Charge (\$/GJ)	\$3.189	\$0.001	\$3.190
RS 4			
Basic Charge (Monthly)	\$439	Nil	\$439
Delivery Charge (\$/GJ) Off Peak	\$1.278	\$0.114	\$1.392
Delivery Charge (\$/GJ) Extended Period	\$2.183	(\$0.018)	\$2.165
RS 5/RS 25			
Basic Charge (Monthly)	\$587.00	Nil	\$587.00
Delivery Charge (\$/GJ)	\$0.887	Nil	\$0.887
Demand Charge (\$/Month/GJ)	\$21.596	\$3.00	\$24.596
RS 6/RS 26			
Basic Charge (Monthly)	\$61	Nil	\$61
Delivery Charge (\$/GJ)	\$4.873	(\$1.318)	\$3.555

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Rate Schedule	Estimated COSA-Based 2018 Rates	Proposed Rate Changes	Estimated 2018 Rates After Proposed Changes
RS 7/RS 27			
Basic Charge (Monthly)	\$880.00	Nil	\$880.00
Delivery Charge (\$/GJ)	\$1.455	(\$0.012)	\$1.443
RS 22			
Basic Charge (Monthly)	\$3,664.00	Nil	\$3,664.00
Firm Demand Charge (\$/Month/GJ)	n/a		\$27.500
Firm MTQ (\$/GJ)	n/a		\$0.165
Interruptible MTQ (\$/GJ)	\$1.060	\$0.009	\$1.069

1.3 The SENTIS survey explains that the Basic Charge “includes the first 2GJ (gigajoules per month of a customer’s natural gas consumption” (see page 18 of SENTIS summary slides). How did FEI derive the 2GJs included in the basic charge? If the amount of volume included in the basic charge was increased to 4GJ, how much would the variable charge change to remain revenue neutral overall? If the amount of volume included in the basic charge was decreased to 0GJ, how much would the variable charge change to remain revenue neutral overall?

Response:

This question must be answered assuming Fort Nelson’s current rate structure is retained, but ignoring the commodity component embedded in Fort Nelson’s rates.

Inclusion of the first 2 GJ in the Basic Charge for Fort Nelson is a legacy rate structure as it was in place when the Fort Nelson utility was acquired in 1985. Consequently, FEI does not know how the 2 GJ minimum was derived.

Having Fort Nelson’s Basic Charge cover the first 2 GJ is equivalent to having a minimum charge for Fort Nelson customers. Under this rate structure, Fort Nelson customers pay for the delivery of at least 2 GJ of gas, whether or not they actually consume any gas. If FEI increased the Basic Charge to include the delivery of the first 4 GJ of gas, the minimum charge for Fort Nelson customers would double. With this change, the volumetric delivery rates for Fort Nelson would decrease by approximately 43 percent to remain revenue neutral. Conversely, decreasing the Basic Charge to be zero GJ removes any basic (minimum) charge for Fort Nelson



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1 customers and the volumetric delivery rates for Fort Nelson would have to increase by
2 approximately 43 percent to remain revenue neutral.

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2.0 CHAPTER 2 – APPROVALS SOUGHT

2.1 Reference: Exhibit B-1, Section 2.3, pp. 2-1 / Table 1-1

- a) Please explain how the allocated costs for the four rate schedules which are not addressed in this application (RS 30, RS 36, RS 46 and RS 50) are impacted by the updated cost-allocation study. For example, at pages 5-6 it explains how RS 46 may be amended, however costs for these rates must still be allocated to the various classes. Does the updated cost-allocation study result in changes to the R/C ratios for these classes?

Response:

Please refer to Sections 2.1 and 11.2.1.1 of the Application which explain why RS 30, 36, 46 and 50 are not within scope of this proceeding. FEI notes that RS 30, RS 26 and RS 50 do not have customers, and therefore are not allocated costs and do not have R:C ratios. RS 46 is approved by Order in Council, and the reference to pages 5-6 in the preamble to this IR explains that the Commission “must not do anything to amend, cancel or suspend the LNG rate schedule, except on application by the utility.”

- b) Please explain how bypass customers are allocated costs in the updated cost-allocation study.

Response:

As described in Section 6.3.1.5 of the Application, the COSA model treats bypass customer revenues as credits to the cost of service and allocates that credit to each sales and non-contract transportation service rate schedule. As such, bypass customers are not allocated any costs in the updated cost-allocation study.

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3.0 CHAPTER 3 – BACKGROUND AND REGULATORY HISTORY OF FEI'S RATE DESIGN

3.1 Reference:

- a) For each customer class please provide a description of the metering technology in place (e.g. percentage of mechanical/smart, automated read/manual read etc.).

Response:

From a meter reading technology standpoint, FEI's meters are either manually read monthly or have automated meter readers (AMR). The meters for customers served under RS 1, RS 2, RS 3, RS 4 and RS 6 are manually read. Customers served under RS 5, RS 7, RS 23, RS 25, RS 26, RS 27, and RS 22/22A/22B and Large Industrial contract customers have AMR devices.

- b) What plans (if any) does FEI have to introduce new metering technologies to any of its rate classes over the next 5 years.

Response:

FEI has no current defined plan to introduce new metering or meter reading technologies for any specific rate class. FEI continues to monitor the ongoing developments in natural gas advanced metering technologies for residential, commercial, and industrial customers, as the Company believes that advanced metering can provide both economic and operational advantages.

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4.0 CHAPTER 4 – STAKEHOLDER ENGAGEMENT

4.1 Reference: Residential Customer Survey: Exhibit B-1, Section 4.6.1, pp. 4-6 to 4-7; Section 7.4.5, p. 7-16; Appendix 4-5 FEI survey methodology and scope

On page 11 of the SENTIS survey under the title of Perceptions of the Impact of Different Rate Structures the following statement is made:

“ Approximately equal percentages of FEI customers believe that the flat rate structure and the inclining rate structure will minimize the subsidy of low use customers and even out natural gas consumption.”

a) Please provide any survey script that was used to explain to respondents how or if the current rate structure subsidizes low-use customers.

Response:

The survey questionnaire, as provided to survey participants, is provided in Appendix 4-5 of the Application.

Participants were presented with both a written description and a graphical representation of the three rate options:

*When it comes to the Delivery charges, FortisBC's current residential rate is a **Flat Rate** structure. Customers pay the same dollar per gigajoules of gas used, regardless of how much gas is used. This means that customers will not have a lower or higher rate depending on their usage.*



***Declining Rate Structure:** Customers pay a certain rate for the first set number or block of gigajoules of gas used and then a lower rate for the next set number of gigajoules of gas used. This means that the customers who consume more than the first block of gigajoules, will have a lower overall rate.*



***Inclining Rate Structure:** Customers pay a certain rate for the first set number or block of gigajoules of gas used and then a higher rate for the next set number of gigajoules of gas used. This means that the customers who consume more than the first block of gigajoules will have a higher overall rate.*



Participants were subsequently asked:

Which of the three residential rates options:

a. Would be the easiest to understand (Select only one)

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- 1 1. Flat Rate structure
- 2 2. Declining rate structure
- 3 3. Inclining rate structure
- 4 4. Don't Know
- 5 b. Would promote the most efficient use of the natural gas network, that is,
- 6 usage of the system would be more evened out throughout the year
- 7 (Select only one)
- 8 1. Flat Rate structure
- 9 2. Declining rate structure
- 10 3. Inclining rate structure
- 11 4. Don't Know
- 12 c. Would result in the most stable natural gas bills month-to-month (Select
- 13 only one)
- 14 1. Flat Rate structure
- 15 2. Declining rate structure
- 16 3. Inclining rate structure
- 17 4. Don't Know
- 18 d. Would most effectively allocate the costs of running the gas system to
- 19 customers so that higher use customers are not subsidizing low use
- 20 customers (Select only one)
- 21 1. Flat Rate structure
- 22 2. Declining rate structure
- 23 3. Inclining rate structure
- 24 4. Don't Know
- 25
- 26
- 27

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- b) Did SENTIS survey respondents as to their preference for an increase in the fixed charge vis-à-vis an equivalent (revenue neutral) increase in the variable rate?

Response:

No. The scope of the survey was focused on customers' knowledge of the current rate structure and bill components, as well as understanding their preferences regarding various rate design considerations and rate structures. The survey did not ask about specific proposals within a given rate structure, such as a certain level of change in fixed and volumetric charges.

- c) Was any relationship between inclining/declining block rate and changes to the fixed charge explained to customers? If so please explain how and what questions were used to survey their preference as between the potential introduction of inclining or declining block rates and the proposed change to the fixed rate.

Response:

FEI interprets the reference to "the relationship between inclining/declining block rate and changes to the fixed charges" as the relationship between different volumetric charges in each block and changes in the fixed charge under a block rate structure scenario. As explained in response to BCOAPO-FEI IR 1.4.1a, the respondents were presented with both a written description and a graphical representation of the block rate structures; however, the actual calculation of rates in each block and dynamics of rate changes in one block due to changes in other blocks are too complex to be part of an online survey of residential customers, and this was not part of the scope of the survey.

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5.0 LEGAL CONTEXT, RATE DESIGN PRINCIPLES AND GOVERNMENT POLICY

5.1 Reference: Section 5.4.1/pg. 5-4

- a) FEI states that a significant impact of government policies on FEI's rate structure relates to the maintenance of the Basic Charge such that all increases were made to the volumetric Delivery Charge. Since the setting of the 2010-2011 Revenue Requirement what changes in Government Policy has FEI observed which would support the proposed increase in the Basic Charge?

Response:

FEI has not observed changes in government policy that would directly support an increase to the basic charge. However, government policy is only one consideration among others, and FEI strives to strike a balance among competing rate design considerations. Alignment with government energy and climate policy should not be considered in isolation, nor should it be interpreted as requiring maintaining the Basic Charge at 2009 levels indefinitely.

FEI's rationale for the proposed changes to the residential rate is explained in Section 7.5.1 of the Application. The evidence indicates that there is a need to improve the intra-rate schedule fairness within the residential rate class so that the balance among various rate design considerations is improved. As shown in Figure 7-9 of the Application, during the last eight years and compared to low use customers, medium and high use customers have been bearing a greater share of delivery margin increases. The analysis shows that within the 2009 to 2016 period, the delivery margin for customers with 25 GJ, 85 GJ, and 145 GJ annual consumption has increased by 16 percent, 30 percent, and 36 percent, respectively. These customers receive the same level of service, irrespective of their consumption level. A one-time 5 percent increase in the Basic Charge and a corresponding decrease in the delivery charge will help to improve the imbalance in intra-rate schedule fairness, and will not have a material impact on other rate design considerations such as rate impacts or government energy policy.

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6.0 COST OF SERVICE ALLOCATION STUDY

6.1 Reference 6.3.1.7 /NGT program

- a) Please provide the rationale for classifying NGT program costs as demand and customer related as opposed to energy related.

Response:

FEI classified many of its distribution-related costs as customer or demand based on the known cost causation factors, where it was reasonably evident that the cost was incurred due to customers or to meet demand, respectively. If the cause of a distribution-related cost was not reasonably evident, then that cost was split between customer and demand based on the results of known classifications. NGT program costs fall into the latter category. The result of using the known classified costs as the allocator for NGT costs is that approximately 62 percent of the NGT costs are classified as customer and 38 percent as demand. It would not be appropriate to classify these costs as energy-related since, with minimal exceptions, they do not vary with gas throughput.

- b) What is the proportion of demand vs. customer related assigned costs?

Response:

Please refer to the response to BCOAPO-FEI IR 1.6.1a.

- c) What are the assignable costs of the NGT program in 2016?

Response:

The NGT program costs in the test year (i.e. 2016) include both rate base (plant assets) and the annual costs of O&M, depreciation, amortization and earned return, and are embedded in FEI's revenue requirement. The total NGT rate base is approximately \$31 million and the annual costs of O&M, depreciation, amortization and earned return total approximately \$5.2 million.

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5 d) What were the revenues of the NGT program in 2016?
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7 **Response:**

8 The NGT revenue in the 2016 test year was \$5.5 million.
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12 **6.2 Reference: 6.3.2.3/Tilbury Expansion Project; 6.3.4.3**

13 a) Please provide the rationale for levelizing the costs of the Tilbury Expansion
14 project but not doing so for the Lower Mainland or Coastal Transmission projects.
15

16 **Response:**

17 Please refer to the response to BCUC-FEI IR 1.9.2.
18
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21 b) What would be the adjustment/impact of treating Tilbury Expansion in a like
22 manner as the other two projects?
23

24 **Response:**

25 Please refer to the responses to BCUC-FEI IRs 1.9.3 and 1.9.3.1.
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29 c) Are any of the Tilbury Expansion Project costs assigned to the residential class?
30 If so, what amounts and what is the rate impact?
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Response:

The difference between costs and revenues for the Tilbury Expansion Project is allocated to all non-bypass customers, including the residential rate schedule (RS 1). The amount allocated to RS 1 equals \$3.8 million and translates to an annual bill increase of approximately 0.5 percent to the average residential customer.

6.3 Reference 6.3.3/Summary of COSA Methods

- a) What (if any) impact does the elimination of SCP as a separate function have on costs allocated to the residential class?

Response:

The elimination of SCP as a separate function has no impact on the costs allocated to the residential class.

FEI would classify and allocate SCP costs using the same parameters irrespective of whether it is functionalized separately in the cost-allocation (COSA) model.

6.4 Reference 6.3.4.4/Table 6.9

- a) What are the respective allocations to the residential class of allocation methods Option A and B for the Mt. Hayes facility?

Response:

Using Option A, the residential class is allocated \$15,143 thousand of Mt. Hayes costs: \$3,990 thousand within the COSA model and \$11,154 thousand through the midstream cost allocation model (which is reset annually). Under Option B, the residential class is allocated \$13,494 thousand within the COSA model.

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3 **6.5 Reference: 6.3.6/pg. 6-23:24**

4 a) FEI has assigned a 100% load factor to RS 6 (NGT/V) based on its observation
5 that the load is not heat sensitive. Are there any other reasons which would
6 indicate a 100% load factor for this customer class?

7

8 **Response:**

9 In addition to RS 6 load not being heat sensitive, FEI's historical experience with this customer
10 group is that consumption is spread evenly throughout the year.

11

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13

14 b) If FEI were to assign RS 6 a load factor of its highest load factor class (RS 25 @
15 55%) what impact would this have on the RS 6 rate?

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17 **Response:**

18 If FEI were to assign a load factor of 55 percent to RS 6, it would increase the costs allocated to
19 RS 6 by \$38 thousand and lower their R:C to 116 percent from 159 percent. This would reduce
20 the proposed rebalancing amount by \$40 thousand and change the delivery rate decrease to
21 \$0.455 per GJ from the proposed decrease of \$1.318 per GJ. However, setting the RS 6 load
22 factor at 55 percent implies that the consumption of natural gas for vehicles is heat sensitive or
23 seasonal, which is not true.

24 The load factor of 100 percent assigned to RS 6 reflects the fact that RS 6 customers are not
25 heat sensitive or seasonal, and is consistent with the principle of cost causation. A 100 percent
26 load factor is also consistent with the even consumption pattern for RS 6, where usage is
27 spread evenly throughout the year.

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6.6 Reference 6.3.6.1 Customer Weighting /Appendix 6-8

- a) Appendix 6-8 appears to show only the customer weighting tables (summarized at 6.3.6.1). Has FEI filed the Customer Weighting Study as part of this Application? If not, please do so.

Response:

FEI has provided the customer weighting factors in Appendix 6-8 to the Application. For more information on how the factors were produced, please refer to the calculations provided in Attachment 6.6a.

- b) Have the customer weighting factors shown in Table 6-15 changed since the last cost allocation study? If yes please provide a comparison of the historical weightings with an explanation as to any adjustments being proposed.

Response:

The following table shows the Customer Weighting Factor for service lines and meters from the 2016 study (Exhibit B-1, Table 6-15), compared to the 2012 Study (Exhibit B-3-1, 2012 Common Rates, Amalgamation and Rate Design Application, Appendix D-4, Page 2).

Rate Schedule	2016 Customer Weighting Factor	2012 Customer Weighting Factor
1	1.0	1.0
2	1.7	1.7
3	7.0	6.8
4	13.6	13.2
5	11.1	11.8
6	13.3	14.2
7	132.5	37.2
22	49.9	38.6
22A	399.2	N / A
22B	562.6	N / A
23	10.3	10.0
25	17.6	16.5
27	46.2	31.7

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The changes to the weighting factors are due to changes in the number of different types of meters and ancillary equipment, and their current cost. The 2012 study did not include the large industrial customers in Rate Schedules 22A and 22B. The number of customers served under RS 7 is small and the weighting factor changed dramatically due to the change in the number of customers served, and the associated equipment and equipment costs attached to the customers in 2012 relative to those in the 2016 study.

6.7 Reference 6.3 Table 6-16

- a) Please amend Table 6-16 to show the total and percentage total columns under the prior cost allocation methodology.

Response:

In the amended version of Table 6-16 below, FEI has added the amounts and allocation from the COSA model included in FEI's Common Rates, Amalgamation and Rate Design Application, filed April 12, 2012.

Rate Schedule	COSA results filed in Amalgamation Application		COSA filed in 2016 Rate Design Application	
	(\$000s)	Percentage of total	(\$000s)	Percentage of total
1	509,718	69.9%	510,654	65.2%
2	109,009	15.0%	129,861	16.6%
3/23	80,250	11.0%	95,247	12.2%
4	51	0.0%	51	0.0%
5/25	27,442	3.8%	35,111	4.5%
6	212	0.0%	151	0.0%
7/27	1,311	0.2%	1,540	0.2%
22	967	0.1%	806	0.1%
22A	n/a	n/a	6,824	0.9%
22B	n/a	n/a	2,602	0.3%
Total	728,961	100%	782,847	100%

FEI's last COSA filed in FEI's Amalgamation Application treated RS 22A and RS 22B revenues as credits to the cost of service which is the same as FEI's treatment of Bypass revenue in this Application. In FEI's COSA model included with this Application, revenues for RS22A and 22B

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- 1 are not treated as credits to the cost of service, but are used to derive the R:C ratios for Rate
- 2 Schedules 22A and 22B.
- 3

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7.0 RATE DESIGN FOR RESIDENTIAL CUSTOMERS

7.1 Reference: 7.3.1

- a) FEI states that “some rate design options (*such as declining block rates*) may have economic justification but are not in line with government policies and, as such are not pursued by FEI”. Please explain the principle as to why declining block rates would be counter to government policy but increasing basic (fixed) charges would be congruent with government policy.

Response:

FEI did not state that increasing the Basic Charge is congruent with government policy. In Section 7.5.2 of the Application where the relationship between Basic Charge and government policy is described, it is stated that in light of government’s energy policy considerations, any increase in the Basic Charge should be done in a manner that does not discourage customers’ engagement in energy saving initiatives and that a complete alignment between fixed costs and fixed charges is not desirable from an energy conservation and efficiency perspective.

The rate design is an exercise of finding the right balance among competing rate design considerations. FEI’s proposed 5 percent revenue-neutral increase to the Basic Charge achieves that balance. It will improve the intra-rate schedule economic fairness among residential customers, does not lead to any rate shock, and is supported by the jurisdictional review as well as previous rate design decisions.

While declining block rates could have an economic justification as indicated in Table 7-2 of the Application, a combination of other factors, including government policy considerations, weigh against pursuing declining block rates. Relative to flat rates, declining block rates are not easily understood by customers, and decrease revenue stability. The transition from existing flat rates to a block rate structure would require incurring additional transition costs, and may result in significant bill impacts for a large group of customers (depending on how it is implemented). Declining block rates are also not supported by the results of the residential customer survey, and, compared to flat rates, are less supported by the jurisdictional review.

- b) Given government policy with respect to greenhouse gas emissions why would inclining/inverted block rates not be desirable?

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1 **Response:**

2 Please refer to the response to BCSEA-FEI IR 1.2.3.

3

4

5

6 **7.2 Reference: 7.2.3**

7 a) Are there any long-run cost implications are for FEI system cost if UPC continues
8 to decline? If so, what are they?

9

10 **Response:**

11 Generally, if the annual UPC continues to decline and the peak UPC follows a similar trend,
12 there is a possibility that the net growth in residential demand (i.e. the increase in demand from
13 new customers, minus the decrease in demand from existing customers) may slow or stop. If a
14 decline is not offset by demand increases by other customer segments, this may result in
15 avoiding or delaying the need for future capital additions related to growth and reduce the
16 magnitude of incremental FEI system costs. However, if the existing costs are spread over a
17 lower sales volume, the expected FEI system cost on a per GJ basis would be expected to
18 increase.

19

20

21

22 b) Does the declining UPC have any impact on peak demand of the residential
23 class (i.e. is there any relationship between average and peak consumption)?

24

25 **Response:**

26 At this time, FEI does not have conclusive evidence to say that declining annual use per
27 customer trends are related to either increasing or reducing peak demand of the residential
28 class. One reason for this is that the reduction in demand from efficiency improvements of
29 existing residential customers is, by and large, offset by the demand from new residential
30 customers attaching to the system. Assuming that the load factor of new residential customers
31 is similar to the load factor of existing customers, the peak demand added by the new
32 customers would replace reductions in peak demand from the use per customer decreases
33 among existing customers.

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1 A second consideration pertains to the possibility that the installation of certain types of higher
2 efficiency gas equipment may reduce annual demand, but without a corresponding effect on
3 peak demand. For example, technologies such as on-demand water heaters and smart learning
4 thermostats have the potential to increase peak demand for those customers who install them.
5 Since residential gas meters do not currently capture daily, hourly or sub-hourly demand data
6 (residential meters capture monthly consumption, i.e. the consumption between successive
7 meter readings), FEI cannot see clearly how the relationship between annual and peak
8 consumption is changing as customers adopt newer equipment technologies that reduce their
9 annual use per customer.

10
11
12
13 **7.3 Reference: 7.4.2**

- 14 a) Did FEI review Avista's use of inverted block rates? If yes please provide the
15 results of that analysis.
16

17 **Response:**

18 Please refer to Appendices 7-2, 8-1 and 9-1 of the Application for a review of Avista's
19 residential, commercial and industrial rates, respectively.
20
21

- 22
23 b) Did FEI's review of distribution rate structures include electricity utilities? Has FEI
24 reviewed any inverted block rate pilots for example, like the Minnesota IBR? If
25 yes, please provide a summary of the findings.
26

27 **Response:**

28 No. FEI's jurisdictional review is limited to natural gas utilities only. The objective of the
29 jurisdictional review was to compare FEI's rates with that of other natural gas utilities, rather
30 than with electric utilities. The number and range of natural gas utilities presented in the
31 jurisdictional review are sufficient to provide a reasonable understanding of rate design
32 practices in the Canadian natural gas distribution industry. Furthermore, comparison of FEI's
33 delivery rates with those of vertically-integrated electric utilities is not appropriate. As explained
34 in the EES Consulting marginal cost study, due to the distinguishing characteristics of electric

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1 utilities, the rationale used to justify inverted rates for electric utilities does not apply to natural
2 gas distribution utilities⁵.

- 3
4
5
6 c) Has FEI reviewed the use of inverted block rates by water utilities? If yes, please
7 provide a summary of the findings.
8

9 **Response:**

10 No. FEI's jurisdictional review is limited to natural gas utilities only. The objective of the
11 jurisdictional review was to compare FEI's rates with that of other natural gas utilities, rather
12 than with other types of utilities.

13 Furthermore, the distinguishing characteristics of water utilities render any comparison invalid.
14 Water utilities are largely owned by municipalities, are traditionally funded through a
15 combination of flat or volumetric charges and revenue from taxes and levies (such as property
16 tax), many of their customers are not yet metered,⁶ and they are often not regulated in the same
17 manner as natural gas distributors.

18
19
20
21 **7.4 Reference 7.4**

- 22 a) Is it possible under the flat rate structure to have cross-subsidies from customers
23 with demands that are not peak-coincident to those with demands that are peak-
24 coincident? If yes, how does FEI's rate design proposal deal with this problem
25 within the residential class?
26

27 **Response:**

28 Regardless of the rate structure chosen, cross-subsidization to some degree occurs amongst
29 customers within a rate schedule, based on where they are on the system, when they joined the
30 system, when they use gas (at peak times versus non-peak times) and how often the customers

⁵ Exhibit B-1, Application, Appendix 4-4, p. 3.

⁶ According to Statistics Canada, in 2011 only 58% of Canadian households were equipped with water meters.

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1 avail themselves of services such as calling the contact centre. Each of FEI's customers, within
2 and across rate schedules, generally cost different amounts to serve.

3 The process of customer segmentation is used to group customers into reasonably
4 homogeneous groups so that the customers within the groups are similar enough to treat them
5 the same and allocate costs based on the group characteristics. On this basis, the rates for
6 each customer group are approved as not unduly discriminatory or preferential.

7 In Section 7.2 of the Application, FEI discusses the characteristics of its residential customers
8 and concludes that the group is similar enough in their dwelling types, end-use and
9 consumption patterns to warrant maintaining them as a single rate schedule. FEI also found
10 that, in general, the consumption of the residential group of customers correlates well with
11 temperature, making them heat sensitive and likely to peak when the system peaks.

12 It is not possible within a rate design proposal to address all issues without creating a much
13 more complex tariff that customers would find difficult to understand and accept as fair.

14
15
16
17 **7.5 Reference: 7.5.3**

- 18 a) While FEI provides qualitative analysis as to how it determined a proposed 5%
19 increase in the Basic Charge, no quantitative analysis is provided. What
20 quantitative analysis was done to determine the impact of the 5% increase in the
21 Basic Charge on consumption and affordability?
22

23 **Response:**

24 FEI disagrees with the assertion in the question that no quantitative analysis is provided. In
25 Section 7.5.1, FEI's quantitative analysis of the impact of delivery margin increases on medium
26 and high use customers highlights the need for improvement in intra-rate schedule fairness. In
27 addition, Section 7.8.1 of the Application provides the quantitative bill impact analysis of
28 proposed changes on residential customers based on a consumption histogram, and the
29 variance between existing and proposed rates. Furthermore, in Section 7.8.2 of the Application,
30 the analysis of the bill impact on low-income customers indicates that the bill impact on this
31 group of customers would be similar to the impact for the residential customer class as a whole.
32 These quantitative analyses, along with the qualitative analyses and FEI's experience, were
33 used to inform FEI's proposed 5 percent revenue-neutral increase to the Basic Charge. For
34 more discussion regarding the impact of the proposed changes on consumption, please refer to
35 the response to BCSEA-FEI IR 1.3.2.

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- b) Since an increase in the Basic Charge leads to revenue stability (i.e. less reliant on consumption/weather) how does FEI intend to adjust its rates of return recovered in rates to account for the resulting lower business risk?

Response:

This question is not relevant to this rate design proceeding. Changes in business risk and their cumulative impact on cost of capital should be considered in a cost of capital proceeding.

7.6 Reference: 7.6 Jurisdictional Comparisons of Rates

- a) Please provide a table derived from Figure 7-10 which shows the number of gas customers served by each utility in the residential (or equivalent) rate class and showing whether that utility uses flat or declining block rates.

Response:

The requested table is as follows:

Comparison of Residential Rate Structures

Utility	Type of Rate	Customer Charge (per Month)	Approximate Number of Customers	Flat Rate Customers
FEI	Flat	\$11.83	886,652	886,652
PNG	Flat	\$7.00-\$10.75	39,900	39,900
ATCO Gas	Flat	\$24.79-\$29.32	1,100,000	1,100,000
AltaGas	Flat	\$36.32	570,000	570,000
SaskEnergy	Flat	\$20.60	385,858	385,858
Manitoba Hydro	Flat	\$14.00	276,858	276,858
Union Gas	Declining	\$21.00	1,400,000	
Enbridge	Declining	\$20.00	2,000,000	
Gaz Metro	Declining	\$16.26	200,000	

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Utility	Type of Rate	Customer Charge (per Month)	Approximate Number of Customers	Flat Rate Customers
Gazifere	Declining	\$10.05	40,400	
Total			6,899,668	3,259,268
Percent of Total				47%

1

2 Please note that ATCO Gas, AltaGas, Union Gas and Gaz Metro do not have a separate rate
3 schedule for residential customers. Instead, their residential customers are part of a more
4 heterogeneous group segmented based on consumption as low use. FEI does not have
5 sufficient information to separate residential customers from the total number of low-use
6 customers for these utilities.

7 As shown in the table, an estimated 47 percent of customers are served under a flat rate
8 structure while the remaining 53 percent are served under a declining block rate structure. This
9 is not significantly different than the split in the percent of utilities that use a flat rate structure.
10 Whether the number of utilities or the number of customers impacted are used as the basis, the
11 result is that the percentage is close to half on a flat rate and half on a declining block rate.
12 Nevertheless, calculating the percentage based on the number of customers in each utility will
13 skew the results towards the approach used by the utilities in Ontario, since almost half of all
14 customers are in that province.

15

16

17

18 b) Based on number of natural gas customers served (from above) what is the
19 proportion of customers served under flat rate vs declining block structures?

20

21 **Response:**

22 Please refer to the response to BCOAPO-FEI IR 1.7.6a.

23

24

25

26 c) Please add a column to the table requested in a) above which shows the Basic
27 (fixed) charge for each utility's residential (or equivalent) class.

28

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1 **Response:**

2 Please refer to the response to BCOAPO-FEI IR 1.7.6a.

3

4

5

6 **7.7 Reference: Appendix 4-4 Marginal Cost Study**

7 a) If the cost of gas were included in the marginal cost study would this change the
8 results (i.e. would the marginal cost still be below the embedded cost).

9

10 **Response:**

11 EES Consulting provides the following response.

12 Because the cost of gas is market-based and flowed through to customers, and is not based on
13 resources developed by the utility, the marginal cost for gas is no different than the cost of gas
14 paid in the rates. This means that the same number for cost of gas would be added to both the
15 embedded and marginal delivery cost. The result would be that the marginal cost would still be
16 below the embedded cost.

17

18

19

20 b) The study makes the statement that the marginal cost of \$3.77 (corrected to
21 \$3.37) reflects a medium time frame. What time period is “ a medium time
22 frame”? If the study were to consider long-run costs (i.e. long-time frame) might
23 this significantly change the results of the study?

24

25 **Response:**

26 EES Consulting provides the following response.

27 The medium time frame refers to a period of 5-10 years. On page 8 of the study (Appendix 4-4)
28 the long-term cost was discussed as well, which would cover a 20-year period. In that case only
29 a small amount was added to the cost, and the results show that the marginal cost is still below
30 the embedded cost.

31

32

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1

2 **7.8 Reference: Appendix 6-1 EES COSA Study Report**

- 3 a) With respect to the jurisdictional review as shown in Table 4 – Distribution Mains.
4 Please provide the customer and demand related percentages arising from
5 Union Gas's minimum system study.

6

7 **Response:**

8 EES Consulting provides the following response.

9 The resulting splits in Union Gas's minimum system study were 65 percent demand-related and
10 35 percent customer-related for the Southern Mains and 59 percent demand-related and 41
11 percent customer-related for the Northern Mains.

12

13

14

- 15 b) What diameter pipe is used in the Union Gas minimum system study?

16

17 **Response:**

18 EES Consulting provides the following response.

19 The diameter of pipe used in the Union Gas minimum system study was not provided in the cost
20 of service evidence filed in the rate application referenced.

21

22

23

24 **7.9 Reference: Appendix 6-1 EES COSA Study Report /pg.14**

- 25 a) At Table 9 EES notes that NGV related costs are assigned. Please clarify if this
26 means all NG costs are directly assigned.

27

28 **Response:**

29 EES Consulting provides the following response.

30 Table 9 shows only that Sales and Marketing expenses related to NGV customers were directly
31 assigned. This does not mean that all NGV costs were directly assigned. In some cases, NGV

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1 customers were allocated shared expenses. In other cases, NGV-related costs were allocated
2 across multiple customer classes based on the circumstances of each cost component.

- 3
4
5
6 b) Please comment as to the allocations of NGV costs of FEI as compared to
7 Enbridge Gas Distribution.
8

9 **Response:**

10 Table 9 refers to the Sales and Marketing costs related to NGV for Enbridge, where these costs
11 are directly assigned to NGV. FEI does not directly assign NGT marketing costs.

12 The NGT marketing costs recorded in O&M are allocated to all rate schedules based on the
13 number of customers in each rate schedule.

14 FEI is also permitted to provide NGT incentives and infrastructure through a regulation
15 established under the *Clean Energy Act* (CEA) as discussed in section 5.4.2 of the Application.
16 The marketing costs allowed under the *Greenhouse Gas Reduction (Clean Energy) Regulation*
17 (GGRR) are recorded in a deferral account along with the other applicable categories of GGRR-
18 allowed costs and are allocated to all rate schedules using customers (62 percent) and demand
19 (38 percent) since they are caused in part by demand and in part by customers.

20
21
22
23 **7.10 Reference: Appendix 6-1 EES COSA Study Report pg. 18 / Elenchus Review of**
24 **Fortis BC COSA**

- 25 a) The Elenchus Study notes that non coincident peak (NCP) is generally used to
26 allocated distribution demand related costs. In response to Elenchus enquiries
27 FEI provided an explanation which stated that there was “*very little difference*
28 *between FEI’s CP (coincident peak) demand and the NCP demand.*” Does EES
29 agree with FEI’s assessment as summarized at pages 17-18 of the Elenchus
30 Report
31

32 **Response:**

33 EES Consulting provides the following response.

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- 1 Yes, EES agrees with FEI's assessment as summarized on pages 17-18 of Elenchus's Review
- 2 of FortisBC Energy Inc.'s Cost of Service Allocation Studies for the 2016 Rate Design
- 3 Application.

4

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8 RATE DESIGN FOR COMMERCIAL CUSTOMERS

8.1 Reference: 8.3.3 Economic Crossover

- a) What was the reason for the initial establishment of the largely different Basic Charge as between RS 2 and RS 3 rate classes (as measured by either dollar or percentage of customer related costs)?

Response:

The rate differences between RS 2 (lower Basic Charge, higher Delivery Charge) and RS 3 (higher Basic charge, lower Delivery Charge) were initially established to provide an economic crossover point at the 2,000 GJ/year threshold specified in those rate schedules. Please also refer to FEI's responses to BCUC-FEI IRs 1.21.1 and 1.21.2.

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1 9.0 RATE DESIGN FOR INDUSTRIAL CUSTOMERS

2 9.1 Reference: 9.6.2 General Interruptible Service

- 3 a) Please provide a table for the years 2006 through 2016 which shows for the RS
4 7/27 customer class: the total number of customers in that year; the number
5 customers curtailed; and the average length of curtailment; the dates of
6 curtailment. Please show seasonal interruptible customers separately.

8 **Response:**

9 Please find the table below that shows the RS 7/27 curtailments for 2006-2016.

Year	# Days	Notes	# of RS 7/27 customers curtailed	Total # of RS 7/27 customers
2006	1.5 days	Nov 28 until evening Nov 29	88	103
2007	0 days		0	101
2008	2.0 days	Dec 19 and Dec 20	86	102
2009	0 days		0	101
2010	0 days		0	105
2011	0 days		0	106
2012	0 days		0	100
2013	0 days		0	105
2014	0 days		0	105
2015	0 days		0	114
2016	0 days		0	113

11 FEI has been very close to curtailing RS 7/27 customers a number of times since 2008. The
12 following are some examples of days of where conditions were very close to requiring
13 curtailment of the majority of the interruptible customers: Nov 22-24/2010, Feb 25/2011, Jan
14 18/2012, Dec 6/2013, Feb 6/2014 and Dec 16/2016.

15 FEI notes that the increase of nine interruptible customers in 2015 is as a result of
16 amalgamation of the gas utilities as well as some new customer additions within that year. FEI
17 does not offer a seasonal interruptible service.

18

19

20

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9.2 Reference: Table 9-19

- a) Please explain how the \$7,318,000 in avoided costs shown in Table 9-19 is derived.

Response:

The \$7.318 million in avoided costs is derived by multiplying the All Non-Bypass volumes of 182,942 TJs by the Avoided Incremental Cost of Service from RS 7 and 27 of \$0.040 per GJ. The Avoided Incremental Cost of Service from RS 7 and 27 is from Appendix 9-3, Page 1. It is the difference between the 20-year average cost of service from all Interruptible customers (Page 2, Line 26) of \$0.059⁷ and the 20-year average cost of service from only RS 22 interruptible customers (Page 3, Line 26) of \$0.017.

- b) Would the residential class be impacted if there was a significant move by interruptible class customers to firm service? If so please explain why and what the impacts might be.

Response:

Yes, the residential class would be impacted if there was a significant move by interruptible customers to firm service. To illustrate, if all interruptible customers and volumes moved to firm service, the incremental capital cost of the transmission and distribution system upgrades needed would be approximately \$134 million, resulting in an additional revenue requirement (cost of service) of \$10.4 million. Of this, the residential share in the COSA would be approximately 50 percent, i.e., \$5.2 million or \$0.072 per GJ (\$5.2 million / residential demand of 72,466 TJ). The incremental cost of service of these system upgrades would be partly offset by additional revenues from the previously-interruptible customers now paying higher firm service rates. FEI estimates that the additional industrial revenues would offset about 22 percent of the incremental cost of service from the system upgrades necessary to serve these customers on a firm basis.

⁷ For ease of reference, \$0.059/GJ is the value shown for 2016 in Appendix 9, Page 2, line 26. The average for this line item over the 20 year period is lower by \$0.002/GJ.

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9.3 Reference: 9.6.3.2 Table 9-16/ 9.6.5 / Table 9-20

- a) Assuming 2016 actual use – what would be the incremental revenue had interruptible rates been based on a 10% discount (rather than the 17.3-18%) of firm service.

Response:

In responding to this IR, FEI is assuming the effective RS 5/25 rate of \$1.776 is held constant and that the General Interruptible Sales Service Rate is changed such that it results in a 10 percent discount. The RS 7 Interruptible Delivery Charge would be \$1.598 per GJ (\$1.776 – (10% x \$1.776)).

Based on a total actual volume in 2016 of 7,610 TJ, the incremental revenue from the smaller interruptible discount would be \$1.2 million ((\$1.598 – Proposed Rate \$1.443) x 7,610 TJ). At a 10 percent discount the smaller savings available on interruptible service may cause some customers to consider moving to firm service, which in turn could cause the need for system upgrades to meet the firm service requirements and increase the cost of service by more than the incremental revenues received as described in the response to BCOAPO-FEI IR 1.9.2b.

- b) FEI states that *“the value of the discount between the cost of firm and interruptible service has increased”*. Does this then argue for an increase in the interruptible rate?

Response:

The increase in the value of the discount between RS 5 and RS 7 does not provide a basis for proposing an increase in the interruptible rate. As noted on Page 9-28 of Exhibit B-1, while the value of the discount between the cost of firm and interruptible service has increased in \$/GJ terms, “the relative percentage of the discount to the firm service has remained relatively static.” The primary reason for this is that successive rate changes have been applied equally, percentage wise, to both firm (RS 5/RS 25) Demand and Delivery Charges as well as to interruptible (RS 7/RS 27) Delivery Charge”. In other words, the increase in the rate differential in \$/GJ between RS 5 and RS 7 has tracked FEI’s revenue requirement increases between 2001 and 2016.

For the reasons discussed in Section 9.6 of the Application, the current level of interruptible rate discount remains appropriate. FEI’s proposed RS 7 rate methodology discussed in Sections 9.6.4 and 9.6.5 of the Application maintains that level of discount.

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c) What study/survey has FEI made of its interruptible customers to try to understand the price elasticity of demand for this class of customers?

Response:

FEI has not conducted any study or survey to determine or understand the price elasticity for its interruptible customers, nor is FEI aware of any elasticity study that separates interruptible customers from other industrial customers. Ordinarily, the elasticity estimates calculated for industrial customers have a high level of aggregation. In these markets, the responsiveness of demand to price may vary greatly from one industry to another depending on factors such as the customer's ability to hedge against price volatility, degree of fuel substitution capabilities, and the ability to accommodate reductions in production levels.

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10 TRANSPORTATION SERVICE REVIEW

10.1 Reference: 10.7.7

- a) What are the estimated incremental revenues from the revised load balancing policies?

Response:

Please refer to the response to CEC-FEI IR 1.56.1.

- b) What are the estimated cost reduction in midstream resources if daily balancing and revised tolerances are implemented?

Response:

If Shipper Agents improve their imbalance management in response to the daily balancing and revised balancing tolerances proposed in the Application, FEI expects a reduction in overall variable costs to balance the system. For example, FEI would incur fewer costs related to moving gas in and out of storage. Please refer to Table 10-9 which shows FEI's incremental variable costs involved in system balancing. FEI has not estimated the extent of the variable costs reduction as this will depend on how Shipper Agents respond to the balancing requirements and because FEI balances the system as a whole and does not track costs related specifically to balancing of transportation customers.

In addition, FEI's midstream costs will be credited with any charges paid by Shipper Agents for exceeding tolerance levels. Please refer to the response to CEC-FEI IR 1.56.1, where FEI provides an estimate of the amount of fees which could have been collected and credited back to the midstream portfolio if the 10 percent tolerance had been applied in 2015 when both daily and monthly balancing provisions were in place. The extent of the fees that will be collected and credited to the midstream portfolio going forward will depend on how Shipper Agents actually manage under the revised rules.

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10.2 Reference: 10.7.4 /Table 10-7 & Table 10-2

- a) Are the charges listed in Table 10-2 intended to be set at rates that would recover the total replacement costs of balancing services as set out in Table 10-7? If not, should they be?

Response:

No. The charges listed in Table 10-2 are not set to recover the replacement cost analysis in Table 10-7, nor should they be.

With the exception of Backstopping gas, the purpose of the charges listed in Table 10-2 of the Application is to incent Shipper Agents to balance more tightly and, if tolerances are exceeded, allow FEI to recover costs back to the midstream. FEI believes the proposed charges will accomplish this purpose.

The replacement cost analysis provided in Table 10-7 was to show the market value of the balancing service provided by FEI under different tolerance levels, but is not an appropriate basis on which to set the proposed charges. The replacement cost estimates the market cost that customers would incur to replace FEI's balancing service; it is not an estimate of FEI's costs to provide balancing service.

- b) Please provide an amended Table 10-2 which shows the current and amended transportation charges after the introduction of FEI's load balancing proposals.

Response:

Below is a revised version of Table 10-2 from the Application identifying the current and amended transportation charges with FEI's load balancing proposals. All highlighted cells indicate a change to the charges applicable to customers under each FEI Transportation Rate Schedule.

With the implementation of exclusive daily balancing for all transportation customers, charges including Replacement Gas, Daily Balancing Gas and the Balancing Service Charge at the revised 10 percent tolerance would apply to customers in all rate schedules as highlighted. With the elimination of Monthly Balancing Gas provisions, the Monthly Balancing Gas charge would no longer apply to customers in the relevant rate schedules as highlighted. All other charges under the tariffs would remain the same.

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Transportation Charges per Gigajoule	Transportation Service Rate Schedule						
	22	22A	22B	23	25	26	27
Backstopping	✓	✓	✓	✓	✓	✓	✓
Replacement Gas	✓	✓	✓	✓	✓	✓	✓
Daily Balancing Gas	✓	✓	✓	✓	✓	✓	✓
Balancing Service Charge (for quantities of gas over the greater of 100 GJ or equal to or in excess of 10% of the Authorized Quantity)	✓	✓	✓	✓	✓	✓	✓
Balancing Service Charge (for quantities of gas of the greater of 100 GJ or equal to or in excess of 20% of the Authorized Quantity)	✓	✓	✓	✓	✓	✓	✓
Monthly Balancing Gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unauthorized Overrun Gas	✓	✓	✓	✓	✓	✓	✓
Demand Surcharge	✓	✓	✓	N/A	N/A	N/A	N/A

10.3 Reference: Appendix 10-1 Black & Veatch Transportation Service Model Review

- a) At page 2 of the Black & Veatch Review it states that balancing thresholds rarely exceed 10% and sometimes are as low as 0%. At page 6 it states that “*while balancing thresholds differ widely across LDCs, a 5% threshold is a fairly common “median” threshold often seen across the industry.*” Given this trend why is FEI not proposing median balancing threshold of 5%?

Response:

FEI considered a 5 percent tolerance threshold, but concluded that a reduction from 20 percent to 5 percent would be too significant a change from the tolerance imposed today. There are Shipper agents operating within the 10 percent threshold today, which provides evidence that a 10 percent tolerance threshold is reasonable and achievable. Further, under the current rate schedule terms and conditions, FEI already reserves the right to impose a 5 percent tolerance threshold in undersupply restriction circumstances. The amendments sought in this Application will more closely align FEI’s transportation model with industry and business practices today.

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- b) What would be the impact on FEI mid-stream costs if transportation customers were required to daily balance within a 5% band?

Response:

The majority of FEI midstream costs are the fixed charges paid for holding transportation and storage resources on behalf of R S 1 to 7 customers. The annual cost of the transportation and storage resources is approximately \$170 million. If transportation customers were required to balance daily within a 5 percent band, balancing charges collected would be credited back to FEI's midstream costs.

FEI has provided an estimate of balancing charges to show an estimate of the potential impact of the proposed changes in the response to CEC-FEI IR 1.56.1. A 5 percent tolerance would only increase the charges collected from Shipper Agents by a small amount compared to the 10 percent tolerance, because the majority of estimated balancing surcharges would be attributable to the under-deliveries beyond 20 percent tolerance. Therefore, the impact to FEI's midstream costs would be similar to the 10 percent tolerance.

10.4 Reference 10

- a) What is the estimated benefit to the RS 1 and RS 2 classes of the revised load balancing/tolerances proposal?

Response:

If Shipper Agents under-deliver the gas supply by more than the proposed tolerance, a balancing charge will be collected and credited back to FEI's midstream costs. These amounts will be allocated to all sales customers, including customers in RS 1 and RS 2.

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11. RATE SCHEDULE GENERAL TERMS AND CONDITIONS

11.1 Reference 11.1.2

a) What is the current over-billing maximum refund period?

Response:

As set out in Section 19.7 (Over-billing) of the GT&Cs, the current over-billing maximum refund period is the applicable limitation period provided by law, which currently is two years⁸. However, FEI's customer service practice for over-billing is to provide a full refund to the date the error first occurred (if the date the error first occurred can be determined), or the current limitation period of two years (if the date the error first occurred cannot be determined).

In Section 11.1.2.1 of the Application and Appendix 11-1, FEI proposed to amend Section 19.7 by adding in additional wording that outlines the current customer service practice of providing a full refund to the date the error first occurred (if the date first occurred can be determined), or a maximum of six years if the date cannot be determined (the former limitation period). FEI inadvertently referenced six years instead of two years (the current limitation period).

Therefore, please refer to Attachment 11.1a in which FEI updates Section 19.7 (Over-billing) by changing the maximum over-billing refund period to two years (the currently limitation period), if the date the error first occurred cannot be determined.

b) Why is FEI proposing to change the period.

Response:

Please refer to the response to BCOAPO-FEI IR 1.11.1a.

11.2 Reference 11.1.2.2 / Appendix 11 General Terms and Conditions

a) Please explain how the Disputed Meter Testing (Meter Testing) fee is calculated

⁸ *Limitation Act*, R.S.B.C. 2012, c. 13, section 6 (1).

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1 **Response:**

2 The Disputed Meter Testing (Meter Testing) Fee is \$60 for meters rated less than or equal to
3 14.2 m³/hour⁹. For meters rated greater than 14.2 m³/hour the Disputed Meter Testing fee is the
4 actual cost of removal and replacement.

5 The Disputed Meter Testing Fee is calculated by adding the incremental customer service
6 labour costs related to processing meter testing requests and the incremental customer service
7 technician costs related to the meter exchange for customer requested meter tests.
8 Measurement Canada does not charge the customer a fee to test the meter itself. FEI has
9 reviewed the incremental customer service labour and technician costs and does not believe a
10 change to the \$60 charge is warranted at this time.

11 A set out in Section 11.3 (Testing Meters) of the FEI GT&Cs, if the meter is found to be
12 recording incorrectly as defined by the *Electricity and Gas Inspection Act* (EGI), the cost of
13 removing, replacing, and testing the meter is borne by FEI. If the meter is found to recording
14 correctly as defined by the EGI, then the customer is responsible for the cost of removing,
15 replacing, and testing the meter as set out the Standard Fees and Charges Schedule.

16 For example, in 2015 there were 13 residential disputed meter tests and all meters tested were
17 determined to be working correctly. As a result, all 13 customers were subject to the Disputed
18 Meter Testing charge of \$60 as set in the Standard Fees and Charges Schedule.

19

20

21

22 b) Is the Disputed Meter Testing fee waived where the meter is found to be faulty?

23

24 **Response:**

25 Yes. Other than minor housekeeping changes to Section 11.3 (Testing Meters) and changing
26 the name of the charge on the Standard Charges Schedule, FEI has not proposed any change
27 to how the Disputed Meter Testing Fees are handled. Disputed Meter Testing Fees are set out
28 in Section 11.3 (Testing Meters) and Section 24.4 (Responsibility for Meter Set) of the GT&Cs,
29 and are waived if the Meter Set is found to be recording incorrectly.

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⁹ FEI 2010-2011 Negotiated Settlement Agreement approved by Order G-141-09, increased the Disputed Meter Testing Fee from \$30 to \$60 effective January 1, 2010.

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11.3 Reference 11.1.2.2. Appendix 11

a) What is the current actual rate of interest on cash security deposits.

Response:

The current interest rate on cash security deposits is set at FEI's prime interest rate minus 2 percent. FEI's prime interest rate is equal to the rate of interest declared from time to time by FEI's lead bank as its "prime rate" for loans in Canadian dollars.

11.4 Reference 11.1.2.2

a) What was the revenue raised by late payment fees in 2016?

Response:

The FEI late payment charges collected in 2016 were \$2.326 million, as per the current (and proposed) applicable FEI Late Payment Charge of 1.5 percent per month (19.56 percent per annum) on an outstanding balance.

If FEI used a late payment fee of 1.0 percent per month (12.68 percent per annum) on an outstanding balance, the late payment charges collected for 2016 would have been approximately \$1.558 million.¹⁰

b) What would that revenue have been if FEI used a late payment fee of 1% per month?

Response:

Please refer to the response to BCOAPO-FEI IR 1.11.4a.

¹⁰ Based on the following calculation: $1\%/1.5\% = 0.67 * \$2.326 \text{ million} = \1.558 million .

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1

2 **11.5 Reference: 11.**

3 a) What is FEI's winter disconnection policy?

4

5 **Response:**

6 With respect to the discontinuance of service, FEI operates in accordance with Section 23 of the
7 General Terms and Conditions of Service and does not have a formal winter policy. In all cases,
8 FEI regards the discontinuation of service as a last resort and as such, works with each
9 customer individually to consider the various alternatives available, such as bill payment options
10 (i.e., flexible payment plans and pre-authorized payment plans) based on their individual
11 situation, irrespective of the time of year.

12 During the winter months, the weather conditions at the customer's service location are taken
13 into consideration by both collections and field staff before a decision is made to disconnect a
14 customer. FEI believes that allowing flexibility to work with customers and make individual
15 decisions based on each customer's unique situation is appropriate and is working well.

16

17

18

19 b) Does FEI waive or delay disconnection under extenuating circumstances? If so
20 please provide the policies for disconnection waivers.

21

22 **Response:**

23 At times and based on individual circumstances, FEI does delay discontinuance of service as a
24 means of working with customers on a resolution. FEI does not have a specific policy for these
25 cases; rather, FEI takes into account the specific circumstances on a case-by-case basis. As
26 noted in the response to BCOAPO-FEI IR 1.11.5a, in all cases, FEI regards the discontinuation
27 of service as a last resort.

28

29

30

31 c) What is FEI's reconnection charge (during and after hours)?

32

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1 **Response:**

2 As set out in FEI's GT&Cs, Standard Charges Schedule¹¹, page S-1, the Reactivation Charges
3 are as follows:

4 Performed During Regular Working Hours \$90.00 per hour

5 Performed After Regular Working Hours \$115.00 per hour

6

7

8

9 **11.6 Reference: Appendix 11 General Terms and Conditions**

10 a) Section 6.3 revision states that "a security deposit **may be** returned to the
11 Customer at any time..." (emphasis added). Why is FEI not required to return a
12 deposit after 1 year provided a good payment history has been shown for the 1
13 year prior? What discretion is FEI seeking by the wording of this provision?

14

15 **Response:**

16 FEI's current business practice is to return the security deposit to Residential customers after
17 one year of good payment history.¹² This practice is different than the language that currently
18 exists in the Tariff, which outlines that security deposits are only required to be refunded to the
19 customer upon termination of services, regardless of the length of time the customer is with FEI
20 or their payment history. Thus, the proposed amendment to Section 6.3 is intended to align the
21 tariff with the current business practice. The word "may" is intended to provide for exceptions
22 that may occur. FEI anticipates that these exceptions would be very rare and if they did occur,
23 FEI would discuss with the individual customers impacted.

24

25

26

27 b) Section 14.1 provides that FEI will have a right to entry for meter related
28 purposes. Other than in the case of emergency (gas leak) what notice provision
29 must FEI provide to the customer prior to seeking entry?

30

¹¹ Exhibit B-1, Application, Appendix 11-1, page S-1.

¹² Good payment history such that the customer has at all times during the immediately preceding one-year period maintained an account with FEI and paid in full all amounts when due in accordance with the Service Agreement

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1 **Response:**

2 Other than in the case of emergency, FEI generally accesses customer property for one of two
3 reasons:

4 1. Monthly meter reading

5 2. Non-emergent maintenance

6 In the case of monthly meter reading, no notice is required or provided. Customers can find
7 their approximate meter reading date through their Account Online portal or by calling FEI's
8 customer service department. In the case of non-emergent maintenance (which is typically an
9 infrequent occurrence for a customer), although there is no specific notice provision
10 requirement, FEI endeavors to provide a reasonable amount of notice to customers that the
11 maintenance will be occurring.

12

Attachment 6.6a

Company:
Project Name:
Model Type:

FortisBC Energy Utilities
2016 Rate Design Filing
Customer Weighting Factors Study Model

AMALGAMATED WEIGHTING FACTOR RESULTS	Rate 1 - Residential	Rate 2 - Small Commercial	Rate 3 - Large Commercial	Rate 4 - Seasonal	Rate 5 - General Firm	Rate 6 - NGV Services	Rate 7 - General Interruptible	Rate 22 - Large Industrial Interruptible	Rate 22A - Large Industrial Firm	Rate 22B - Large Industrial Firm	Rate 23 - Large Commercial Transportation	Rate 25 - General Firm Transportation	Rate 27 - General Interruptible	Joint Venture	BC Hydro
2016 Weighting Factors	1.0	1.7	7.0	13.6	11.1	13.3	132.5	49.9	399.2	562.6	10.3	17.6	46.2	1,766.4	922.8

Customer Administration Weighting Factors	Rate 1 - Residential	Rate 2 - Small Commercial	Rate 3 - Large Commercial	Rate 4 - Seasonal	Rate 5 - General Firm	Rate 6 - NGV Services	Rate 7 - General Interruptible	Rate 22 - Large Industrial Interruptible	Rate 22A - Large Industrial Firm	Rate 22B - Large Industrial Firm	Rate 23 - Large Commercial Transportation	Rate 25 - General Firm Transportation	Rate 27 - General Interruptible	Joint Venture	BC Hydro
2016 Weighting Factors	1.00	1.00	1.20	0.85	43.00	43.00	43.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00

SUPPORTING INFORMATION

Breakdown of Service Types for Existing Service Meters (AMFM)

Service Meter Type	Total # of Meters	Percentage
Prime:	771238	76.85%
Secondary:	102939	10.26%
Metered:	129390	12.89%
Total	1003567	100%

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1																
2																
3																
4																
5	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
6		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
7																
8	1	RATE 1 - RESIDENTIAL														
9	2	200	\$ 71.60	\$ 85			\$ -		\$ 1,535	\$ 1,692			854,923	\$ 1,277,382,364		
10	3	400	\$ 169.75	\$ 138			\$ -		\$ 1,535	\$ 1,843			33,309	61,378,406		
11	4	400 25#	\$ 395.00	\$ 1,182			\$ -		\$ 1,535	\$ 3,112			25	77,800		
12	5	600	\$ 395.00	\$ 1,612			\$ 1,600		\$ 1,535	\$ 5,142			1,141	5,867,022		
13	6	880 SONIX	\$ 980.00	\$ 1,612			\$ 1,600		\$ 1,535	\$ 5,727			61	349,347		
14	7	1000	\$ 611.60	\$ 1,612			\$ 1,600		\$ 1,535	\$ 5,359			1,073	5,749,778		
15	8	2M	\$ 2,280.00	\$ 2,198			\$ 1,600		\$ 1,535	\$ 7,613			9	68,517		
16	9	3M	\$ 2,381.00	\$ 2,198			\$ 1,600		\$ 1,535	\$ 7,714			21	161,994		
17	10	3M ID	\$ 1,336.00	\$ 7,000			\$ 1,600		\$ 1,535	\$ 11,471			1	11,471		
18	11	5M	\$ 2,580.00	\$ 4,114			\$ 1,600		\$ 1,535	\$ 9,829			7	68,803		
19	12	7M	\$ 2,790.00	\$ 4,112			\$ 1,600		\$ 1,535	\$ 10,037			3	30,111		
20	13	Rate 1 AMRs & EVCs			\$ 2,365					\$ 2,365	0	2		4,730		
21	14															
22	14	Total									0	2	890,573	\$ 1,351,150,343	\$ 1,517	1.000
23																
24	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
25		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
26																
27	1	RATE 2 - SMALL COMMERCIAL														
28	2	200	\$ 71.60	\$ 85			\$ -		\$ 1,535	\$ 1,692			47,819	\$ 71,448,712		
29	3	400	\$ 169.75	\$ 138			\$ -		\$ 1,535	\$ 1,843			22,444	\$ 41,357,500		
30	4	400 25#	\$ 395.00	\$ 1,182			\$ -		\$ 1,535	\$ 3,112			25	\$ 77,800		
31	5	600	\$ 395.00	\$ 1,612			\$ 1,600		\$ 1,535	\$ 5,142			2,042	\$ 10,499,964		
32	6	880 SONIX	\$ 980.00	\$ 1,612			\$ 1,600		\$ 1,535	\$ 5,727			229	\$ 1,311,483		
33	7	1000	\$ 611.60	\$ 1,612			\$ 1,600		\$ 1,535	\$ 5,359			16,708	\$ 89,531,489		
34	8	2M	\$ 2,280.00	\$ 2,198			\$ 1,600		\$ 1,535	\$ 7,613			508	\$ 3,867,404		
35	9	3M	\$ 2,381.00	\$ 2,198			\$ 1,600		\$ 1,535	\$ 7,714			1,707	\$ 13,167,798		
36	10	5M	\$ 2,580.00	\$ 4,114			\$ 1,600		\$ 1,535	\$ 9,829			688	\$ 6,762,352		
37	11	7M	\$ 2,790.00	\$ 4,112			\$ 1,600		\$ 1,535	\$ 10,037			154	\$ 1,545,676		
38	12	3M ID	\$ 1,336.00	\$ 7,000			\$ 1,600		\$ 1,535	\$ 11,471			27	\$ 309,717		
39	13	5M ID	\$ 1,562.00	\$ 14,000			\$ 1,600		\$ 1,535	\$ 18,697			38	\$ 710,486		
40	14	7M ID	\$ 1,848.00	\$ 15,000			\$ 1,600		\$ 1,535	\$ 19,983			19	\$ 379,677		
41	15	11M	\$ 3,039.00	\$ 5,671			\$ 3,200		\$ 1,535	\$ 13,445			25	\$ 336,121		
42	16	11M ID	\$ 1,997.00	\$ 18,500			\$ 3,200		\$ 1,535	\$ 25,232			13	\$ 328,016		
43	17	16M ID	\$ 2,193.00	\$ 26,000			\$ 3,200		\$ 1,535	\$ 32,928			8	\$ 263,424		
44	18	23M ID	\$ 2,755.00	\$ 29,000			\$ 3,200		\$ 1,535	\$ 36,490			2	\$ 72,980		
45	19	DATTUS	\$ 1,336.00	\$ 7,000			\$ 1,600		\$ 1,535	\$ 11,471			1	\$ 11,471		
46	20	AAT 18 1440 ID								\$ 700,000			1	\$ 700,000		
47	21	AAT 90 175# IDTC	\$ 43,460.00	\$ 40,000			\$ 3,200		\$ 1,535	\$ 88,195			1	\$ 88,195		
48	22	T30 175# ID	\$ 20,204.00	\$ 28,000			\$ 3,200		\$ 1,535	\$ 52,939			1	\$ 52,939		
49	23	T57 175# ID AMR	\$ 22,223.00	\$ 28,000			\$ 3,200		\$ 1,535	\$ 54,958			1	\$ 54,958		
50	24	Rate 1 AMRs & EVCs			\$ 2,365					\$ 2,365	0	130		307,450		
51	25															
52	26	Total									0	130	92,461	\$ 243,185,612	\$ 2,630	1.734
53																
54	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
55		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
56																
57	1	RATE 3 - LARGE COMMERCIAL														
58	2	200	\$ 71.60	\$ 85			\$ -		\$ 1,736	\$ 1,893			13	\$ 24,606		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
5	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
6		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
59	3	400	\$ 169.75	\$ 138			\$ -		\$ 1,736	\$ 2,043			58	\$ 118,518		
60	4	600	\$ 395.00	\$ 1,612			\$ 1,600		\$ 3,305	\$ 6,912			32	\$ 221,196		
61	5	880 SONIX	\$ 980.00	\$ 1,612			\$ 1,600		\$ 3,305	\$ 7,497			10	\$ 74,974		
62	6	1000	\$ 611.60	\$ 1,612			\$ 1,600		\$ 3,305	\$ 7,129			2,179	\$ 15,534,026		
63	7	2M	\$ 2,280.00	\$ 2,198			\$ 1,600		\$ 4,122	\$ 10,200			181	\$ 1,846,209		
64	8	3M	\$ 2,381.00	\$ 2,198			\$ 1,600		\$ 4,122	\$ 10,301			1,230	\$ 12,670,292		
65	9	3M ID	\$ 1,336.00	\$ 7,000			\$ 1,600		\$ 4,122	\$ 14,058			51	\$ 716,961		
66	10	5M	\$ 2,580.00	\$ 4,114			\$ 1,600		\$ 4,122	\$ 12,416			938	\$ 11,646,255		
67	11	5M ID	\$ 1,562.00	\$ 14,000		\$ 9,000	\$ 1,600		\$ 4,122	\$ 30,284			79	\$ 2,401,440		
68	12	7M	\$ 2,790.00	\$ 4,112			\$ 1,600		\$ 4,122	\$ 12,624			408	\$ 5,150,555		
69	13	7M ID	\$ 1,848.00	\$ 15,000			\$ 1,600		\$ 4,122	\$ 22,570			57	\$ 1,286,493		
70	14	11M	\$ 3,039.00	\$ 5,671			\$ 3,200		\$ 13,485	\$ 25,395			94	\$ 2,387,120		
71	15	11M ID	\$ 1,997.00	\$ 18,500			\$ 3,200		\$ 13,485	\$ 37,182			30	\$ 1,115,461		
72	16	16M ID	\$ 2,193.00	\$ 26,000			\$ 3,200		\$ 13,485	\$ 44,878			19	\$ 852,683		
73	17	DATTUS	\$ 1,336	\$ 7,000			\$ 1,600		\$ 4,122	\$ 14,058			1	\$ 14,058		
74	18	T18 175# ID	\$ 10,190	\$ 22,000			\$ 3,200		\$ 13,485	\$ 48,875			1	\$ 48,875		
75	19	T18 175#	\$ 10,190	\$ 22,000			\$ 3,200		\$ 13,485	\$ 48,875			3	\$ 146,625		
76	20	T30 175# ID	\$ 20,204	\$ 28,000			\$ 3,200		\$ 13,485	\$ 64,889			3	\$ 194,667		
77	21	T27 175# ID AMR	\$ 11,208	\$ 22,000			\$ 3,200		\$ 13,485	\$ 49,893			1	\$ 49,893		
78	22	Rate 3 AMRs & EVCs			\$ 2,365					\$ 2,365	0	252		595,980		
79	23															
80	24	Total									0	252	5,388	\$ 57,096,886	\$ 10,597	6.985
81																
82	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
83		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
84																
85	1	RATE 4 - SEASONAL														
86	2	1000	\$ 611.60	\$ 1,612			\$ 1,600		\$ 3,305	\$ 7,129			20	142,579		
87	3	2M	\$ 2,280.00	\$ 2,198			\$ 1,600		\$ 4,122	\$ 10,200			2	20,400		
88	4	3M	\$ 2,381.00	\$ 2,198			\$ 1,600		\$ 4,122	\$ 10,301			4	41,204		
89	5	5M	\$ 2,580.00	\$ 4,114			\$ 1,600		\$ 4,122	\$ 12,416			2	24,832		
90	6	7M	\$ 2,790.00	\$ 4,112			\$ 1,600		\$ 4,122	\$ 12,624			3	37,872		
91	7	11M ID	\$ 1,997.00	\$ 18,500			\$ 3,200		\$ 13,485	\$ 37,182			1	37,182		
92	8	16M ID	\$ 2,193.00	\$ 26,000			\$ 3,200		\$ 13,485	\$ 44,878			2	89,756		
93	9	23M ID	\$ 2,755.00	\$ 29,000			\$ 3,200		\$ 13,485	\$ 48,440			3	145,320		
94	10	T30 175# ID	\$ 20,204.00	\$ 28,000			\$ 3,200		\$ 13,485	\$ 64,889			3	194,667		
95	11	T60 175# ID	\$ 32,544.00	\$ 40,000			\$ 3,200		\$ 13,485	\$ 89,229			1	89,229		
96	12	Rate 4 AMRs & EVCs			\$ 2,365					\$ 2,365	0	10		23,650		
97	13															
98	14	Total									0	10	41	\$ 846,692	\$ 20,651	13.612
99																
100	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
101		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
102																
103	1	RATE 5 - GENERAL FIRM														
104	2	1000	\$ 611.60	\$ 1,612			\$ 1,600		\$ 3,305	\$ 7,129			6	\$ 42,774		
105	3	3M	\$ 2,381.00	\$ 2,198			\$ 1,600		\$ 4,122	\$ 10,301			35	\$ 360,537		
106	4	5M	\$ 2,580.00	\$ 4,114			\$ 1,600		\$ 4,122	\$ 12,416			85	\$ 1,055,364		
107	5	3M ID	\$ 1,336.00	\$ 7,000			\$ 1,600		\$ 4,122	\$ 14,058			7	\$ 98,406		
108	6	5M ID	\$ 1,562.00	\$ 14,000			\$ 1,600		\$ 4,122	\$ 21,284			18	\$ 383,113		
109	7	7M	\$ 2,790.00	\$ 4,112			\$ 1,600		\$ 4,122	\$ 12,624			52	\$ 656,443		
110	8	7M ID	\$ 1,848.00	\$ 15,000			\$ 1,600		\$ 4,122	\$ 22,570			11	\$ 248,271		
111	9	11M ID	\$ 1,997.00	\$ 18,500			\$ 3,200		\$ 13,485	\$ 37,182			3	\$ 111,546		
112	10	11M	\$ 3,039.00	\$ 5,671			\$ 3,200		\$ 13,485	\$ 25,395			7	\$ 177,764		
113	11	16M ID	\$ 2,193.00	\$ 26,000			\$ 3,200		\$ 13,485	\$ 44,878			1	\$ 44,878		
114	12	23M ID	\$ 2,755.00	\$ 29,000			\$ 3,200		\$ 13,485	\$ 48,440			1	\$ 48,440		
115	13	Rate 5 AMRs & EVCs			\$ 2,365			\$ 2,000		\$ 4,365	236	41		568,965		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
5	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
6		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
116	14															
117	15	Total									236	41	226	\$ 3,796,501	\$ 16,799	11.072
118																
119	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
120		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
121																
122	1	RATE 6 - NGV SERVICES														
123	2	1000	\$ 611.60	\$ 1,612			\$ 1,600		\$ 3,305	\$ 7,129			2	\$ 14,258		
124	3	3M	\$ 2,381.00	\$ 2,198			\$ 1,600		\$ 4,122	\$ 10,301			1	\$ 10,301		
125	4	3M ID	\$ 1,336.00	\$ 7,000			\$ 1,600		\$ 4,122	\$ 14,058			3	\$ 42,174		
126	5	5M ID	\$ 1,562.00	\$ 14,000			\$ 1,600		\$ 4,122	\$ 21,284			6	\$ 127,704		
127	6	7M ID	\$ 1,848.00	\$ 15,000			\$ 1,600		\$ 4,122	\$ 22,570			5	\$ 112,850		
128	7	Rate 6 AMRs & EVCs			\$ 2,365					\$ 2,365	0	15		35,475		
129	8															
130	9	Total									0	15	17	\$ 342,763	\$ 20,163	13.290
131																
132	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
133		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
134																
135	1	RATE 7 - GENERAL INTERRUPTIBLE														
136	2	16M ID	\$ 2,193.00	\$ 26,000			\$ 3,200		\$ 13,485	\$ 44,878			1	\$ 44,878		
137	2	AAT 60 175# ID AMR								\$ 614,149			1	\$ 614,149		
138	3	T30 175# ID AMR	\$ 20,204.00	\$ 28,000			\$ 3,200		\$ 13,485	\$ 64,889			2	\$ 129,778		
139	4	Rate 7 AMRs & EVCs			\$ 2,365			\$ 2,000		\$ 4,365	5	4		15,095		
140	4															
141	5	Total									5	4	4	\$ 803,900	\$ 200,975	132.467
142																
143																
144	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
145		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
146																
147	1	RATE 22 - LARGE INDUSTRIAL FIRM														
148																
149	2	RATE 22 - LARGE INDUSTRIAL INTERRUPTIBLE														
150	3	11M ID AMR	\$ 1,997.00	\$ 18,500			\$ 3,200		\$ 13,485	\$ 37,182			2	\$ 74,364		
151	4	16M ID AMR	\$ 2,193.00	\$ 26,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 44,878			5	\$ 242,390		
152	5	23M ID	\$ 2,755.00	\$ 29,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 57,440			1	\$ 57,440		
153	6	7M ID	\$ 1,848.00	\$ 15,000		\$ 9,000	\$ 1,600		\$ 4,122	\$ 31,570			1	\$ 31,570		
154	7	AAT 18 175# ID AMR	\$ 30,250.00	\$ 22,000			\$ 3,200		\$ 13,485	\$ 68,935			2	\$ 137,870		
155	8	AAT 35 175# IDTC AMR	\$ 33,071.00	\$ 28,000			\$ 3,200		\$ 13,485	\$ 77,756			1	\$ 77,756		
156	9	AAT 57 175# ID AMR	\$ 36,380.00	\$ 28,000			\$ 3,200		\$ 13,485	\$ 81,065			1	\$ 81,065		
157	10	AAT 60 175# ID AMR	\$ 39,510.00	\$ 40,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 96,195			3	\$ 306,585		
158	11	AAT 90 175# IDTC AMR	\$ 43,460.00	\$ 40,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 109,145			2	\$ 218,290		
159	12	T140 220# ID AMR	\$ 53,888.00	\$ 26,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 105,573			1	\$ 105,573		
160	13	T18 175# ID AMR	\$ 10,190.00	\$ 22,000			\$ 3,200		\$ 13,485	\$ 48,875			4	\$ 195,500		
161	14	T30 175# ID AMR	\$ 20,204.00	\$ 28,000			\$ 3,200		\$ 13,485	\$ 64,889			5	\$ 324,445		
162	15	AAT 60 175# IDTC AMR	\$ 39,510.00	\$ 40,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 96,195			3	\$ 297,585		
163	16	T60 275# ID AMR	\$ 32,544.00	\$ 40,000			\$ 3,200		\$ 13,485	\$ 89,229			1	\$ 89,229		
164	17	AAT 90 175# IDTC	\$ 43,460.00	\$ 40,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 109,145			1	\$ 109,145		
165	18	Rate 22 AMRs & EVCs			\$ 2,365			\$ 2,000		\$ 4,365	32	37		151,505		
166	19															
167	20	Total									32	37	33	\$ 2,500,313	\$ 75,767	49.940
168																
169																

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
5	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
6		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
170	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
171		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
172																
173	1	RATE 22A - LARGE INDUSTRIAL														
174	2	5M ID								\$ 1,000,000			1	\$ 1,000,000		
175	3	16M ID	\$ 2,193.00	\$ 26,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 53,878			2	\$ 107,756		
176	4	AAT 18 1440 IDTC AMR								\$ 700,000			1	\$ 700,000		
177	5	AAT 35 1440# IDTC								\$ 1,000,000			1	\$ 1,000,000		
178	6	AAT 35 175# ID AMR	\$ 33,071.00	\$ 28,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 86,756			1	\$ 86,756		
179	7	AAT 60 1440# IDTC								\$ 2,000,000			3	\$ 2,000,000		
180	8	T57 175# ID AMR	\$ 22,223.00	\$ 28,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 75,908			1	\$ 75,908		
181	9	T27 175# ID AMR								\$ 1,000,000			1	\$ 1,000,000		
182	10	T30 175# ID AMR	\$ 20,204.00	\$ 28,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 73,889			2	\$ 147,778		
183	11	T60 175# ID AMR								\$ 484,500			1	\$ 484,500		
184	12	Rate 22A AMRs & EVCs			\$ 2,365			\$ 2,000		\$ 4,365	14	26		58,935		
185	13															
186	14	Total									14	26	14	\$ 6,661,633	\$ 605,603	399.166
187																
188																
189	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
190		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
191																
192	1	RATE 22B - LARGE INDUSTRIAL														
193	2	1000								\$ 1,000,000			2	\$ 1,000,000		
194	3	AAT 60 1440# IDTC AM								\$ 1,000,000			1	\$ 1,000,000		
195	4	T18 175# ID AMR								\$ 1,100,000			2	\$ 1,100,000		
196	5	T60 175# ID AMR								\$ 2,000,000			5	\$ 2,000,000		
197	6	5M	\$ 2,580.00	\$ 4,114			\$ 1,600		\$ 4,122	\$ 12,416			2	\$ 12,416		
198	7	Rate 22B AMRs & EVCs			\$ 2,365			\$ 2,000		\$ 4,365	9	16		8,730		
199	8															
200	9	Total									9	16	12	\$ 5,121,146	\$ 853,524	562.577
201																
202	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
203		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
204																
205	1	RATE 23 - LARGE COMMERCIAL TRANSPORTATION														
206	2	400	\$ 169.75	\$ 138			\$ -		\$ 1,736	\$ 2,043			8	\$ 16,347		
207	3	600	\$ 395.00	\$ 1,612			\$ 1,600		\$ 3,305	\$ 6,912			1	\$ 6,912		
208	4	880 SONIX	\$ 980.00	\$ 1,612			\$ 1,600		\$ 3,305	\$ 7,497			1	\$ 7,497		
209	5	1000	\$ 611.60	\$ 1,612			\$ 1,600		\$ 3,305	\$ 7,129			364	\$ 2,594,945		
210	6	2M	\$ 2,280.00	\$ 2,198			\$ 1,600		\$ 4,122	\$ 10,200			45	\$ 459,002		
211	7	3M	\$ 2,381.00	\$ 2,198			\$ 1,600		\$ 4,122	\$ 10,301			348	\$ 3,584,765		
212	8	3M ID	\$ 1,336.00	\$ 7,000			\$ 1,600		\$ 4,122	\$ 14,058			27	\$ 379,567		
213	9	5M	\$ 2,580.00	\$ 4,114			\$ 1,600		\$ 4,122	\$ 12,416			390	\$ 4,842,260		
214	10	5M ID	\$ 1,562.00	\$ 14,000			\$ 1,600		\$ 4,122	\$ 21,284			73	\$ 1,553,736		
215	11	7M	\$ 2,790.00	\$ 4,112			\$ 1,600		\$ 4,122	\$ 12,624			188	\$ 2,373,295		
216	12	7M ID	\$ 1,848.00	\$ 15,000			\$ 1,600		\$ 4,122	\$ 22,570			65	\$ 1,467,053		
217	13	11M	\$ 3,039.00	\$ 5,671			\$ 3,200		\$ 13,485	\$ 25,395			43	\$ 1,091,981		
218	14	11M ID	\$ 1,997.00	\$ 18,500			\$ 3,200		\$ 13,485	\$ 37,182			29	\$ 1,078,279		
219	15	16M ID	\$ 2,193.00	\$ 26,000			\$ 3,200		\$ 13,485	\$ 44,878			14	\$ 628,293		
220	16	23M ID	\$ 2,755.00	\$ 29,000			\$ 3,200		\$ 13,485	\$ 48,440			2	\$ 96,880		
221	17	T18 175# ID	\$ 10,190.00	\$ 22,000			\$ 3,200		\$ 13,485	\$ 748,875			2	\$ 748,875		
222	18	AAT 60 175# ID AMR	\$ 39,510.00	\$ 40,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 105,195			1	\$ 105,195		
223	19	T57 175# ID AMR	\$ 22,223.00	\$ 28,000			\$ 3,200		\$ 13,485	\$ 66,908			1	\$ 66,908		
224	20	T60 175# ID AMR	\$ 32,544.00	\$ 40,000			\$ 3,200		\$ 13,485	\$ 89,229			1	\$ 89,229		
225	21	Rate 23 AMRs & EVCs			\$ 2,365			\$ 2,000		\$ 4,365	1,681	217		3,870,840		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
5	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
6		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
226	22															
227	23	Total									1,681	217	1,603	\$ 25,061,860	\$ 15,634	10.305
228																
229																
230																
231																
232	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
233		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
234																
235	1	RATE 25 - GENERAL FIRM TRANSPORTATION														
236	2	1000	\$ 611.60	\$ 1,612			\$ 1,600		\$ 3,305	\$ 7,129			3	\$ 21,387		
237		3M	\$ 2,381.00	\$ 2,198			\$ 1,600		\$ 4,122	\$ 10,301			26	\$ 267,827		
238	3	5M	\$ 2,580.00	\$ 4,114			\$ 1,600		\$ 4,122	\$ 12,416			100	\$ 1,241,605		
239	4	7M	\$ 2,790.00	\$ 4,112			\$ 1,600		\$ 4,122	\$ 12,624			100	\$ 1,262,391		
240	5	11M	\$ 3,039.00	\$ 5,671			\$ 3,200		\$ 13,485	\$ 25,395			34	\$ 863,427		
241	6	11M ID	\$ 1,997.00	\$ 18,500			\$ 3,200		\$ 13,485	\$ 37,182			51	\$ 1,896,284		
242	7	16M ID	\$ 2,193.00	\$ 26,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 44,878			36	\$ 1,624,609		
243		23M ID	\$ 2,755.00	\$ 29,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 48,440			7	\$ 348,080		
244		3M ID	\$ 1,336.00	\$ 7,000			\$ 1,600		\$ 4,122	\$ 14,058			27	\$ 379,567		
245		5M ID	\$ 1,562.00	\$ 14,000			\$ 1,600		\$ 4,122	\$ 21,284			63	\$ 1,340,895		
246		7M ID	\$ 1,848.00	\$ 15,000			\$ 1,600		\$ 4,122	\$ 22,570			75	\$ 1,692,754		
247	8	T30 175# ID AMR	\$ 20,204.00	\$ 28,000			\$ 3,200		\$ 13,485	\$ 64,889			5	\$ 324,445		
248	9	Q8.8 3" 1440# ID AMR	\$ 8,102.40	\$ 22,000			\$ 3,200		\$ 13,485	\$ 46,787			1	\$ 46,787		
249	10	T18 175# ID AMR	\$ 10,190.00	\$ 22,000			\$ 3,200		\$ 13,485	\$ 48,875			2	\$ 97,750		
250	11	T60 175# ID AMR	\$ 32,544.00	\$ 40,000			\$ 3,200		\$ 13,485	\$ 89,229			2	\$ 178,458		
251	12	AAT 18 175# ID AMR	\$ 30,250.00	\$ 22,000			\$ 3,200		\$ 13,485	\$ 68,935			1	\$ 68,935		
252	13	AAT 35 175# ID AMR	\$ 33,071.00	\$ 28,000			\$ 3,200		\$ 13,485	\$ 77,756			1	\$ 77,756		
253	14	T18 1440# ID AMR	\$ 26,134.00	\$ 22,000			\$ 3,200		\$ 13,485	\$ 64,819			1	\$ 64,819		
254	15	T18 175# ID	\$ 10,190.00	\$ 22,000			\$ 3,200		\$ 13,485	\$ 48,875			2	\$ 748,875		
255	16	T30 175# ID	\$ 20,204.00	\$ 28,000			\$ 3,200		\$ 13,485	\$ 64,889			1	\$ 64,889		
256	17	T30 175# IDTC	\$ 20,204.00	\$ 28,000			\$ 3,200		\$ 13,485	\$ 64,889			1	\$ 64,889		
257	18	Rate 25 AMRs & EVCs			\$ 2,365			\$ 2,000		\$ 4,365	542	279		1,743,835		
258	18															
259	19	Total									542	279	539	14,420,266	\$ 26,754	17.634
260																
261																
262																
263	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
264		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
265																
266	1	RATE 27 - GENERAL INTERRUPTIBLE														
267	2	5M	\$ 2,580.00	\$ 4,114			\$ 1,600		\$ 4,122	\$ 12,416			1	\$ 12,416		
268	3	5M ID	\$ 1,562.00	\$ 14,000			\$ 1,600		\$ 4,122	\$ 21,284			7	\$ 148,988		
269	4	7M ID	\$ 1,848.00	\$ 15,000			\$ 1,600		\$ 4,122	\$ 22,570			13	\$ 293,411		
270	5	11M	\$ 3,039.00	\$ 5,671			\$ 3,200		\$ 13,485	\$ 25,395			1	\$ 25,395		
271	6	11M ID	\$ 1,997.00	\$ 18,500			\$ 3,200		\$ 13,485	\$ 37,182			17	\$ 632,095		
272	7	16M ID	\$ 2,193.00	\$ 26,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 44,878			19	\$ 861,683		
273	8	23M ID	\$ 2,755.00	\$ 29,000			\$ 3,200		\$ 13,485	\$ 48,440			12	\$ 581,280		
274	9	AAT 18 1440 ID AMR	\$ 36,855.00	\$ 22,000			\$ 3,200		\$ 13,485	\$ 75,540			2	\$ 151,080		
275	10	AAT 35 175# ID AMR	\$ 33,071.00	\$ 28,000			\$ 3,200		\$ 13,485	\$ 77,756			1	\$ 77,756		
276	11	AAT 140 220# ID AMR								\$ 1,000,000			1	\$ 1,000,000		
277	12	AAT 60 175# ID AMR								\$ 1,000,000			1	\$ 1,000,000		
278	13	Q8.8 3" 1440# ID AMR	\$ 8,102.40	\$ 22,000			\$ 3,200		\$ 13,485	\$ 46,787			1	\$ 46,787		
279	14	T18 175# ID AMR	\$ 10,190.00	\$ 22,000			\$ 3,200		\$ 13,485	\$ 48,875			5	\$ 244,375		
280	15	T27 175# ID AMR	\$ 11,208.00	\$ 22,000			\$ 3,200		\$ 13,485	\$ 49,893			1	\$ 49,893		
281	16	T30 175# ID AMR	\$ 20,204.00	\$ 28,000			\$ 3,200		\$ 13,485	\$ 64,889			9	\$ 584,001		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
5	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
6		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
282	17	T60 175# ID AMR	\$ 32,544.00	\$ 40,000		\$ 9,000	\$ 3,200		\$ 13,485	\$ 89,229			10	\$ 901,290		
283	18	T60 175# ID	\$ 32,544.00	\$ 40,000			\$ 3,200		\$ 13,485	\$ 89,229			1	\$ 89,229		
284	19	Rate 27 AMRs & EVCs			\$ 2,365			\$ 2,000		\$ 4,365	110	102		452,500		
285	19															
286	20	Total									110	102	102	\$ 7,152,180	\$ 70,119	46.217
287	21															
288																
289																
290																
291	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
292		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
293																
294	1	VIGJV														
295	2	3M								\$ 13,400,000			4	\$ 13,400,000		
296	3	AAT 35 1440# IDTC											4	\$ -		
297	4	AAT 60 1440# ID AMR											1	\$ -		
298	5	T18 1440# ID AMR											1	\$ -		
299	6	VIGJV AMRs & EVCs									25	5		-		
300	7															
301	8	Total									25	5	10	\$ 13,400,000	\$ 2,680,000	1,766.447
302																
303	Line No.	Meter Type	Meter Cost	Meter Set w/o Meter	EVC (corrector)	Telecount / Telemetry	Customer Service	A.M.R.	Service Lateral	Total Cost	No. of AMR	No. of EVC	No. of Meters	Col. (i) * Col. (j)	Class Per Unit Cost	Weighting Factor
304		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
305																
306	1	BCHYDRO ICP														
307	2	3M								\$ 1,400,000			1	\$ 1,400,000		
308	3	3-3400-024 AMR											1	\$ -		
309	4	T57 1440#											1	\$ -		
310	5	VIGJV AMRs & EVCs									5			-		
311	6															
312	7	Total									5	0	3	\$ 1,400,000	\$ 1,400,000	922.771
313																
314																
315																
316																
317		TOTAL METERS									2,659	1,136	991,026			
318											AMRs	EVCs	Meters			

Attachment 11.1a

FORTISBC ENERGY INC. GENERAL TERMS AND CONDITIONS
SECTION 19

19.7 Over-billing

In every case of over-billing, FortisBC Energy will refund to the Customer all money incorrectly collected for the duration of the error, ~~subject to the applicable limitation period provided by law;~~ except that, if the date of when the error first occurred cannot be determined with reasonable certainty, the maximum refund period will be 62 years back from the date the error was discovered. Simple interest, computed at the short-term bank loan rate applicable to FortisBC Energy on a Monthly basis, will be paid to the Customer.

19.8 Under-billing

Subject to Section 19.5 (Tampering / Fraud), above, in every case of under-billing, FortisBC Energy will back-bill the Customer for the shorter of

- (a) the duration of the error; ~~or~~
- (b) six Months for Residential or Commercial Service; and
- (c) one Year for all other Customers or as set out in a special or individually negotiated ~~contract~~agreement for Service with FortisBC Energy.

19.9 Terms of Repayment

Subject to Section 19.5 (Tampering / Fraud), above, in all cases of under-billing, FortisBC Energy will offer the Customer reasonable terms of repayment. If requested by the Customer, the repayment term will be equivalent in length to the back-billing period. The repayment will be interest free and in equal instalments corresponding to the normal billing cycle. However, delinquency in payment of such instalments will be subject to the usual late payment charges.

19.10 Disputed Back-bills

Subject to Section 19.5 (Tampering / Fraud), above, if a Customer disputes a portion of a back-billing due to under-billing based upon either consumption, demand or duration of the error, FortisBC Energy will not threaten or cause the discontinuance of Service for the Customer's failure to pay that portion of the back-billing, unless there are no reasonable grounds for the Customer to dispute that portion of the back-billing. The undisputed portion of the bill ~~shall~~will be paid by the Customer and FortisBC Energy may threaten or cause the discontinuance of Service if such undisputed portion of the bill is not paid.

Order No.: G-21-14 Issued By: Diane Roy, ~~Director~~Vice-President, Regulatory ~~Services~~Affairs

Effective Date: January 1, 2015June 1, 2018 Accepted for Filing: September 30, 2016

BCUC Secretary: Original signed by Erica Hamilton

Original Page ~~16~~19-3