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## FortisBC Energy Inc. 2016 Rate Design Application

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### Decision and Order G-135-18

July 20, 2018

Before:  
K. A. Keilty, Panel Chair  
W. M. Everett, QC, Commissioner  
D. J. Enns, Commissioner

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## **BCUC ORDER G-135-18**

### **APPENDICES**

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## Executive summary

The 2016 Rate Design Application is a comprehensive review of the rate design for FortisBC Energy Inc. (FEI) and Fort Nelson service areas (Application). FEI proposes a number of rate design changes for both FEI and Fort Nelson service areas that are intended to realign rate design with accepted rate design principles and rebalance rates based on separate updated cost of service allocation (COSA) studies for FEI and Fort Nelson.

The context for the Panel's review of FEI's rate design proposals consists of (1) the legal framework as set out in sections 58 to 61 of the *Utilities Commission Act*; (2) accepted rate design principles identified by Dr. James C. Bonbright; and (3) government policy. The Panel also considers the COSA Report and a Rate Design Report provided by an independent consultant retained by British Columbia Utilities Commission (BCUC) staff, Elenchus Research Associates Inc. (Elenchus). These reports form part of the evidentiary record and were subject to information requests by the parties.

The review of the Application was addressed in three key areas:

- Consideration of COSA studies and the Revenue to Cost (R:C) ratios and the corresponding range of reasonableness;
- Review of FEI's Transportation Service; and
- FEI's other rate design and rebalancing proposals.

The COSA and R:C ratios topic was reviewed in an Streamlined Review Process (SRP) followed by written arguments. This SRP included the opportunity for participants to question Elenchus, FEI and its expert, EES Consulting. On January 9, 2018, the BCUC released the COSA and R:C Ratios Decision.<sup>1</sup> Key determinations in the COSA and R:C Ratios Decision included:

- A finding that the FEI's COSA methodology generally follows standard practice, which both experts view as being reasonable and acceptable for setting just and reasonable rates;
- A directive that the R:C ratio should be used to inform rate design and rate rebalancing proposals;
- A directive that the R:C ratio range of reasonableness should be reduced to 95 to 105 percent to inform rate design and rebalancing proposals in the Application; and
- FEI was directed to file updates to the Application in response to the findings and directives in COSA and R:C Ratios Decision.

The transportation service review included an SRP that was followed by oral arguments.

### *FEI residential rate design*

For residential customers, the Panel approves the continuation of the current flat rate structure in Rate Schedule (RS) 1 with a five percent increase in the fixed Basic Charge and a decrease in volumetric Delivery Charge to maintain revenue neutrality. The Panel finds the overall annual bill impact of FEI's residential rate design proposals, between +/-1 percent for the majority of residential customers, to be acceptable and that the impact is a reasonable balance of cost causation with rate and revenue stability considerations.

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<sup>1</sup> BCUC Order G-4-18 and Reasons for Decision on FEI's proposed COSA and R:C ratios (COSA and R:C Ratios Decision).

### *FEI commercial rate design*

The Panel approves the continuation of the existing flat rate structure for commercial customers with a minor adjustment to the customer segmentation threshold for its commercial customers in RS 2 and RS 3/RS 23. The Panel notes the acceptance of the interveners and on its own review, the Panel finds FEI's commercial rate design proposals to be just, reasonable and not unduly discriminatory and to reflect a reasonable balance of rate design principles.

### *FEI industrial rate design*

For general firm service rates for sales and transportation customers, the Panel approves FEI's proposal to revise the multiplier in the Daily Demand formula in RS 5 and RS 25 from 1.25 to 1.10 and to increase the Demand Charge in RS 5 and RS 25 by \$3.00/GJ/Month. The Panel finds that FEI's proposal to revise the Daily Demand Formula reflects more current data, is easy to understand and administer, and has the least impact on rates. The adjustment to the Demand Charge in RS 5/RS 25 is needed to continue to align the economic crossover point so that only high load factor customers will have an economic incentive to take service under RS 5/RS 25, as well as to generate the revenues needed to recover the cost of service.

For general interruptible service, the Panel approves the adjustments to the delivery rates needed to maintain the existing discount between interruptible and firm service. A decrease the Delivery Charge of RS 7 and RS 27 by \$0.012/GJ is needed due to the amendments to RS 5 and RS 25. A similar adjustment to seasonal firm service is required to maintain the appropriate rate design for RS 4.

The Panel approves FEI's proposals for large volume transportation service including the continuation of the closed status of RS 22A and RS 22B and a new firm service for RS 22. FEI's proposed Firm RS 22 rates are similar to current contract rates under RS 22, cost-based and supported by rate design principles. The proposed RS 22 postage stamp rates are also consistent with government policy. The ability of a potential non-bypass large industrial transportation customer to request firm demand based on the terms and charges outlined in the proposed RS 22 promotes transparency and regulatory efficiency. It is preferable to individually reviewing and approving negotiated contracts in the form of tariff supplements for each customer that requests firm service.

### *Rate rebalancing*

After revenue shifts related to rate design impacts, all rate schedules are within the range of reasonableness of 95 percent to 105 percent except for RS 5/RS 25, RS 6/RS 6P and RS 22A. The Panel approves rebalancing RS 5/RS 25 and RS 6/RS 6P to within the range of reasonableness. The Panel finds that FEI's proposal to not rebalance RS 22A to be reasonable and not unduly discriminatory even though the RS 22A R:C ratio is outside the range of reasonableness because the closed RS 22A's<sup>2</sup> cost allocation already results in favourable rates when compared to other large industrial customers.

The Panel approves the allocation of the responsibility for the rate design revenue impacts and rate rebalancing to residential customers. RS 1 is the only rate class with an R:C ratio below 100 percent and residential customers have the capacity to absorb these amounts with the lowest bill impact to individual customers. The result is an approximate annual bill impact of 0.1 percent for RS 1 customers and results in an increase to the delivery charge per GJ by \$0.011. This approach is consistent with past practice and reflects standard utility practice.

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<sup>2</sup> RS 22A and RS 22B have been closed to new customers since 1993.

Industrial Customer Group and Commercial Energy Consumers Association of British Columbia prefer that the Panel direct FEI to rebalance all rate schedules to unity. However, the Panel finds there is insufficient support for the position that FEI should rebalance to unity. In this decision, the Panel places weight on the evidence provided by Elenchus that:

- Any R:C ratio that is within the defined range of reasonableness can be considered to be full cost recovery;
- Rebalancing should be undertaken to move classes that are outside the approved range to the nearest boundary;
- It is not appropriate to periodically rebalance to R:C ratios of 1.00; and
- Elenchus is not aware of any jurisdiction that periodically rebalances rates so that all R:C ratios are 1.00.<sup>3</sup>

### *Fort Nelson rate design and rebalancing*

The Panel approves FEI's rate design and rebalancing requests and related proposed amendments to the FEI Rate Schedules for the Fort Nelson Service area including FEI's proposal to unbundle rates and to move to a flat rate structure. The Panel is persuaded unbundled rates will result in an improvement in transparency regarding the different bill components that will ultimately help customers to better understand their gas consumption and enable conservation and efficiency. The change to a flat rate structure is supported by a number of rate design principles and considerations including improved customer understanding, simplified administration, price signals that encourage efficiency and consistency with other jurisdictions.

The Panel approves FEI's rebalancing proposals for the Fort Nelson service area but directs FEI to consider the appropriateness of implementing a mitigation mechanism to address the impact of rate design and rebalancing proposals on Fort Nelson's residential rates in the Fort Nelson's 2019/2020 Revenue Requirements Application.

### *Transportation services review*

For transportation services customers, the Panel approves the implementation of daily balancing for all customers, the amendments to reduce the daily balancing tolerance to a 10 percent threshold and the introduction of an additional daily balancing charge for gas supply shortfalls within a 10 to 20 percent tolerance level for Rate Schedules 22, 22A, 23, 25, 26 and 27. With these amendments, all transportation service customers will be subject to the same balancing rules. These amendments are to be effective in the fourth quarter of 2018 as proposed by FEI with the exception of Rate Schedule 22B which will be effective November 1, 2019.

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<sup>3</sup> Exhibit A2-8, Elenchus response to CEC IR 2.2.

## 1.0 Introduction, background and regulatory process

### 1.1 Introduction

On December 19, 2016, FortisBC Energy Inc. (FEI) filed its 2016 Rate Design Application (RDA) with the British Columbia Utilities Commission (the BCUC) pursuant to sections 58 to 61 of the *Utilities Commission Act* (UCA). On February 2, 2017, FEI provided a supplemental filing which included a review of the rate design for its Fort Nelson service area (Fort Nelson). The 2016 RDA is a comprehensive review of the rate design for FEI and Fort Nelson (Application). FEI proposes a number of rate design changes for both FEI and Fort Nelson that are intended to realign rate design with accepted rate design principles and rebalance rates based on separate updated cost of service allocation (COSA) studies for FEI and Fort Nelson.

### 1.2 FEI's rate design history

FEI's current rate design was developed in a two-phase rate design process commencing with the 1991 Phase A Rate Design Application, followed by the 1993 Phase B Rate Design Application. Phase A addressed gas costs, and Phase B addressed the allocation of all utility costs other than gas supply costs, and rate design.<sup>4</sup>

FEI notes that since the 1993 Phase B rate design proceeding, there have been two significant rate design proceedings in 1996 and 2001 which built upon the methodologies established in the 1991 and 1993 proceedings. The review of the 1996 BC Gas<sup>5</sup> rate design application, which included a COSA study and concluded with a negotiated settlement agreement (NSA) following a negotiated settlement process (NSP). The NSA was approved by the BCUC through Order G-98-96.<sup>6</sup> In 2001, BC Gas filed a rate design application which included a COSA study. The BCUC retained an independent rate design consultant, EES Consulting, to review the 2001 COSA study. The EES Consulting report was circulated to proceeding participants, which was followed by two rounds of information requests, a workshop and then an NSP. The resulting negotiated settlement document was approved through Order G-116-01.<sup>7</sup>

In 2012, the FortisBC Energy Utilities<sup>8</sup> submitted the 2012 Common Rates, Amalgamation and Rate Design Application to the BCUC for the approvals necessary to amalgamate with one another and with Terasen Gas Holdings Inc., and to implement common or "postage stamp" rates throughout the amalgamated entity's combined service area.<sup>9</sup> In support of the 2012 Common Rates, Amalgamation and Rate Design Application, FEI conducted a COSA study that combined each of FEI's utilities into an amalgamated entity and produced postage-stamp delivery, midstream, and commodity rates. Following the BCUC's denial of the application, a Reconsideration process was established and new evidence was accepted. Through Order G-21-14, the BCUC approved FEI's Reconsideration and Variance application with conditions.<sup>10</sup> The BCUC determined that FEI could

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<sup>4</sup> Exhibit B-1, p. 3-10 ;The BCUC addressed the Phase A and Phase B applications through Order G-22-92, dated February 21, 1992 and Order G-101-93, dated October 25, 1993, respectively.

<sup>5</sup> FEI's predecessor.

<sup>6</sup> Exhibit B-1, pp. 3-11 – 3-12.

<sup>7</sup> Ibid., p. 3-13.

<sup>8</sup> Composed of FortisBC Energy Inc., FortisBC Energy (Vancouver Island) Inc., and FortisBC (Whistler) Inc.

<sup>9</sup> In the matter of FortisBC Energy Utilities 2012 Common Rates, Amalgamation and Rate Design Application, Order G-26-13 and Decision dated February 20, 2013, p. 1.

<sup>10</sup> Exhibit B-1-5, p. 3-16.



adopt common rates for the amalgamated entity, subject to the consent of the Lieutenant Governor in Council (which was obtained by Order in Council (OIC) No. 300 dated May 23, 2014) and subject to confirmation that the amalgamation had been effected. The BCUC directed FEI to file a comprehensive rate design application for the amalgamated entity no later than two years after the effective date of amalgamation. FEI filed this Application pursuant to that directive.<sup>11</sup>

### 1.3 Regulatory process

The following parties registered to participate as interveners in the proceeding:

- British Columbia Hydro and Power Authority (BC Hydro);
- Access Gas Services Inc. (Access Gas);
- BC Public Interest Advocacy Centre, representing British Columbia Old Age Pensioners' Organization *et al.* (BCOAPO);
- Catalyst Paper Corporation (Catalyst Paper);
- Shell Energy North America (Canada) Inc. (Shell);
- Commercial Energy Consumers Association of British Columbia (CEC);
- Direct Energy Marketing Ltd. (Direct Energy);
- B.C. Sustainable Energy Association and Sierra Club of B.C. (BCSEA);
- Industrial Customer Group (ICG);
- Fort Nelson & District Chamber of Commerce (FNDCC);
- Nicholas Marty;
- Absolute Energy Inc. (Absolute); and
- Cascadia Energy Ltd. (Cascadia).

On February 21, 2017, the BCUC issued a letter (Exhibit A-4) explaining that BCUC staff retained an independent consultant, Elenchus Research Associates Inc. (Elenchus), to produce two independent reports, a COSA Report and a Rate Design Report, which would form part of the evidentiary record and be subject to information requests. Elenchus filed its COSA Report on April 26, 2017<sup>12</sup> and its Rate Design Report on June 23, 2017.<sup>13</sup>

The Application was broken down into three key areas, each of which was addressed separately. The key areas are as follows:

1. The COSA studies, the revenue to cost (R:C) ratios and the corresponding range of reasonableness;
2. FEI's Transportation Service Review (Chapter 10 in the Application); and
3. The rate design proposals and remaining topics.

The review process<sup>14</sup> for the Application included:

- Written information requests to FEI;
- Written information requests to Elenchus on their independent consultant reports;
- A Streamlined Review Process (SRP) followed by written arguments on COSA and R:C ratios;

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<sup>11</sup> Exhibit B-1, pp. 3-15 – 3-16.

<sup>12</sup> Exhibit A2-2.

<sup>13</sup> Exhibit A2-10.

<sup>14</sup> The list of the regulatory timetables are included as Appendix C to this Decision.

- Order G-4-18 and Reasons for Decision on FEI’s proposed COSA and R:C ratios (COSA and R:C Ratios Decision), dated January 9, 2018;
- An SRP followed by oral arguments on the Transportation Service Review;
- Written information requests to FEI on the updated Application following G-4-18 and certain key issues; and
- Written arguments on the rate design proposals and remaining topics.

The SRP on the COSA and R:C ratios included the opportunity for participants to question Elenchus FEI and its expert, EES Consulting. No evidence was filed by any intervener during the proceeding. At the SRP for the Transportation Service Review, the Panel indicated that its decision on the Transportation Service Review would be included as part of this overall Decision on the Application.<sup>15</sup>

On February 6, 2018, FEI filed updates to the Application in response to the findings and directives in the COSA and R:C Ratios Decision.

## **2.0 Context for the rate design decision**

The Panel’s review of FEI’s rate design proposals considers (1) the legal framework as set out in sections 58 to 61 of the UCA; (2) accepted rate design principles; and (3) government policy. This context is discussed in the next subsections.

### **2.1 Legal framework**

Sections 58 to 61 of the UCA set the legal framework for the Panel’s consideration of the appropriateness of FEI’s rate design proposals. FEI’s brief synopsis of these sections is as follows:

- Section 58 of the UCA addresses the situations in which the Commission may order amendment of rate schedules. It states that the Commission may (on its own motion or through a complaint by a public utility or other interested person) after a hearing determine the just, reasonable and sufficient rates to be observed and in force.
- Section 59 of the UCA addresses the issue of rate discrimination. It states that a public utility must not make, demand or receive “an unjust, unreasonable, unduly discriminatory or unduly preferential rate for a service provided by it.” Section 59 of the UCA also provides that a rate is “unjust” or “unreasonable” if the rate is: (a) more than a fair and reasonable charge for service of the nature and quality provided by the utility; (b) insufficient to yield a fair and reasonable compensation for the service provided by the utility, or a fair and reasonable return on the appraised value of its property; or (c) unjust and unreasonable for any other reason.
- Section 60 of the UCA provides broad rate-setting guidelines for the Commission to consider when determining rates. In setting a rate, the Commission must consider all matters that it considers to be proper and relevant affecting the rate. The Commission must have due regard to the setting of a rate that is not “unjust” and “unreasonable” within the meaning of section 59, provides the utility a fair and reasonable return on any expenditure made by it to reduce energy demands, and encourages public utilities to increase efficiency, reduce costs and enhance performance.

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<sup>15</sup> FEI SRP Transcript Vol. 7, p. 820.

- Section 60(b.1) of the UCA gives discretion to the Commission to “use any mechanism, formula or other method of setting the rate that it considers advisable, and may order that the rate derived from such a mechanism, formula or other method is to remain in effect for a specified period.”
- Section 60(c) of the UCA provides general guidelines for utilities with more than one class of service and states that the Commission must: (i) segregate the various kinds of service into distinct classes of service; (ii) in setting a rate to be charged for the particular service provided, consider each distinct class of service as self-contained unit; and (iii) set a rate for each unit that it considers to be just and reasonable for that unit, without regard to the rates set for any other unit.
- Section 61 of the UCA requires a public utility to file rate schedules with the Commission, to receive the Commission’s approval before rescinding or amending a schedule and to charge only those rates that are in accordance with the filed schedules.<sup>16</sup>

## 2.2 Rate design principles

The Panel is also guided by the rate design principles identified by Dr. James C. Bonbright. These principles are outlined by FEI in the Application and are also discussed by Elenchus in its COSA Report<sup>17</sup> and EES Consulting, FEI’s rate design expert, in its Natural Gas Cost of Service and Rate Review.<sup>18</sup>

FEI outlines that it uses Dr. Bonbright’s principles to identify issues with the current design and to select rate design solutions. FEI states the principles adopted for its rate design are as articulated by the BCUC in a previous BC Hydro Decision and include:

- Principle 1: Recovering the Cost of Service; the aggregate of all customer rates and revenues must be sufficient to recover the utility’s total cost of service.
- Principle 2: Fair apportionment of costs among customers (appropriate cost recovery should be reflected in rates).
- Principle 3: Price signals that encourage efficient use and discourage inefficient use.
- Principle 4: Customer understanding and acceptance.
- Principle 5: Practical and cost-effective to implement (sustainable and meet long-term objectives).
- Principle 6: Rate stability (customer rate impact should be managed).
- Principle 7: Revenue stability.
- Principle 8: Avoidance of undue discrimination (interclass equity must be enhanced and maintained).<sup>19</sup>

Elenchus notes that FEI’s eight principles “cover the same areas as the Bonbright principles.”<sup>20</sup>

FEI states that it does not apply these eight principles “in any priority or with any particular weighting.”<sup>21</sup> FEI elaborates that rate design is a complex balancing process of weighing multiple and sometimes conflicting

<sup>16</sup> Exhibit B-1-5, pp. 5-1 – 5.2.

<sup>17</sup> Exhibit A2-2, Elenchus - COSA-Report, pp. 6–8.

<sup>18</sup> Exhibit B-1, Appendix 6-1, p. 2.

<sup>19</sup> Exhibit B-1-5, p. 5-2.

<sup>20</sup> Exhibit A2-2, p. 9.

<sup>21</sup> Exhibit B-1-5, p. 5-3.

principles as well as considering the viewpoints from various stakeholders. FEI explains that different rate design principles may have varying levels of importance in different contexts and this requires the application of experience and judgment to consider and balance the most relevant principles in a given context. FEI states that “rate design should strive to strike a balance among competing rate design principles based on specific characteristics of customers in each rate schedule.”<sup>22</sup>

### 2.3 Government policy

The Panel notes government has established energy policy objectives related to energy efficiency, greenhouse gas reduction and economic development, among other things, and these policies may impact its rate design decision.

FEI submits in its rate design proposals, it has considered government policy as reflected in published government energy policy documents, and the legislation and regulations implementing those policies.<sup>23</sup> FEI identifies the implementation of the provincial government’s climate action and energy policies as a major development since its 2001 rate design proceeding. FEI states the overall thrust of these policies for FEI is twofold: (i) to promote energy efficiency and conservation through demand side and tax measures to curb greenhouse gas (GHG) emissions; and (ii) to promote the role of natural gas in the transportation sector.<sup>24</sup>

BCSEA submits a different view of the overall thrust of these policy developments as a requirement for “substantial reductions in the GHG emissions caused by the end use of natural gas by FEI customers, by the delivery of natural gas by FEI, and by the upstream production of natural gas sourced by FEI.”<sup>25</sup>

In addition, FEI submits another significant policy impacting rate design is the government’s continuing support for postage stamp rates.<sup>26</sup> Catalyst Paper raises issues with FEI’s postage stamp rates for industrial customers which are addressed in subsection 6.4 of this decision.

### **BCUC determination**

The Panel finds that FEI, Elenchus and interveners are generally aligned with respect to following a principled approach for the development and approval of rate design proposals. This approach is consistent with industry practice which is outlined in Elenchus’ statement:

It is generally accepted by regulators and regulated utilities that any utility’s cost of service allocation methodology and approach to rate design should be based on a set of clearly enunciated principles. These principles then guide the work that is undertaken to allocate assets and expenses to customer groups appropriately and establish rates that recover those costs from customers in a manner that is consistent with the principles. The most commonly used reference for defining the objectives in utilities’ cost of service allocation and rate design is the seminal work of James Bonbright.<sup>27</sup>

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<sup>22</sup> Exhibit B-1-5, pp. 5-2 – 5-3.

<sup>23</sup> Ibid., p. 5-3.

<sup>24</sup> Ibid.

<sup>25</sup> BCSEA Final Argument, para. 14.

<sup>26</sup> Exhibit B 1-1-5, p. 5-7.

<sup>27</sup> Exhibit A2-2, Elenchus - COSA-Report, p. 6.

Further, the Panel finds the application of these principles should also be considered within the context of the legal framework and government policies.

The Panel agrees with FEI that different rate design principles may vary in importance in different circumstances. The relevance and weight given to principles will vary with the circumstances and context of a specific rate design proposal. Further, the Panel acknowledges Elenchus' statement:

It is inevitable that in applying these principles, conflicts arise in trying to apply all of the principles simultaneously. An allocation that is more equitable may well compromise economic efficiency or simplicity. Determining the optimal trade-offs between the principles in developing rates therefore requires judgment. For this reason, cost of service allocation and rate design are often referred to as being as much art as science.<sup>28</sup>

### 3.0 COSA and R:C Ratios Decision

On January 9, 2018, the BCUC issued Order G-4-18 and Reasons for Decision on FEI's proposed COSA and revenue to cost ratios (COSA and R:C Ratios Decision). The COSA and R:C Ratios Decision addressed the following two key topics in the Application (Two Key Topics) that were identified by the BCUC for early resolution through the SRP:

1. The COSA studies; and
2. Consideration of the use of the revenue to cost (R:C) ratio or margin to cost (M:C) ratio, or a combination of both, as a guide to rate design and the corresponding range of reasonableness of the selected ratio(s).<sup>29</sup>

Key findings in the COSA and R:C Ratios Decision were as follows:

- FEI's COSA methodology generally follows standard practice, which both EES Consulting, FEI's expert, and Elenchus view as being reasonable and acceptable for setting just and reasonable rates;<sup>30</sup>
- The Fort Nelson COSA methodology generally follows standard practice which both EES Consulting and Elenchus view as being reasonable and acceptable for setting just and reasonable rates;<sup>31</sup> and
- The R:C ratio should be used to inform rate design and rate rebalancing proposals.<sup>32</sup>

In addition to these findings, the BCUC directed FEI to:

- Use an R:C ratio range of reasonableness of 95 percent to 105 percent to inform rate design and rebalancing proposals in the Application;
- File updates to the Application in response to the findings and directives in COSA and R:C Ratios Decision, in accordance with the subsequent procedural order (Order G-5-18);<sup>33</sup>
- Determine a load factor for cost allocation which best reflects the cost to serve Fort Nelson Rate Schedule 25.<sup>34</sup>

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<sup>28</sup> Exhibit A2-2, Elenchus - COSA-Report, p. 6.

<sup>29</sup> COSA and R:C Ratios Decision, p. 3.

<sup>30</sup> Ibid., p. 11.

<sup>31</sup> Ibid., p. 20.

<sup>32</sup> Ibid., p. 25.

<sup>33</sup> Ibid., p. 35.

<sup>34</sup> Ibid., p. 21.

- File a comprehensive and updated COSA study for each of FEI and Fort Nelson for review by the Commission five years after the release of the final decision in this Application.<sup>35</sup>
- Present both the R:C and M:C ratios for each rate schedule in the next COSA study filing and rate design application.<sup>36</sup>

A copy of the COSA and R:C Ratios Decision is included in Appendix D of this decision.

## 4.0 FEI residential rate design

FEI's residential customers are served under Rate Schedule (RS) 1<sup>37</sup> and include single family residences, and separately metered single family townhouses, row houses, and apartments. Based on the 2016 Annual Review, the average number of residential customers was 886,652, which represented 91 percent of FEI's total number of customers, while the annual consumption of 72.5 petajoules (PJ) represented 35 percent of FEI's total throughput.<sup>38</sup>

### 4.1 Approvals sought by FEI

FEI proposes the continuation of the current flat rate structure for RS 1 with a fixed Basic Charge and a flat volumetric Delivery Charge.<sup>39</sup> FEI states the flat rates are simple to administer, easy to understand, provide rate stability and are preferred by the majority of customers. FEI also notes the flat rate structure is used by the majority of Canadian natural gas customers for their residential customers.<sup>40</sup>

For RS 1, FEI requests approval of a 5 percent increase to the Basic Charge per day by increasing the Basic Charge per day by \$0.0195 from \$0.3890 to \$0.4085 with a corresponding reduction in the Delivery Charge per gigajoules (GJ) of \$0.086 such that the change is revenue neutral within RS 1.<sup>41</sup>

No interveners disagree with the continuation of the flat rate structure. Intervenors have differing views with respect to FEI's proposal to adjust the Basic Charge by 5 percent.

In subsection 4.2 below, the Panel presents the positions of the parties including FEI's reply and other evidence related to the proposed adjustment to the Basic Charge. The Panel's overall determination on FEI's rate design proposals for RS 1 follows this analysis.

### 4.2 Adjustment to the Basic Charge

FEI proposes a one-time 5 percent increase in the Basic Charge and a corresponding decrease in the volumetric Delivery Charge, the effect of which will be revenue neutral for RS 1 customers.

<sup>35</sup> COSA and R:C Ratios Decision, p. 22.

<sup>36</sup> Ibid., p. 25.

<sup>37</sup> Including RS 1, RS 1U, RS 1X and RS 1B. "1" means FEI supplies the commodity; "U" means customers purchase their natural gas from a licensed natural gas marketer; "X" means the rate schedule used by FEI to serve a customer of a gas marketer in the event of a marketer failure; and "B" represents customers that purchase gas from FEI with a portion of that gas being biomethane and the balance being conventional natural gas. (Exhibit B-1-5, p. 1-6, Footnote 4).

<sup>38</sup> Exhibit B-1-5, p. 7-2.

<sup>39</sup> Ibid., p. 7-22.

<sup>40</sup> Ibid., p. 7-1.

<sup>41</sup> Ibid., p. 2-3.

FEI considers the following principles in its review of residential rate design:

- Ease of understanding;
- Rate and revenue stability;
- Inter rate schedule fairness in that RS 1 customers should pay their fair share based on cost causation when compared to other rate schedules;
- Intra rate schedule fairness so that lower volume customers pay their fair share of costs when compared to higher volume customers. FEI further notes that “intra-rate fairness may also refer to finding the right balance between fixed and volumetric charges so that customers with varying load characteristics pay for their fair share of costs.”<sup>42</sup>

FEI states under the current residential rate structure, the basic charge of \$11.84 (when calculated as the average fixed monthly amount) recovers about 44 percent of the customer costs and only about 27 percent of the total of customer and demand costs allocated to the residential rate schedule. FEI notes its “revenue is largely dependent on consumption even though the bulk of the costs associated with the system are fixed in nature.”<sup>43</sup> FEI further states “by holding the Basic Charge constant, higher use customers are bearing a greater share of the delivery revenue requirement increases.” FEI explains that pursuant to rate design Principle 2, fair apportionment of costs among customers, an increase in the Basic Charge is desirable. However, FEI also states other rate design considerations including consideration of government policy and bill impacts suggest any increase in the Basic Charge should be moderated.<sup>44</sup>

FEI explains the impact on residential customers as follows:<sup>45</sup>

The annual consumption at which customers would experience no bill impact due to changes in the Basic Charge and the volumetric Delivery Charge is within the 80 to 85GJ range (the average of the rate schedule). Customers with consumption above this range will experience a decrease of 0.04% to 0.64% in their annual bill amounts. Customers with consumption below this range will experience an increase of 0.06% to 5.0% in their annual bills depending on their consumption level.<sup>46</sup>

FE states lower use customers “will experience a slightly higher bill impact (ranging from approximately \$5 to \$7 annually depending on the level of annual consumption)”<sup>47</sup> Overall, the annual bill impact for the majority of customers will vary between +/-1% from current levels.<sup>48</sup>

FEI states that the proposed volumetric Delivery Charge decrease required to offset the one-time increase to the Basic Charge will not discourage customers from engaging in energy efficiency activities and programs.<sup>49</sup>

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<sup>42</sup> Exhibit B-1-5, p. 7-9.

<sup>43</sup> Ibid., p. 7-17.

<sup>44</sup> Ibid., p. 7-18.

<sup>45</sup> Ibid., p. 7-23.

<sup>46</sup> Ibid., p. 7-23.

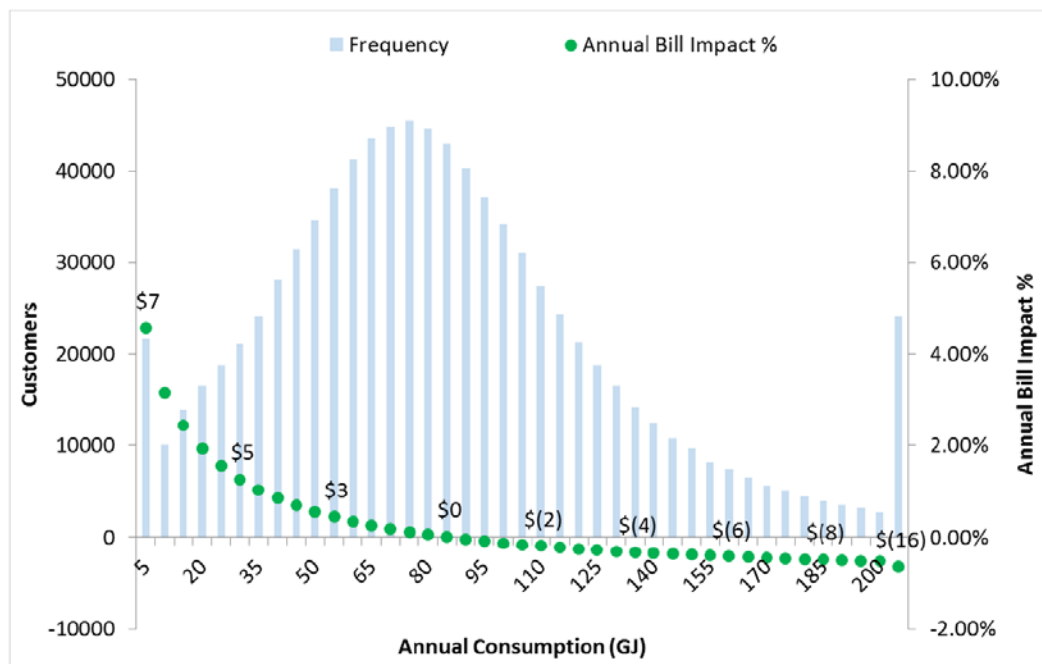
<sup>47</sup> Ibid. p. 7-23.

<sup>48</sup> Exhibit B-1-5, p. 7-16.

<sup>49</sup> Ibid., p. 7-16.

The following table summarizes the bill impact, numbers of customers affected and their average consumption:

**Figure 4-1: Customer Bill Impact<sup>50</sup>**



FEI states the bill impact for low income customers from the recommended increase in the Basic Charge does not impact those customers disproportionately and even though low use customers are more negatively impacted by FEI’s proposal, low income customers are not necessarily low use customers.<sup>51</sup>

### *Intervener arguments*

BCSEA does not oppose FEI’s proposed increase in the Basic Charge and states it would not “significantly diminish the price signal given by the volumetric charge.”<sup>52</sup>

CEC submits that a 15 percent increase in the Basic Charge is preferable to a 5 percent increase.<sup>53</sup> CEC argues that “continually flowing rates into volumetric charges when fixed costs are not recovered by fixed charges results in increasing unfairness to high volume customers.”<sup>54</sup> CEC points out that even an increase in the Basic Charge of 15 percent would recover only 31 percent of the customer and demand related fixed costs.<sup>55</sup> CEC states with a 15 percent increase to the Basic Charge:

- Only 3.5 percent of FEI’s customers would experience a total bill increase of over 10 percent;
- The maximum bill increase would be less than \$2 per month; and
- Customers with average consumption of 80-85 GJ/year would be unaffected.<sup>56</sup>

<sup>50</sup> Exhibit B-1-5, Table 7-11, p. 7-24.

<sup>51</sup> Ibid., p. 7-25.

<sup>52</sup> BCSEA Final Argument, p. 6.

<sup>53</sup> CEC Final Argument, para. 30, p. 7.

<sup>54</sup> Ibid., para. 26, p. 6.

<sup>55</sup> Ibid., para. 22, p. 5.

<sup>56</sup> Ibid., para. 14, p. 4.



CEC notes that both FEI and Elenchus agree that larger percentage increases in fixed charges may not result in rate shock,<sup>57</sup> and CEC does not agree that bill increases of under \$2 per month would likely result in lost customers.<sup>58</sup>

CEC also recommends that the BCUC direct that future rate increases are applied to the Basic Charge as well as to the volumetric charges.<sup>59</sup>

BCOAPO opposes an increase in the fixed component with an associated decrease in the variable component because it runs counter to BC's energy efficiency policies. BCOAPO also submits it is unclear that the proposed rate structure will improve intra-rate class fairness, noting:

...FEI relies primarily on the argument that the proposed change will improve intra-rate class fairness. However, it is not clear that is necessarily the case. In speaking to its own analysis of RS 1 load factors which found statistically low correlation and high variation in the relationship between volume consumption and load factor.<sup>60</sup>

BCOAPO further submits that if FEI will recover more of its costs through a fixed charge this will reduce FEI's volume or load forecast risk. BCOAPO argues that this proposal is being made without any proposal to adjust the return on equity embedded in the current cost of service. BCOAPO concludes that any change in cost recovery from variable to fixed rates should be made in conjunction with adjustments to the allowed returns embedded in rates.<sup>61</sup>

### *FEI reply argument*

FEI rejects CEC's proposed 15 percent increase to the Basic Charge, stating that CEC is the only proponent such an increase in the Basic Charge. FEI submits CEC's proposal does not provide an appropriate balance of rate design principles due to the adverse impact on low volume customers which could result in low volume customers leaving the system; thereby resulting in lost revenues and an impact on conservation price signals that are contrary to government policies in favour of energy efficiency and conservation.<sup>62</sup>

FEI further submits that concern for the impact on low volume customers reflects common industry practice as stated by Elenchus:

...it is common for utilities to also recover some portion of customer-related costs through the volumetric charge, presumably with the rationale that the volumetric charge is a proxy for the value of service to customers. Maintaining a low fixed basic monthly charge also serves to maintain customer connections even for customers with low demand.<sup>63</sup>

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<sup>57</sup> CEC Final Argument, para. 16, p. 5.

<sup>58</sup> Ibid., para. 18, p. 5.

<sup>59</sup> Ibid., para. 34, p. 7.

<sup>60</sup> BCOAPO Final Argument, p. 11.

<sup>61</sup> Ibid., p. 13.

<sup>62</sup> FEI Reply Argument, pp. 5-6.

<sup>63</sup> Ibid., p. 5.

In response to BCOAPO, FEI states load factor has no impact on customer related costs and elaborates that “the intra-rate schedule fairness which would be improved by increasing the Basic Charge is between low and high consumption customers, not low and high load factor customers.”<sup>64</sup>

FEI disagrees with BCOAPO that “changing the mix of fixed and variable charges needs to be done in conjunction with a determination on the utility’s allowed return on equity.”<sup>65</sup> FEI states that “...rate design decisions have been made independently of cost of capital proceedings.”<sup>66</sup>

### **BCUC determination**

**The Panel approves FEI’s requests for RS1, 1B, 1U, and 1X to increase the Basic Charge per day by \$0.0195 from \$0.3890 to \$0.4085 and to decrease the Delivery Charge per GJ by \$0.086 to maintain revenue neutrality with the Basic Charge increase.**

**The Panel denies CEC’s proposal to increase the Basic Charge by 15 percent.**

The Panel finds FEI’s residential rate design proposals to be just, reasonable and not unduly discriminatory and to reflect a reasonable balance of rate design principles. FEI’s proposed continuation of the current flat rate structure for RS 1 is appropriate in the context of considering rate design principles since it is administratively simple, understandable and preferred by the majority of customers and it provides rate stability. Further, the flat rate structure is used by the majority of Canadian natural gas utilities for their residential customers.

The Panel finds that a one-time 5 percent increase to the Basic Charge offset by a reduction in the volumetric Delivery Charge addresses cost causation and fairness among residential customers while considering rate impacts, retention of low volume customers and provincial energy objectives.

The Panel finds the overall annual bill impact for majority of customers of between +/-1 percent to be acceptable and a reasonable balance of cost causation with rate and revenue stability considerations compared to CEC’s proposal which would impact 3.5 percent of FEI’s residential customers by more than 10 percent. Further, FEI’s concern for low use customers is supported by industry practice based on evidence provided by Elenchus.<sup>67</sup>

The Panel agrees with BCSEA and finds that FEI’s proposed increase in the Basic Charge does not significantly impact the price signal given by the volumetric charge and the resulting Demand Charge remains consistent with government policies in favour of energy efficiency and conservation.

The Panel disagrees with CEC’s recommendation that future rate increases be made to the Basic Charge as sufficient evidence to support this proposal was not presented in this proceeding.

With respect to BCOAPO’s comments related to allowed return on equity, the Panel agrees with FEI that return on equity is not a rate design consideration. Typically rate design and rebalancing and allowed rate of return have been decided by the BCUC in separate proceedings. In the Panel’s view, rate design and rebalancing

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<sup>64</sup> Ibid., p. 3.

<sup>65</sup> FEI Reply Argument, p.4.

<sup>66</sup> Ibid., p. 4.

<sup>67</sup> Exhibit A2-10, Elenchus Rate Design Report, pp. 10–11.

addresses the proper allocation and recovery of a utility's cost of service from the different rate schedules whereas determination of the utility's common equity component and fair return on equity addresses the risk of the utility and its opportunity to earn a fair rate of return.

## **5.0 FEI commercial rate design**

FEI's commercial customers are segmented into three rate schedules:<sup>68</sup>

- RS 2 (small commercial sales service)<sup>69</sup> with normal annual consumption less than 2,000 GJ;
- RS 3 (large commercial sales service)<sup>70</sup> with normal annual consumption 2,000 GJ or greater; and
- RS 23 (commercial transportation service) with normal annual consumption 2,000 GJ or greater.

Based on the 2016 Annual Review, the average number of total commercial customers was 91,446, which represented 9.3 percent of FEI's total number of customers, while the annual consumption of 55.1 PJ represented 26.5 percent of FEI's total throughput.<sup>71</sup>

### **5.1 Approvals sought by FEI**

FEI states it conducted a full review of the rate design for commercial customers taking service under RS 2, RS 3 and RS 23 and its review was guided by a principled approach, data analysis, jurisdictional comparisons and feedback from the stakeholder engagement process. FEI analyzed its existing rate design, considered the potential rate structure options for commercial customers (i.e., flat, declining or inclining block), customer segmentation, fixed and volumetric charges and intra-class rate economics.

FEI's multi-jurisdictional review of commercial customers shows the existing flat rate structure and customer segmentation are consistent with other jurisdictions.<sup>72</sup> FEI proposes to continue with the existing flat rate structure with a minor adjustment to the customer segmentation threshold for its commercial customers in RS 2 and RS 3/RS 23. FEI believes that the rates for RS 2 and RS 3/RS 23 need minor adjustments to minimize a rate inequity for customers near the 2,000 GJ threshold. FEI proposes to increase the Basic Charges for RS 2, RS 3 and RS 23; to reduce the Delivery Charge of RS 2; and to increase the Delivery Charge of RS 3 and RS 23 in order to eliminate the customer bill differential for customers whose annual consumption is close to the 2,000 GJ threshold.<sup>73</sup>

CEC and BCSEA support FEI's commercial rate design proposals<sup>74,75</sup> and BCOAPO has no objections to the rate design restructuring proposed.<sup>76</sup>

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<sup>68</sup> Exhibit B-1-5, pp. 8-1 – 8-2.

<sup>69</sup> Includes RS 2, RS 2U, RS 2X and RS 2B.

<sup>70</sup> Includes RS 3, RS 3U, RS 3X and RS 3B.

<sup>71</sup> Exhibit B-1-5, p. 8-3.

<sup>72</sup> Ibid., p. 8-7.

<sup>73</sup> Ibid., p. 8-1.

<sup>74</sup> CEC Final Argument, p. 13.

<sup>75</sup> BCSEA Final Argument, p. 7.

<sup>76</sup> BCOAPO Final Argument, p. 13.

The Panel’s analysis of FEI’s proposal to correct a misalignment between the 2000 GJ threshold and the economic crossover point and the Panel’s overall determination on FEI’s commercial rate design proposals are set out in the next subsection.

## 5.2 Misalignment between RS 2 and RS 3

FEI describes the economic crossover point between RS 2 and RS 3 as the annual volume at which a customer would have the same annual total cost whether served under either RS 2 or RS 3.<sup>77</sup> FEI states that RS 2 and RS 3 should be aligned so that the economic crossover point occurs at the threshold between RS 2 and RS 3 of 2,000 GJ as outlined in the tariff.<sup>78</sup> Based on 2016 rates, FEI calculates the economic crossover between RS 2 and RS 3 to be an annual consumption level of 1,457 GJ/year.<sup>79</sup> Figure 8-11 in the Application shows that between the annual consumption levels of 1,457 GJ and 2,000 GJ the effective rate in \$/GJ is less for a customer under RS 3 rates, despite the 2,000 GJ threshold differentiating RS 2 and RS 3 being established in the tariff.<sup>80</sup>

FEI submits that the misalignment in the existing rate schedules provide inappropriate price signals for small commercial customers consuming between 1,400 GJ and the 2,000 GJ threshold and gives an incentive to customers on RS 2 to consume more energy so they can move above the 2,000 GJ threshold to achieve a lower rate and bill. FEI states this misalignment may also cause rate instability for customers and the utility if year-to-year fluctuations in annual demand occasionally cause customers to move back and forth between these rate schedules.<sup>81</sup>

RS 3 and RS 23 have the same Basic Charge per day and the same Delivery Charge per GJ.<sup>82</sup> FEI’s proposed changes to commercial rates are presented below.<sup>83</sup>

**Table 5-1: FEI’s Proposed Changes to Commercial Rates<sup>84</sup>**

Rate Schedule	COSA <sup>138</sup> Based Rate	Proposed Rate	Proposed Change
<b><i>RS 2 – Small Commercial</i></b>			
Basic Charge (daily)	\$0.8161	\$0.9485	\$0.1324 or 16.2%
Delivery Charge (\$/GJ)	\$3.850	\$3.664	\$-0.186 or -4.8%
<b><i>RS 3/23 – Large Commercial</i></b>			
Basic Charge (daily)	\$4.3538	\$4.7895	\$0.4357 or 10.0%
Delivery Charge (\$/GJ)	\$3.188	\$3.189	\$0.001 or 0.03%

FEI’s proposals for RS 2, RS 3 and RS 23 are designed to achieve revenue neutrality for the commercial rate schedules, and eliminate the customer bill differential between small and large commercial customers whose

<sup>77</sup> Exhibit B-1-5, p. 8-11.

<sup>78</sup> Ibid., p. 8-12.

<sup>79</sup> Exhibit B-1-5, p. 8-12.

<sup>80</sup> Ibid., Figure 8-11, p. 8-13.

<sup>81</sup> Ibid., p. 8-16.

<sup>82</sup> Ibid., Table 8-1, p. 8-3.

<sup>83</sup> Ibid., p. 8-21.

<sup>84</sup> Ibid., p. 8-21, Table 8-3.

annual consumption is equal to 2,000 GJ.<sup>85</sup> FEI submits that its proposal aligns the economic crossover point with the current 2,000 GJ threshold and does not cause customer disruption or increased movement of customers between the small and large commercial rate schedules. FEI argues its proposal to increase the Basic Charge for RS 2 and RS 3/RS 23 is also supported by the rate design principle of cost causation, and that it is in alignment with the eight Bonbright principles.<sup>86</sup>

Elenchus agrees with FEI's economic crossover point calculation, and agrees with FEI that adjusting the Basic and Delivery Charges for commercial customers instead of moving the threshold outlined in the tariff is the most reasonable rate design option since it will align with the economic crossover point without significant customer disruption.<sup>87</sup>

### *Intervener arguments*

BCSEA agrees with FEI that the misalignment creates three problems: inefficient price signals, rate instability, and revenue instability. BCSEA supports FEI's proposal as a balanced solution that is compatible with the Bonbright principles and submits it would cause less disruption to customers, less potential movement of customers between the two rate classes and lower administration costs to FEI in that it "avoids changing the well established 2,000 GJ/year threshold."<sup>88</sup>

BCOAPO has no objections to FEI's commercial rate design proposals.<sup>89</sup> CEC supports FEI's proposal and submits that the dollar value of the RS bill increases is likely to be reasonable and are acceptable to avoid issues related to inefficient price signals, rate instability and revenue instability.<sup>90</sup>

### *BCUC determination*

**The Panel approves FEI's commercial rate design proposals for:**

- **Rate Schedules 2, 2B, 2U, and 2X to increase the Basic Charge per Day by \$0.1324 from \$0.8161 to \$0.9485 and decrease the Delivery Charge per GJ by \$0.186; and**
- **Rate Schedules 3, 3B, 3U, 3X, and 23 to increase the Basic Charge per Day by \$0.4357 from \$4.3538 to \$4.7895 and increase the Delivery Charge per GJ by \$0.001.**

The Panel finds FEI's commercial rate design proposals to be just, reasonable and not unduly discriminatory and to reflect a reasonable balance of rate design principles. The Panel also notes the interveners acceptance of FEI's commercial rate design proposals.

The Panel agrees with BCSEA that retention of a flat rate is preferable to an inclining block rate given the diversity of the commercial customer class. Based on the evidence provided by FEI, the Panel finds the flat rate structure and FEI's customer segmentation to be consistent with other comparable jurisdictions.

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<sup>85</sup> Ibid., p. 8-21.

<sup>86</sup> FEI Final Argument, pp. 17, 18.

<sup>87</sup> Exhibit A2-11, BCUC IR 12.3, BCUC IR 13.1.

<sup>88</sup> BCSEA Final Argument, p. 7.

<sup>89</sup> BCOAPO Final Argument, p. 13.

<sup>90</sup> CEC Final Argument, p. 12.

With respect to FEI's proposal to correct the misalignment between the 2000 GJ threshold and the economic crossover point by an increase of the Basic Charge for RS 2, RS 3 and RS 23 and an adjustment to the Delivery Charge to achieve revenue neutrality for the combined RS 2, RS 3 and RS 23 revenues, the Panel agrees with FEI and interveners that FEI's proposal is appropriate. The Panel finds the proposed adjustment addresses issues related to price signals that do not promote energy efficiency and conservation, rate and revenue instability and that the proposal will be less disruptive to customers.

## **6.0 FEI industrial rate design**

FEI's industrial customers represent a wide range of industries, end-uses and annual consumption.<sup>91</sup> FEI segments industrial customers into rate schedules according to whether they buy gas from FEI (sales customers) or from third party shipper agents (transportation customers). FEI further segments the sales and transportation customers into whether they require firm gas service, or can accept occasional interruptions to their gas service, or require gas on a firm, but seasonal basis primarily during the summer months. The interruptible service customers are required to either cease their operations during gas service interruptions or arrange for their own backup energy facilities and fuel source.<sup>92</sup> FEI reviewed the rate design for its industrial rate schedules (RS 5/RS 25, RS 7/RS 27, RS 4, RS 22 and large industrial contract customers). FEI's proposals for each of the rate schedules listed above will be addressed in its own section of this decision below.

### **6.1 General firm service**

RS 5 and RS 25 are FEI's General Firm Service rates for sales and transportation customers, respectively. General Firm Service is intended for commercial and small industrial customers and typically includes condominium strata customers and hospitals that use a high proportion of their overall gas demand for water heating needs and commercial customers and small industrial customers who use gas for their processing load.<sup>93</sup>

#### **6.1.1 Estimate of peak day demand**

General Firm Service customers are charged based on a:

- Basic Charge per month;
- Demand Charge per month per GJ of Daily Demand;
- Delivery Charge per GJ; and
- Administrative Charge per month (not applicable to RS 5).

In order to calculate the total Demand Charge, FEI estimates a customer's Daily Demand (also referred to as "peak day demand") through a formulaic calculation. This calculation relies on a 1.25 multiplier to estimate peak day demand from peak monthly demand.<sup>94</sup> FEI states that the "daily consumption figures that are available today for all RS 5 and RS 25 customers show that the current formula overestimates the peak day demand for the majority of RS 5 and RS 25 customers."<sup>95</sup>

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<sup>91</sup> Exhibit B-1-5, pp. 9-1 – 9-5.

<sup>92</sup> Ibid., p. 9-5.

<sup>93</sup> Ibid., p. 9-10.

<sup>94</sup> Ibid., p. 9-9; FEI Final Argument, p. 21.

<sup>95</sup> FEI Final Argument, p. 22.

FEI notes that the current RS 5/RS 25 formula used to estimate a customer's peak day demand was established during the 1996 Rate Design and states that the primary reason why the current multiplier overestimates the peak day demand of customers "is likely that detailed data was not available at the time the multiplier was initially developed."<sup>96</sup> FEI also noted that the number of customers taking service under RS 5 and 25 has tripled since the 1.25 multiplier was adopted and submits that changes in the demand profiles of RS 5 and RS 25 customers may also explain why the 1.25 multiplier is now too high.<sup>97</sup>

After evaluating five options for calculating the peak day demand,<sup>98</sup> FEI proposes to maintain the current formula used to determine the Daily Demand, but to update the multiplier from 1.25 to 1.10.<sup>99</sup>

FEI, in its Final Argument on page 23, lists the five options for calculating peak day demand. In Table 9-10 of FEI's Application, FEI lists the pros and cons of each option.<sup>100</sup> FEI argues that its proposal is superior to the other four alternatives for the reasons summarized below:

- It will update Daily Demand based on actual measured peak daily demand as it takes advantage of actual Daily Demand data that is now available.<sup>101</sup>
- It will minimize anomalous results that could arise in the alternatives. FEI states that the use of individual customer's peak demand as outlined in the alternatives could understate a customer's peak demand due to reduced demand on Sundays, statutory holidays or short term seasonal holidays when some customers would have reduced operations.<sup>102</sup>
- It is easy to understand and implement. FEI submits that its proposal uses the current formula which has been used for many years and is understood by customers and that by maintaining the formula and not requiring daily consumption figures for every customer, new customers to this rate class that do not yet have daily metering can still determine if there is a benefit of moving into the rate class.<sup>103</sup>
- It has the least bill impact.<sup>104</sup>

### **6.1.2 Increase in Demand Charge**

In addition to updating the multiplier for the Daily Demand, FEI proposes to raise the RS 5/RS 25 Demand Charge by \$3.00 per month per GJ of Daily Demand. FEI states that its proposed change to the calculation of the Daily Demand formula in RS 5 and RS 25 and to the charges in commercial RS 3 and RS 23 would result in a change in the economic cross over points between RS 3/RS 23 and RS 5/RS 25 customers.<sup>105</sup> FEI submits that its proposal to adjust the Demand Charge in RS 5/RS 25 is needed to continue to align the economic crossover point so that only high load factor customers will have an economic incentive to take service under RS 5/RS 25, as well as to generate the revenues needed to recover the cost of service.<sup>106</sup>

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<sup>96</sup> Exhibit B-1-5, p. 9-13; FEI Final Argument, p. 22.

<sup>97</sup> FEI Final Argument, p. 22.

<sup>98</sup> Ibid., p. 23.

<sup>99</sup> Exhibit B-1-5, p. 9-9; Final Argument, p. 20.

<sup>100</sup> Ibid., Table 9-10, pp. 9-18 – 9-19.

<sup>101</sup> FEI Final Argument, p. 23.

<sup>102</sup> Ibid., p. 24.

<sup>103</sup> Ibid., p. 24.

<sup>104</sup> Ibid., p. 24.

<sup>105</sup> Ibid., p. 25.

<sup>106</sup> Ibid., p. 25.

FEI submits that the proposed rate changes improve the “incentive for customers who are less than 40 percent load factor to appropriately take service under RS 3 or RS 23.”<sup>107</sup> This would occur due to the increase in the economic crossover point such that there would be relatively few “customers that would have sufficient annual volumes to make taking service under RS 5 or RS 25 economic at a load factor less than 40 percent.”<sup>108</sup>

In order to ensure the appropriate economic incentive for the lower load factor customers to continue to take service under RS 3/RS 23 rather than RS 5/RS 25, FEI considered changing the Basic Charge, changing the Delivery Charge and removing the Demand Charge altogether.<sup>109</sup>

#### Minimum Load Factor Alternative

The alternative of adding a minimum load factor requirement was explored during the proceeding. FEI submits that “[a]dopting a minimum load factor in RS 5 and RS 25 would be redundant, an unnecessary administrative burden and would have negative impacts on customers and FEI. FEI is therefore opposed to this concept.”<sup>110</sup>

FEI argues that customers already have the incentive for a higher load factor through the Demand Charge for RS 5/RS 25 and that the minimum load factor requirement would be redundant and unnecessary.<sup>111</sup> FEI notes that Elenchus agrees with EES Consulting’s analysis that it is not necessary to segment customers even further in the industrial rate group by load factor since the Demand Charge already takes into account differing load factors.<sup>112</sup> FEI lists several disadvantages of using a minimum load factor requirement<sup>113</sup>, some of which have been included below:

- Customers with load factors less than the minimum load factor, but with sufficient annual volume would be harmed if forced to take service under a different service offering that had higher annual charges.<sup>114</sup>
- Customers can be incented to ‘flare’ gas (i.e. use gas unnecessarily or inefficiently) in off-peak period[s] in order to achieve the minimum load factor to compensate for significant restart from a production downturn in an off-peak period for equipment maintenance or other customer economic/business reasons.<sup>115</sup>

FEI further submits that the use of a minimum load factor requirement could require the collection of metered daily demand amounts and ongoing monitoring of whether each customer would still qualify based upon the minimum load factor criterion.<sup>116</sup>

FEI concludes that there “is no reasonable basis” to introduce a minimum load factor requirement for RS 5 / RS 25 and “a minimum load factor would not provide any benefits not already provided by the use of a demand charge, and would have negative impacts on FEI and customers.”<sup>117</sup>

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<sup>107</sup> Ibid., p. 26.

<sup>108</sup> FEI Final Argument, pp. 25-26.

<sup>109</sup> Exhibit B-1-5, pp. 9-21 – 9-22; FEI Final Argument, p. 26.

<sup>110</sup> FEI Final Argument, p. 27.

<sup>111</sup> Ibid., p. 27.

<sup>112</sup> Ibid., p. 27.

<sup>113</sup> Ibid., p. 28.

<sup>114</sup> Ibid., p. 28.

<sup>115</sup> Ibid., p. 28.

<sup>116</sup> Ibid., pp. 28-29.

<sup>117</sup> Ibid., p. 29.



### 6.1.3 Approvals sought by FEI

FEI specifically requests approval to “revise the multiplier in the Daily Demand formula in RS 5 and RS 25 from 1.25 to 1.10 and to increase the Demand Charge in RS 5 and RS 25 by \$3.00/GJ/Month...”<sup>118</sup> FEI submits that the net bill impact of these rate design proposals is an additional \$45.2 thousand which is later offset by revenue shifts to RS 1 in FEI’s rebalancing proposals. FEI does not anticipate any additional migration of customers either into RS 5/RS 25 or out of RS 5/RS 25.<sup>119</sup>

#### *Intervener arguments*

BCSEA supports both of FEI’s proposals for General Firm Service.<sup>120</sup> BCSEA agrees with FEI that the proposed approach to update the multiplier in the Daily Demand formula is “superior to the alternatives.”<sup>121</sup> BCSEA submits that raising the Demand Charge “is a better option than the other options for retaining the incentive for low load factor customers to be on RS 3/23.”<sup>122</sup>

CEC agrees that it is appropriate to amend the Daily Demand calculations but supports another of the five options identified by FEI in the Application. CEC submits that “determining demand based on actual average consumption on the 3 or 5 coldest days for a customer is the potentially a better methodology in that it reflects actual consumption.”<sup>123</sup> CEC recommends that the BCUC “approve a revision to the Demand Charge using average consumption on the 5 coldest days with a change to RS 1 to accommodate the revenue reduction from RS5/25.”<sup>124</sup>

CEC argues that the increase in the Demand Charge as proposed by FEI is unnecessary as the distinction between RS 3/ RS 23 and RS 5/ RS 25 could be maintained through a minimum Load Factor Threshold.<sup>125</sup> CEC notes that FEI does not recommend a minimum load factor, but if one were to be devised then FEI would recommend 40%. CEC also notes that FEI states that annual reviews of customers’ consumption and load factors would need to be undertaken.<sup>126</sup> CEC notes that “607 of 774 customers have a load factor of greater than 50%” and submits that “customers with a greater than 50% load factor could potentially have a lower cost on the utility and 50% could potentially be representative of a natural break between rate classes.”<sup>127</sup>

CEC “recommends that the Commission request FEI to examine the costs and consequences of introducing a minimum load factor of 50% and eliminating or reducing the Demand Charge increase to \$1.00 or lower.”<sup>128</sup>

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<sup>118</sup> FEI Final Argument, p. 30.

<sup>119</sup> FEI Final Argument, p. 29.

<sup>120</sup> BCSEA Final Argument, p. 8.

<sup>121</sup> *Ibid.*, p. 8.

<sup>122</sup> *Ibid.*, p. 9.

<sup>123</sup> CEC Final Argument, pp. 14–15.

<sup>124</sup> *Ibid.*, p. 18.

<sup>125</sup> *Ibid.*, p. 19.

<sup>126</sup> *Ibid.*, p. 19.

<sup>127</sup> *Ibid.*, p. 20.

<sup>128</sup> *Ibid.*, p. 20.

## *FEI reply argument*

### Estimate of peak day demand

FEI addresses CEC's recommendations regarding RS 5/ RS 25.<sup>129</sup> FEI lists the drawbacks of CEC's proposal by stating that:

Anomalous results could occur for customers who may have had consecutive days of reduced demand due to plant outages or reduced demand for holiday season. ... Customers' peak demand would need to be updated annually, with consequent changes to customers' bills. ... A formula would be required for new customers for whom there is no consumption record during the five coldest days. New customers would therefore not know what their bills would look like under RS 5/RS 25 until a consumption record was obtained.<sup>130</sup>

FEI submits that CEC's argument fails to consider that anomalous results would not be representative of a customer's peak demand. FEI further submits that "anomalous results underestimate the cost to serve and therefore result in an unfairly low demand charges" to these customers.<sup>131</sup>

FEI refutes CEC's position that anomalous results could be addressed through the use of a minimum load factor threshold or other ways. FEI notes that customers that meet a minimum load factor threshold could still have anomalous results in any year and that CEC has not identified any other way to address anomalous results.<sup>132</sup>

FEI adds that its proposed formula and multiplier rely on customers' actual data. FEI states that "[a]lthough FEI's proposed multiplier is derived based on actual data for all RS 5/25 customers, the multiplier is applied to individual customers' actual consumption to derive the Daily Demand applicable for each individual customer."<sup>133</sup> FEI submits that CEC's argument does not acknowledge that the Demand Charge as proposed by FEI encourages efficient use of the system.

FEI concludes by acknowledging the conceptual desirability to use each individual customer's actual peak demand, but stating that "the practical reality is that it is difficult to measure and there is no practical way to do so without creating the potential for anomalous results."<sup>134</sup> FEI submits that its proposal to update the multiplier in the Daily Demand formula is preferable to CEC's proposal to use the average use on the five coldest days.<sup>135</sup>

### Increase in the Demand Charge

FEI submits that CEC's recommended use of a minimum load factor of 50 percent should be rejected. FEI references the reasons provided in its Final Argument to support its position.<sup>136</sup> FEI objects to CEC's submission

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<sup>129</sup> FEI Reply Argument, pp. 7–12.

<sup>130</sup> Ibid., p. 7.

<sup>131</sup> Ibid., p. 8.

<sup>132</sup> Ibid., p. 8.

<sup>133</sup> Ibid., p. 9.

<sup>134</sup> Ibid., p. 9.

<sup>135</sup> Ibid., p. 9.

<sup>136</sup> Ibid., p. 10.

that no “cost-causation justification” was given to support FEI’s proposal to increase the Demand Charge.<sup>137</sup> FEI points out that increasing the Demand Charge:

- Maintains the customer segmentation between Large Commercial and General Firm service by aligning the economic crossover point with an annual load of approximately 15,000 GJ with a load factor of 40 percent; and
- Allows RS 5/RS 25 to recover its allocated cost of service.<sup>138</sup>

FEI submits that CEC provides no support for its proposed 50 percent minimum load factor threshold. According to FEI, Large Commercial customers generally have load factors in the mid 30 percent range and General Firm Service customers generally have load factors in the 50 percent to 55 percent range with some occurring in the 40 percent to 50 percent range.<sup>139</sup>

FEI argues that CEC’s proposal is not consistent with the rate design principle regarding the use of price signals to encourage efficient use and discourage inefficient use, and that CEC’s proposals would not align the rates with the customer segmentation threshold.<sup>140</sup> FEI concludes that CEC’s proposal should be rejected.<sup>141</sup>

### **BCUC determination**

**The Panel approves FEI’s proposal to revise the multiplier in the Daily Demand formula in RS 5 and RS 25 from 1.25 to 1.10 and to increase the Demand Charge in RS 5 and RS 25 by \$3.00/GJ/Month.**

The Panel finds FEI’s rate design proposals for RS 5 and RS 25 to be just, reasonable and not unduly discriminatory and to reflect a reasonable balance of rate design principles.

All interveners agree that it is appropriate to update the Daily Demand formula for more current data. The Panel notes that there has been an improvement in detailed consumption data for RS 5/ RS 25 customers since the current peak day demand formula was established during the 1996 Rate Design.<sup>142</sup> The Panel considers that the improved demand data should be utilized to improve the accuracy of the charges meant to recover costs from customers.

The Panel finds that FEI makes a strong case for not supporting CEC’s recommendation to approve a revision to the Demand Charge using average consumption on the 5 coldest days since CEC’s methodology can lead to “anomalous results” and a formula would still be required for new customers without the relevant consumption data. Further, the Panel agrees with FEI that its proposal is easy to understand and administer and notes it has the least impact on rates.

Regarding CEC’s recommendation to request FEI to examine the costs and consequences of introducing a minimum load factor of 50 percent and eliminating or reducing the Demand Charge increase to \$1.00 or lower, the Panel notes FEI’s statement that “the current rate design of RS 5/25 with a demand charge generally

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<sup>137</sup> FEI Reply Argument, p. 10.

<sup>138</sup> Ibid., p. 10.

<sup>139</sup> Ibid., p. 11.

<sup>140</sup> Ibid., p. 12.

<sup>141</sup> Ibid., p. 12.

<sup>142</sup> Exhibit B-5, BCUC IR 14.2, p. 59; Exhibit B-15, BCUC Technical IR 5.1, pp. 10–11.

achieves the same result without a minimum load factor threshold.”<sup>143</sup> The evidence presented shows the disadvantages of using a minimum load factor outweigh the benefits.<sup>144</sup> In the absence of contradictory evidence, the Panel is concerned that CEC’s request will cause unwarranted additional costs.

Further, the Panel considers that a minimum load factor threshold with no demand charge only provides incentive for a customer to achieve up to the specified minimum load factor threshold. Conversely a demand charge incentivizes customers to improve their load factor beyond what would be established as the minimum threshold and so the Panel considers FEI’s proposal to be superior to CEC’s suggestion.

## **6.2 General interruptible service**

RS 7 and RS 27 are FEI’s General Interruptible Service rates for sales and transportation customers, respectively. General Interruptible Service is available to small industrial and large commercial customers who have the ability to curtail their usage during system constraints and have gas consumption of generally less than 12,000 GJ per month.<sup>145</sup> FEI’s ability to curtail these customers “avoids the need for costly system expansions while also improving the overall system utilization in lower demand periods.”<sup>146</sup>

### **6.2.1 Maintenance of discount from firm service**

FEI offers General Interruptible Service at a discount from the General Firm Service rate. FEI states that the existing delivery charges for RS 7/RS 27 are set using the “General Firm Service RS 5/RS 25 Demand Charge based on an 80% load factor, plus the RS 5/RS 25 Delivery Charge.”<sup>147</sup> FEI notes that the existing method has resulted in a consistent discount of approximately 18 percent from the General Firm Service rate.<sup>148</sup> FEI is proposing to update the delivery charges for RS 7/ RS 27 to maintain the same discount for the RS 7/RS 27 customers based on the proposed changes to the General Firm Service rates.<sup>149</sup>

FEI provides several points to support why General Interruptible Service rates are set at a discount to the General Firm Service as well as why the discount should be maintained.<sup>150</sup> Some of these points are highlighted below:

- The economic decision to take firm or interruptible service is dependent on whether the discount from firm is sufficient to compensate for the cost to have an alternate backup system plus fuel or the cost from ceasing operations.<sup>151</sup>
- The price signal needs to be set at the right level to ensure rate and revenue stability for customers and FEI respectively. If the discount is too small, this may discourage new interruptible customers and may also cause existing interruptible customers to migrate to firm service, causing FEI to incur costs to serve a higher peak demand. Conversely if the discount is too large and if the expected level of curtailment is

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<sup>143</sup> Exhibit B-25, CEC IR 2.76.2.

<sup>144</sup> Exhibit B-5, BCUC IR 30.2, pp. 147-148.

<sup>145</sup> Exhibit B-1-5, p. 9-24.

<sup>146</sup> Ibid., p. 9-24.

<sup>147</sup> Ibid., p. 9-25.

<sup>148</sup> FEI Final Argument, p. 30; Exhibit B-1-5, p. 9-25.

<sup>149</sup> Ibid., p. 30; Exhibit B-1-5, p. 9-25.

<sup>150</sup> Ibid., pp. 31-33.

<sup>151</sup> Ibid., pp. 31-32.

very low, this could lead to existing firm customers migrating to interruptible service, which would decrease FEI's revenue but not FEI's fixed costs.<sup>152</sup>

- FEI submits that offering an interruptible service is beneficial to all FEI customers, as it allows the utility to avoid making capital improvements and the associated costs to its system. FEI calculates that the value to all customers of the avoided cost of service from RS 7/RS 27 customers is approximately \$0.04 per GJ, or a net annual benefit of approximately \$5 million.<sup>153</sup>

FEI also notes that Elenchus' analysis supports providing interruptible service at a discount to firm service.<sup>154</sup>

FEI states that in order to preserve the discount between General Firm Service and General Interruptible Service:

- The load factor of 55% currently used in the RS 7/ RS 27 calculation needs to be increased to 62.5%; and
- The firm equivalent to which the RS 7/ RS 27 charge is compared must be increased by the 1.1/1.25 multiplier change. FEI further expands on these changes in its final argument.<sup>155</sup>

FEI concludes that maintaining the existing discount for interruptible service is appropriate as it avoids shifts of customers from firm to interruptible, or vice versa and that movement of existing customers between firm and interruptible service is not favourable.<sup>156</sup>

### 6.2.2 Approval sought by FEI

In order to implement the update to RS 7 and RS 27, FEI is requesting approval to "decrease the Delivery Charge of RS 7 and RS 27 by \$0.012/GJ" to result in an Interruptible Delivery Charge of \$1.443/GJ.<sup>157</sup>

#### *Intervener arguments*

BCSEA and CEC support the objective of maintaining the appropriate discount between the General Interruptible Service rate and the General Firm Service rate. BCSEA takes no issue with FEI's proposals for the RS 7/ RS 27 rates.<sup>158</sup> CEC recommends that the BCUC approve adjustments to the RS 7/ RS 27 rates as necessary to preserve the established discount.<sup>159</sup>

BCOAPO states that "FEI has not completed a thorough enough analysis of the discount of RS5 to RS7. We note that the lost revenue to customers might be as high as \$1.2 million if a more reasonable 10% discount were used instead of the proposed 18.8%."<sup>160</sup> BCOAPO notes that FEI has not conducted a study of the price elasticity of its interruptible customers.<sup>161</sup> BCOAPO argues that FEI "should be required to file a comprehensive study of its interruptible customers to attempt to understand better the value of this service."<sup>162</sup> BCOAPO submits that it is

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<sup>152</sup> FEI Final Argument, pp. 32-33.

<sup>153</sup> Ibid., pp. 32-33.

<sup>154</sup> Ibid., p. 33.

<sup>155</sup> Ibid., p. 34.

<sup>156</sup> Ibid., p. 34.

<sup>157</sup> Ibid., p. 35.

<sup>158</sup> BCSEA Final Argument, p. 10.

<sup>159</sup> CEC Final Argument, p. 22.

<sup>160</sup> BCOAPO Final Argument, p. 18.

<sup>161</sup> Ibid., p. 18.

<sup>162</sup> Ibid., p. 18.

not clear that FEI understands the alternative backup arrangement or the practicality of actually interrupting customers or understanding how customer might operate under conditions of unauthorized overrun.<sup>163</sup>

### *FEI reply argument*

FEI submits that BCOAPO's argument that "FEI could potentially extract more revenue from interruptible customers is without merit."<sup>164</sup> In response to BCOAPO, FEI provides several points, some of which are summarized below:

- Interruptible customers are not receiving firm service at discounted rates. FEI submits that interruptible customers can be interrupted at peak times and FEI plans its system based on the knowledge that it can interrupt RS 7/ RS 27 customers.<sup>165</sup>
- The lack of migration from RS 7 and RS 27 suggests that the discount is not too low, contrary to BCOAPO's claim that the lack of migration argues for a decrease in the discount.<sup>166</sup>
- There has not been continual growth in RS 7 and RS 27 as stated by BCOAPO. FEI notes that there were 103 customers in 2006 and now there are 113 customers with 9 additions attributed to the amalgamation.<sup>167</sup>
- FEI has optimized its use of interruptible rates to cost effectively defer the need for new infrastructure, with the discount being confirmed in multiple BCUC proceedings.<sup>168</sup>
- Studies of price elasticity of interruptible customers are not ordinarily conducted. FEI is unaware of any elasticity study that separates interruptible customers from other industrial customers.<sup>169</sup>

FEI reaffirms its position that the existing discount between General Firm Service and General Interruptible Service should be maintained through the approval of FEI's proposals.<sup>170</sup>

### *BCUC determination*

**The Panel approves FEI's request to decrease the Delivery Charge of RS 7 and RS 27 by \$0.012/GJ.** The Panel finds FEI's rate design proposals for RS 7 and RS 27 to be just, reasonable and not unduly discriminatory and to reflect a reasonable balance of rate design principles.

All interveners support maintaining an appropriate discount between interruptible and firm service. However, BCOAPO raises an issue with the size of the discount and suggests further study is should be undertaken, arguing that 10 percent is more reasonable than the current rate of 18.8 percent. The Panel finds the following points support FEI's proposal to maintain the current discount:

- Elenchus' analysis supports providing interruptible service at a discount to firm service. Elenchus states that "Conceptually, it is reasonable to provide a discount for interruptible service that results in the total annual lost revenue being no more than the annualized costs avoided as a result of the ability to curtail the interruptible customers."<sup>171</sup>

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<sup>163</sup> BCOAPO Final Argument, p. 18.

<sup>164</sup> FEI Reply Argument, p. 12.

<sup>165</sup> Ibid., pp. 12-13.

<sup>166</sup> Ibid., p. 13.

<sup>167</sup> Ibid., p. 13.

<sup>168</sup> Ibid., p. 13.

<sup>169</sup> Ibid., p. 14.

<sup>170</sup> Ibid., p. 14.

<sup>171</sup> Exhibit A2-10, p. 25.

- Offering an interruptible service is beneficial to all FEI customers, as it allows FEI to defer the need for new infrastructure and the associated costs to its system. FEI calculates that the value to all customers of the avoided cost of service from RS 7/RS 27 customers is approximately \$0.04 per GJ, or a net annual benefit of approximately \$5 million;
- Interruptible service is not firm service at a discount. Customers can be interrupted if needed and will either incur cost to for backup systems or experience costs related to interrupted operations. Accordingly, a low discount may discourage new interruptible customers and may also cause existing interruptible customers to migrate to firm service; and
- The interruptible customer base is relatively stable which provides support for the current discount. If the discount was too large and the expected level of curtailment is very low, then there would more firm customers migrating to interruptible service.

BCOAPO provides no evidence to support its recommendation for an elasticity study for interruptible customers and FEI is unaware of any elasticity study that separates interruptible customers from other industrial customers. The Panel is concerned BCOAPO's request to require FEI to file a comprehensive study would cause unwarranted additional costs.

### 6.3 Seasonal firm service

RS 4 serves seasonal customers who typically do not use natural gas during the winter and includes customers such as paving companies with asphalt plants and municipal swimming pools. These customers use gas primarily during the off-peak period from April 1<sup>st</sup> to October 31<sup>st</sup> (Off-Peak Period), while some also use gas in November and March when there is still available capacity and gas. During the coldest months from December through February, seasonal customers do not take gas service.<sup>172</sup>

During the Off-Peak period RS 4 customers receive firm sales service and the Off-Peak period Delivery Charge is derived from the RS 5 Demand Charge converted to a volumetric rate at a 100% load factor, plus the RS 5 Delivery Charge.<sup>173</sup>

From November 1<sup>st</sup> to March 31<sup>st</sup> (Extension Period), Seasonal Firm Service customers receive only interruptible sales service.<sup>174</sup> During this time the RS 4 Delivery Charge is set to the RS 7 (Interruptible Sales) Delivery Charge times 1.5.<sup>175</sup> FEI states that the "rationale for the 1.5 multiplier during the Extension Period is to set the Delivery Charge at a premium to discourage General Interruptible Service customers that are receiving year round service from migrating to the seasonal rate."<sup>176</sup>

FEI states that seasonal customers are not allocated any demand-related costs "as they do not cause demand-related costs to be incurred in order to serve the firm load during the system peak requirements."<sup>177</sup> FEI proposes to continue to use the existing method for determining RS 4 Delivery Charges and notes that no concerns were raised with respect to RS 4 in FEI's stakeholder consultation or during the proceeding.<sup>178</sup>

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<sup>172</sup> Exhibit B-1-5, pp. 9-33 – 9-34.

<sup>173</sup> FEI Final Argument, p. 35.

<sup>174</sup> Exhibit B-1-5, pp. 9-33 – 9-34.

<sup>175</sup> FEI Final Argument, p. 35.

<sup>176</sup> Ibid., p. 36.

<sup>177</sup> FEI Final Argument, p. 36.

<sup>178</sup> Ibid., pp. 36–37.

### 6.3.1 Approvals sought by FEI

FEI is requesting approval to increase RS 4 rates by increasing the Off-Peak Delivery Rate by \$0.114/GJ and by decreasing the Extension Period Rate by \$0.018/GJ. This results in an Off-Peak Delivery Rate of \$1.392 per GJ and a rate in the Extension Period of \$2.165 per GJ and increases the revenues received from RS 4 customers by \$13.3 thousand, or approximately 2 percent.<sup>179</sup> FEI concludes that these changes are required to maintain the appropriate rate design for RS 4 in light of the proposed changes to the RS 5/ RS 25 Demand Charge and the RS 7/ RS 27 Delivery Charge.<sup>180</sup>

BCSEA and CEC support the approval of the proposed changes to the Seasonal Firm Service rates.<sup>181</sup>

### **BCUC determination**

**The Panel approves FEI's request to increase RS 4 rates due to the proposed changes in RS 5 and RS 7 by increasing the Off-Peak Delivery Rate by \$0.114/GJ and by decreasing the Extension Period Rate by \$0.018/GJ.** The Panel finds FEI's rate design proposals for RS 4 to be just, reasonable and not unduly discriminatory and to reflect a reasonable balance of rate design principles. The Panel also notes interveners support for FEI's seasonal firm service proposals.

## 6.4 Large volume transportation service

FEI's large volume industrial transportation customers are currently segmented into four groups:<sup>182</sup>

- **RS 22** – Large Volume Transportation Service;
- **RS 22A** – Inland Service Area Transportation Service (Closed);
- **RS 22B** – Columbia Service Area Transportation Service (Closed); and
- **Large Industrial Contract Customers** – Two customers consisting of Vancouver Island Gas Joint Venture (VIGJV) and British Columbia Hydro and Power Authority Island Generation (BC Hydro IG). VIGJV comprises five operations that act as one for billing and demand balancing.<sup>183</sup>

FEI states these four groups are a legacy of the service areas of FEI's predecessor companies. RS 22 customers are located primarily in the Lower Mainland, RS 22A customers in the Inland Service Area, RS 22B customers in the Columbia Service Area and the two Large Industrial Contract Customers are located on Vancouver Island and the Sunshine Coast. RS 22A and 22B have been closed to any new customers since 1993. Since 1993, new large industrial transportation customers have taken service through RS 22 throughout FEI's service area.<sup>184</sup> FEI's existing large volume transportation rates are "currently separated by geographical regions and there is no postage stamp, cost-based firm rate."<sup>185</sup>

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<sup>179</sup> Ibid., p. 37.

<sup>180</sup> Ibid., p. 37.

<sup>181</sup> BCSEA Final Argument, p. 11; CEC Final Argument, p. 22.

<sup>182</sup> Exhibit B-1-5, p. 9-36.

<sup>183</sup> Ibid., p. 6-21.

<sup>184</sup> Exhibit B-1-5, p. 9-36.

<sup>185</sup> Ibid., p. 1-8.



For the large volume transportation service, FEI proposes to:

- Continue to grandfather RS 22A and 22B that have been closed service offerings since 1993 given their unique characteristics;<sup>186</sup> and
- To establish new cost-based firm and interruptible rates for all large-volume, non-grandfathered transportation customers that are currently served under RS 22 or special contracts.<sup>187</sup>

#### **6.4.1 Continuation of closed RS 22A and RS 22B**

FEI explains that RS 22A and RS 22B are only available to large industrial customers who were receiving transportation service prior to 1993 in the Inland Service Area and in the Columbia Service Area, respectively. There are nine non-bypass customers in RS 22A including mining operations, manufacturing, refineries, pulp mills and forestry companies. RS 22B has five customers comprising four coal mines and a pulp mill. RS 22A and RS 22B customers primarily use firm transportation service with a small amount of interruptible service.<sup>188</sup> FEI states that “[b]oth Rate Schedules were closed by the Commission, citing “the many special circumstances and negotiated agreements underlying the existing rates for these interior customers.” FEI proposes to continue this treatment.”<sup>189</sup>

#### **6.4.2 New RS 22 Firm Service**

##### *Non-grandfathered large industrial transportation customers*

FEI describes non-grandfathered large industrial customers as Large Industrial Contract Customers (contract customers) and RS 22 customers.<sup>190</sup> Contract customers have historically negotiated their rates with FEI in their respective transportation service agreements. All contract customer rates are approved by the BCUC. The COSA model, prior to any rate design proposals in this Application, treats revenues from contract customers as credits to the cost of service and allocates that credit to sales customers and non-contract transportation service customers.<sup>191</sup> VIGJV and BC Hydro IG are primarily firm customers with VIGJV having some interruptible demand.<sup>192</sup>

RS 22 customers represent a variety of industries including, but not limited to, refineries, manufacturing, healthcare, education, and greenhouses. All except one RS 22 customer receives interruptible transportation service. RS22 firm transportation service is available and can be obtained by negotiating a tariff supplement with FEI and then obtaining approval of the tariff supplement from the BCUC, on a contract-by-contract basis.<sup>193</sup> The only current RS 22 customer that has firm service had their rate approved by Order G-128-05. For that customer, the BCUC approved “RS 22 Tariff Supplement No. G-21 to provide firm transportation to Central Heat (now Creative Energy), subject to the review of rates in the next FEI rate design proceeding.”<sup>194</sup> Creative Energy uses 2,000 GJ per day of firm transportation service with its remaining volumes on an interruptible basis.<sup>195</sup>

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<sup>186</sup> FEI Final Argument, p. 38.

<sup>187</sup> Ibid., p. 38.

<sup>188</sup> Exhibit B-1-5, pp. 9-38 – 9-39.

<sup>189</sup> FEI Final Argument, p. 39.

<sup>190</sup> Ibid., p. 39.

<sup>191</sup> Exhibit B-1-5, p. 6-9.

<sup>192</sup> Ibid., p. 9-39.

<sup>193</sup> Exhibit B-1-5, p. 9-41.

<sup>194</sup> Ibid., p. 9-41.

<sup>195</sup> Ibid., p. 9-37.

### *FEI's proposal*

FEI proposes that “RS 22, VIGJV and BC Hydro IG be grouped together for rate design purposes” and proposes “a firm rate equal to the allocated costs in the approved COSA Model and interruptible rates based on the firm rate.”<sup>196</sup> In order to determine the new firm rate for RS 22, the costs from the COSA model that were allocated to large industrial customers, would be converted into the following charges:

- Basic and Administration Charge per month;
- Firm Demand Charge per month per GJ of Firm Daily Transportation Quantity (DTQ); and
- Firm volumetric Delivery Charge per GJ of Firm Monthly Transportation Quantity (MTQ) delivered each month.<sup>197</sup>

FEI notes that the Demand Charge would encourage customers to shift to firm service only for baseload consumption with a high load factor. Firm service would be subject to the availability of firm capacity on FEI's system.<sup>198</sup> Interruptible service rates would be set by converting the allocated cost of firm delivery from the COSA model into a volumetric rate.<sup>199</sup> FEI states that this “ensures that there is no incentive for customers to shift from firm contracted capacity to interruptible service.”<sup>200</sup> FEI submits that its proposal is consistent with the existing RS 22, as it excludes the types of tolls for system gas, odorant and motor fuel tax that are currently included in the VIGJV and BC Hydro IG's special contracts.<sup>201</sup>

FEI argues that its proposal to group all non-grandfathered large industrial customers together for rate design purposes is supported by the balance of rate design principles and considerations listed below.<sup>202</sup>

- **Large industrials are similar** – FEI submits that similar types of customers should be grouped together for cost allocation purposes.<sup>203</sup>
  - **Types of end use** – FEI submit that VIGJV and BC Hydro IG “fit within the broad industrial end uses of RS 22 customers.”<sup>204</sup>
  - **Consumption levels** – FEI submits that VIGJV and BC Hydro IG fit within the consumption levels of RS 22 customers that range from approximately 150 TJ to 2,000 TJ per year.<sup>205</sup> The average consumption per site of VIGJV's five sites is 1,498 TJ and while BC Hydro IG has a large firm contracted capacity, FEI submits that BC Hydro IG's actual usage of 323 TJ is within the range of consumption levels of RS 22 customers.<sup>206</sup>
  - **Mix of interruptible and firm** – FEI submits that RS 22 customers, VIGJV and BC Hydro IG all have an interruptible service component and need to be able to handle interruption. FEI notes that RS 22 customers have always had the option to negotiate a firm rate.<sup>207</sup>

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<sup>196</sup> FEI Final Argument, p. 42.

<sup>197</sup> Ibid., p. 42.

<sup>198</sup> Ibid., p. 42.

<sup>199</sup> Ibid., p. 42.

<sup>200</sup> Ibid., pp. 42-43.

<sup>201</sup> Ibid., p. 43.

<sup>202</sup> Ibid., pp. 43-47.

<sup>203</sup> Ibid., p. 43.

<sup>204</sup> Ibid., p. 43.

<sup>205</sup> Ibid., p. 44.

<sup>206</sup> Ibid., p. 44.

<sup>207</sup> Ibid., p. 44.

- **Load factors** – FEI submits that VIGJV’s load factor is similar to RS 22 customers and notes that BC Hydro IG’s load factor is small due to its high firm contract demand but infrequent operation.<sup>208</sup>
- **Existing and proposed rates are similar** – FEI submits that if large volume customers reserve firm service for only their 100 percent load factor baseload volumes, they will be able to achieve an effective rate of \$0.972 per GJ for any mix of firm and interruptible service.<sup>209</sup> FEI states that this is slightly less than the existing firm rate for Creative Energy and similar to existing rates for VIGJV and BC Hydro IG.<sup>210</sup>
- **Location** – FEI submits that RS 22 is for customers located in any region.<sup>211</sup>
- **Incremental cost to service** – FEI submits that the incremental costs related to serving non-grandfathered large industrial customers are similar.<sup>212</sup>
- **Cost-based rates are supported by rate design principles** – FEI submits that its proposals will establish cost of service based rates which is consistent with rate design principles and addresses the concerns of the BCUC regarding Creative Energy’s existing value of service firm rate.<sup>213</sup>
- **Customer understanding and acceptance** – FEI argues that its proposed cost of service based rates are more transparent than value of service rates or individually negotiated contract rates. FEI submits that moving towards postage stamps rates for large industrial customers would reduce the number of large industrial rate structures across the province, and reduce the need for individually negotiated contracts.<sup>214</sup>
- **Government policy in favour of postage stamp rates** – FEI submits that its proposed postage stamp firm rate is consistent with government policy in favour of postage stamp rates and results in benefits that include supporting the Province’s Natural Gas Strategy, economic development and job creation, and regulatory efficiency and rate stability.<sup>215</sup>

FEI expresses concern for the alternative to its proposal, which is the status quo. FEI argues that if “BC Hydro and VIGJV continue to have individually negotiated contracts, their rates, terms and conditions will continue to differ from those for other large industrial customers and their rates may not be based upon COSA results and may not be cost based.”<sup>216</sup> FEI further submits that if the status quo were maintained and RS 22 was updated to reflect FEI’s proposed changes to RS 5 and RS 25, then existing RS 22 customers “would experience a rate increase of more than 35 percent.”<sup>217</sup> FEI considers this to be rate shock and would expect customers to migrate from RS 22 to RS 7 or RS 27, which could lead to the need to redesign RS 7 and RS 27 rates to maintain the appropriate price signals.<sup>218</sup>

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<sup>208</sup> Ibid., p. 44.

<sup>209</sup> Ibid., p. 45.

<sup>210</sup> Ibid., p. 45.

<sup>211</sup> Ibid., p. 46.

<sup>212</sup> Ibid., p. 46.

<sup>213</sup> Ibid., p. 46.

<sup>214</sup> Ibid., p. 46.

<sup>215</sup> Ibid., p. 47.

<sup>216</sup> FEI Final Argument, p. 40.

<sup>217</sup> Ibid., p. 41

<sup>218</sup> Ibid., p. 41

### *Treatment of existing contracts*

With regards to the existing contracts, FEI submits that they be addressed as follows:

- Tariff Supplement G-21 for Creative Energy would be terminated and Creative Energy would take firm service under the approved firm rate applicable to all RS 22 customers.<sup>219</sup>
- VIGJV could choose to become a RS 22 customer immediately or after the expiration of its Transportation Service Agreement (TSA). VIGJV's contract was extended until November 1, 2022 through Order G-6-18. FEI noted that this extension gives:

any member of the VIGJV the option to terminate the TSA by providing written notice no more than 15 days from the issuance of a decision by the Commission on this Application. If any of the three members of the VIGJV provide notice to FEI to terminate the TSA, then each member of the VIGJV that continues to require transportation service will have to apply for service and could become an RS 22 customer. If the VIGJV does not terminate the TSA, it would continue until it expires in 2022. At that time, any further agreement would need to be negotiated and would be subject to Commission approval.<sup>220</sup>

- BC Hydro IG could choose to become a RS 22 customer after the expiration of its TSA. BC Hydro IG's contract cannot be terminated until April 2022. FEI notes that BC Hydro IG could choose to become a RS 22 customer; or elect to become a RS 50 customer if it qualifies; or it could extend the current agreement, which requires the negotiation of a rate and subsequent approval by the BCUC.<sup>221</sup>

### *Intervener arguments*

CEC and Catalyst Paper are the only interveners to provide an argument on this topic. CEC supports the continuance of RS 22A and RS 22B as closed service offerings with grandfathered terms and also supports a firm, standard, cost-based rate applicable to all RS 22 customers.<sup>222</sup> CEC recommends approval of FEI's proposals regarding RS 22, RS 22A and RS 22B.<sup>223</sup>

Catalyst Paper requests, among other things, that the BCUC deny FEI's proposals regarding RS 22 and the proposed cost of service allocation for VIGJV.<sup>224</sup> Catalyst Paper is one of the customers that form VIGJV. Catalyst Paper's Final Argument includes several points supporting its position, some of which are highlighted below. Catalyst Paper argues that customers in RS 22A, RS 22B, VIGJV and BC Hydro IG "have never had demand-related costs from the Distribution Plant" allocated to them.<sup>225</sup> Catalyst Paper submits that FEI's transmission system infrastructure terminates either directly on, or adjacent to, VIGJV properties with very short distances to the VIGJV's own piping systems and that the amount of distribution pressure pipe that FEI's utilizes to deliver gas to the VIGJV "appears to be less than 0.001 %."<sup>226</sup> Catalyst Paper submits that FEI is proposing to allocate \$8.5 million in costs across seven sites despite negligible use of FEI's distribution service whereas RS 22A and RS 22B

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<sup>219</sup> Ibid., p. 47.

<sup>220</sup> Ibid., p. 48.

<sup>221</sup> Ibid., p. 48.

<sup>222</sup> CEC Final Argument, pp. 23-24.

<sup>223</sup> Ibid., p. 25.

<sup>224</sup> Catalyst Paper Final Argument, p. 18.

<sup>225</sup> Catalyst Paper Final Argument, p. 3.

<sup>226</sup> Ibid., pp. 3-4.

customers “are allocated ZERO costs for Distribution Service Lines & Meters.”<sup>227</sup> Catalyst Paper argues that FEI’s introduction of “an additional cost allocation just for Vancouver Island’s regional customers while not applying the same burden to 14 large, firm interior customers [RSS 22A and R 22B customers] is inconsistent with Bonbright’s principle of undue discrimination among customers.”<sup>228</sup>

Catalyst Paper argues that FEI’s proposed grouping of VIGJV, BC Hydro IG and RS 22 customers is “is inconsistent with good rate design principles” and “inconsistent with the 1993 Commission decision to separate firm service industrial customers in RS22A and RS22B from interruptible service Lower Mainland customers.”<sup>229</sup> Catalyst Paper argues that due to Creative Energy’s location on FEI’s distribution system it should be allocated distribution costs whereas Catalyst Paper’s location on FEI’s system should not attract distribution costs. Catalyst Paper then draws similarities between itself and RS 22A and RS 22B customers located near FEI’s transmission pipeline.<sup>230</sup>

Catalyst Paper also argues that FEI’s proposal is inconsistent with the Bonbright principle of customer understanding and acceptance as “[n]one of the VIGJV members have accepted FEI’s proposed RS22.”<sup>231</sup>

Catalyst Paper states that the cumulative interruptible transportation (IT) revenue from the VIGJV from “2003 through 2016 is \$27.252 M” and that “VIGJV IT revenue attracts relatively little costs, and it appears that most of the \$27.252 million in IT revenue received by the Utility since 2003 went directly to the RSDA.”<sup>232</sup> Catalyst Paper states that for amalgamation, the \$99 M RSDA surplus was transferred from FEVI to FEI to mitigate core customer rate impacts in the Amalgamated Utility.<sup>233</sup> Catalyst Paper requests that the BCUC consider VIGJV’s substantial contributions to the RDDA/RSDA/2009 Revenue Surplus accounts and FEVI’s transfer of the \$ 99 M RSDA balance to FEI, which resulted in no additional benefit to the VIGJV, when determining the fairness of the Proposed RS22 with respect to the VIGJV and BC Hydro IG.<sup>234</sup>

### *FEI reply argument*

FEI submits that “Catalyst’s proposal to segment FEI customers based on proximity to pipeline infrastructure must be rejected as it is inconsistent with FEI’s approved postage stamp rate design.”<sup>235</sup> FEI submits that under the proposed postage stamp rates, VIGJV’s location is not a relevant factor in the cost allocations in the COSA study.<sup>236</sup> FEI reiterates its position that the VIGJV mills have similar characteristics to other FEI industrial customers.<sup>237</sup>

FEI objects to “Catalyst filing new evidence in its written argument regarding the location of its sites.”<sup>238</sup> FEI states that this is procedurally unfair as it does not allow for FEI to provide evidence of its own with regards to

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<sup>227</sup> Ibid., p. 8.

<sup>228</sup> Ibid., p. 10.

<sup>229</sup> Ibid., p. 10.

<sup>230</sup> Ibid., p. 10.

<sup>231</sup> Ibid., p. 11.

<sup>232</sup> Ibid., p. 12

<sup>233</sup> Ibid., p. 12

<sup>234</sup> Ibid., p. 12

<sup>235</sup> FEI Replay Argument, p. 15.

<sup>236</sup> FEI Reply Argument, p. 15.

<sup>237</sup> Ibid., p. 16.

<sup>238</sup> Ibid., p. 16.

the proximity of RS 22 customers to the transmission system.<sup>239</sup> FEI submits that VIGJV would benefit from postage stamp rates with regards to transmission costs, since VIGJV utilizes “significantly more transmission pipeline to be served than Lower Mainland RS 22 customers.”<sup>240</sup>

FEI states that “Catalyst’s argument that it should be treated the same as RS 22A and RS 22B customers with respect to the allocation of distribution costs is misplaced. The cost allocation of distribution costs to RS 22A and RS 22B is the exception to the norm for FEI. RS 22A and 22B customers are allocated less distribution costs than RS 22 customers because RS 22A and RS 22B are closed rate schedules and benefit from grandfathered treatment.”<sup>241</sup>

FEI argues that VIGJV’s submissions regarding the contributions to the RDDA/RSDA/2009 Revenue Surplus account are irrelevant since these accounts have been amortized in accordance with BCUC Orders.<sup>242</sup> FEI notes that VIGJV benefited from amalgamation just as FEVI’s core customers did and further elaborates on benefits that VIGJV and BC Hydro IG would receive based on FEI’s current proposal.<sup>243</sup>

In response to Catalyst Paper’s argument regarding the distinction between a transmission system customer and a distribution system customer, FEI states that it does not have a transmission service since it “does not segment customers based on whether they are connected to the transmission system or distribution system.”<sup>244</sup>

FEI addresses the potential impact to Catalyst Paper by stating that total revenues, including firm and interruptible revenue, from the VIGJV would be \$7.169 million based upon 2016 rates and volumes and \$7.312 million under FEI’s RS 22 proposed rates and 2016 volumes.<sup>245</sup> FEI further notes that based on 2018 volumes and rates the VIGJV’s contract revenue would be higher than the revenue from the proposed RS 22 rates.<sup>246</sup> When balancing gas charges are taken into consideration, FEI submits that the proposal for RS 22 is favourable for the VIGJV from a cost perspective.<sup>247</sup>

### **BCUC determination**

#### RS 22 firm and interruptible service

**The Panel approves FEI’s proposal to set the rates for RS 22 on a cost of service basis for all large industrial customers, excluding closed rate schedules RS 22A and RS 22B, as follows:**

- **Firm Demand Charge of \$25.000/GJ/Month.**
- **Firm Monthly Transportation Quantity (MTQ) Delivery Charge of \$0.15/GJ.**
- **Interruptible MTQ Delivery Charge of \$0.972/GJ.**

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<sup>239</sup> Ibid., p. 16.

<sup>240</sup> Ibid., pp. 16-17.

<sup>241</sup> Ibid., p. 17.

<sup>242</sup> Ibid., p. 18.

<sup>243</sup> Ibid., p. 18.

<sup>244</sup> Ibid., p. 20.

<sup>245</sup> Ibid., p. 24; Exhibit B-32, BCUC IR 96.2, pp. 23-24.

<sup>246</sup> FEI Reply Argument, p. 24.

<sup>247</sup> Ibid., p. 26.

**The Panel also approves FEI's request to terminate Tariff Supplement G-21, FEI's contract with Creative Energy Vancouver Platforms Inc., effective in the fourth quarter of 2018.**

The Panel finds FEI's rate design proposals for RS 22 to be just, reasonable and not unduly discriminatory and to reflect a reasonable balance of rate design principles. The Panel notes that FEI's proposed Firm RS 22 rates are similar to VIGJV's current contract rates at its 2016 forecast/actual demand.<sup>248</sup> The proposed rates are cost-based and are supported by rate design principles. Further, the proposed postage stamp rates are consistent with government policy. Any potential non-bypass large industrial transportation customer that wants firm demand can request service from FEI based on the terms and charges outlined in the proposed RS 22, as long as there is available capacity. In the Panel's view, this promotes transparency and regulatory efficiency and is preferable to individually reviewing and approving negotiated contracts in the form of tariff supplements for each customer that requests firm service.

The Panel notes the following with respect to the impact of rate schedule 22 proposals on existing contract customers:

- BC Hydro IG has until its contract expires in 2022 to choose between several options. BC Hydro IG could move to the new RS 22 firm rate or the existing RS 50 and could also extend its current contract to 2042 and negotiate rates. BC Hydro is an intervener in this proceeding but did not file a final argument or comment on the changes to RS 22; and
- The members of VIGJV have the option to (i) become a RS 22 customer immediately following this decision; (ii) become a RS 22 customer when its contract expires in 2022; or (iii) remain as a joint venture and negotiate a new contract with FEI to begin in 2022 when its current contract expires. Any new contract negotiated between VIGJV and FEI would then have to be approved by the BCUC.

The Panel agrees that it should not consider the new evidence Catalyst Paper filed with its final argument since other parties, including FEI, have not had the opportunity to test or respond to this evidence. Therefore, the Panel has not considered Catalyst Paper's argument regarding distribution plant costs. Further, the Panel is persuaded by FEI's response to Catalyst Paper that the VIGJV mills have similar characteristics to other FEI industrial customers and that it would benefit from postage stamp rates with regards to transmission costs compared to Lower Mainland RS 22 customers.

#### Continuation of closed RS 22A and RS 22B

**The Panel approves FEI's request to continue the closed RS 22A and RS 22B service offerings.** There is no evidence on record that provides information on the impacts to other customers of removing the grandfathered status for RS 22A and RS 22B. Furthermore, CEC supports grandfathering of RS 22A/ RS 22B and no other intervener opposes it. However, the Panel notes the rationale that led to the proposal for closing RS 22A and RS 22B to new customers, which was highlighted by Catalyst Paper in its Final Argument.<sup>249</sup> G-101-93 stated:

These existing rates would not be available to new interior customers or for significant load increases by existing interior customers. BCGUL [BC Gas Utility Ltd.]<sup>250</sup> proposed that the tariffs be named Schedules 22A (Inland) and 22B (Columbia) to indicate the similarity to Schedule 22.

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<sup>248</sup> Exhibit B-32, BCUC IR 96.2, pp. 23-24.

<sup>249</sup> Catalyst Paper Final Argument, pp. 13-14.

<sup>250</sup> BCUGL (BC Gas Utility Ltd.).

The rationale was that since virtually all of these interior customers moved their direct purchase gas on firm service, and used only small amounts of interruptible gas, they differed significantly from Lower Mainland large volume customers, who had historically been interruptible sales or service customers only and had no firm gas sales or transportation. ... BCGUL also proposed that any new customers requiring firm transportation could negotiate an appropriate rate under Schedule 22 at a cost which covered BCGUL costs, valued customer peak shaving contributions if applicable and made some contribution to the Utility profit.<sup>251</sup>

Considering this excerpt and given the approval of the new RS 22 firm rate as outlined above as well as the impacts of the determinations in the Transportation Service Review section of this decision, the Panel considers that it would be useful to review the appropriateness of continuing the grandfathered status of RS 22A and RS 22B in FEI's next rate design hearing. This would provide FEI the opportunity to understand the impact on industrial customers of all rates design changes resulting from this proceeding.

## 7.0 FEI's proposed revenue shifts and rebalancing

### *Proposed revenue shifts*

As directed by the COSA and R:C Ratios Decision, FEI updated its Application using an R:C ratio range of reasonableness of 95 percent to 105 percent to inform rate design and rebalancing proposals.<sup>252</sup>

The impact of FEI's rate design proposal on the COSA results, results in a total revenue reduction of \$786.4 thousand, as outlined in the table below.

**Table 7-1: Revenue Changes from Rate Design Proposals (before rebalancing)<sup>253</sup>**

Rate Schedule	Revenue Change (\$000s)
2	-\$1,174.1
3 / 23	+\$1,174.1
4	+\$13.3
5 / 25	+\$45.2
7 / 27	-\$90.7
22	-\$754.2
<b>Total</b>	<b>-\$786.4</b>

With respect to its rate design proposal for RS 22, FEI proposes setting the new firm rate at 100 percent of the R:C ratio. FEI states the following:

Describing FEI as moving RS 22 to a 100 percent R:C is not accurate. FEI is creating a new rate and rate structure for large volume industrial transportation customers, and has calculated the new rate to collect the allocated costs. When creating a new rate schedule and rate structure, there is no pre-existing R:C ratio and, therefore, no basis to set the R:C ratio at anything other

<sup>251</sup> G-101-93, BCGUL 1993 Phase B Rate Design Application Decision, pp. 44-45; Exhibit B-1-5, p. 9-38.

<sup>252</sup> Exhibit B-1-4, Cover letter dated February 6, 2018, p. 2.

<sup>253</sup> Exhibit B-1-5, p. 12-4, Table 12-1.



than 100 percent. If an R:C ratio other than 100 percent were to be adopted for a new rate schedule or service, it would be equally as reasonable to propose 90 percent at the lower end of the range of reasonableness as 110 percent at the upper end. These considerations demonstrate that selecting 100 percent for the R:C ratio of a new service is the sensible approach.<sup>254</sup>

FEI recalculated the COSA to reflect the revenue shifts from the proposed rate design changes to arrive at the COSA model results after rate design proposals. The results are presented below.<sup>255</sup>

**Table 7-2: R:C and M:C Ratio Results after Rate Design Proposals (before rebalancing)<sup>256</sup>**

Rate Schedule	Initial COSA		Revenue Shift (\$000)	Approximate Annual Bill Change	COSA after Rate Design Proposals	
	R:C	M:C			R:C	M:C
<b>Rate Schedule 1</b> <i>Residential Service</i>	95.6%	93.1%	786.4	0.1%	96.4%	94.4%
<b>Rate Schedule 2</b> <i>Small Commercial Service</i>	101.3%	102.5%	(1,174.1)	-0.5%	102.2%	104.1%
<b>Rate Schedule 3/23</b> <i>Large Commercial Sales and Transportation Service</i>	101.6%	103.3%	1,174.1	0.6%	103.6%	107.6%
<b>Rate Schedule 5/25</b> <i>General Firm Sales and Transportation Service</i>	104.9%	112.2%	45.2	0.0%	106.3%	116.0%
<b>Rate Schedule 6/6P</b> <i>Natural Gas Vehicle Service</i>	131.2%	159.1%			131.7%	160.4%
<b>Rate Schedule 22A</b> <i>Transportation Service (Closed) Inland Service Area</i>	109.5%	109.8%			113.0%	113.4%
<b>Rate Schedule 22B</b> <i>Transportation Service (Closed) Columbia Service Area</i>	99.7%	99.7%			103.1%	103.1%
<b>Rate Schedule 22</b> <i>Large Volume Transportation Service</i>	1425.5%	1864.4%	(754.2)	-3.4%	100.0%	100.0%

Rate Schedule <i>(rates not set using allocated costs)</i>	Initial COSA		Revenue Shift (\$000)	Approximate Annual Bill Change	COSA after Rate Design Proposals	
	R:C	M:C			R:C	M:C
<b>Rate Schedule 4</b> <i>Seasonal Firm Gas Service</i>	147.4%	550.9%	13.3	1.9%	150.2%	578.3%
<b>Rate Schedule 7/27</b> <i>General Interruptible Sales and Transportation Service</i>	139.6%	712.3%	(90.7)	-0.3%	139.3%	713.6%

FEI proposes to collect the revenue deficits caused by the rate design proposals to RS 1, which is the only rate schedule with an R:C ratio of less than 100 percent. FEI states this shift represents an approximate annual bill impact of 0.1 percent for RS 1 customers and results in an increase to the delivery charge per GJ by \$0.011.<sup>257</sup>

<sup>254</sup> Exhibit B-5, BCUC IR 1.42.1.

<sup>255</sup> Exhibit B-1-5, p. 12-4.

<sup>256</sup> Exhibit B-1-5, p. 12-5, Table 12-2.

<sup>257</sup> Ibid., p. 12-4.

FEI stated the shift to RS 1 was appropriate as follows:

- The RS 1 R:C ratio is the only R:C ratio below 100 percent;
- RS 1 has the most capacity to absorb these amounts with the lowest bill impact to individual customers; and
- FEI's approach to the revenue shift reflects standard utility practice with respect to revenue rebalancing.
- While it would not be unreasonable for the revenue reduction and rebalancing amounts to be shared among all rate schedules within the range of reasonableness, this would not reflect standard practice or FEI's recommended approach.<sup>258</sup>

FEI submits its approach of shifting revenues to RS 1 is consistent with past practice. FEI states that an alternative approach for rebalancing would be to shift revenues among all rate classes with an R:C ratio within the range of reasonableness and this approach would reduce the impact to RS 1 to an approximate annual bill change of 0.1 percent compared to the impact of its proposal of an annual bill change of 0.2 percent.<sup>259</sup>

### *Rebalancing proposals*

As shown in Table 7–2 above, all rate schedules are within the range of reasonableness of 95 percent to 105 percent except for RS 5/RS 25, RS 6/RS 6P and RS 22A. FEI's rebalancing proposals are as follows:

- **RS 5/RS 25** - To rebalance within the range of reasonableness, FEI proposes to reduce the RS 5/25 basic charge \$118 per month to \$469 per month with no change to its proposals for RS 7, RS 27 and RS 4 and no additional revenue shift from RS 7, RS 27 and RS 4 to RS 1. FEI states changing only the basic charge, and not the demand or delivery charge, supports rates that continue to attract customers with at least a 40% Load Factor. FEI outlines that decreasing the basic charge by \$118 per month creates a revenue responsibility decrease of \$1.093 million for RS 5/25. FEI proposes to shift this revenue responsibility to RS 1 since RS 1 is within the lower bound of the approved range of reasonableness, resulting in an annual average bill impact for all RS 1 of approximately 0.15%.<sup>260</sup>
- **RS 6/RS 6P** - FEI is proposing a reduction of \$75.9 thousand in the revenue required from RS 6/RS 6P by decreasing the Delivery Charge by \$1.622/GJ to bring the R:C ratio in alignment with the upper end of the range of reasonableness and decrease the Delivery Charge to match the reduction in revenue.<sup>261</sup> FEI also proposes another minor housekeeping amendment to align RS6 and RS6P.
- **RS 22A** – Although RS 22A is outside the range of reasonableness, FEI is not proposing to rebalance RS 22A. FEI states RS 22A is a closed rate with a favourable rate compared to other similar customers and FEI has continued to allocate costs in this manner to be consistent with past practice, including not allocating any portion of FEI's distribution system. FEI submits that any rebalancing would be inconsistent with continuing to grandfather the terms and conditions of service under this rate schedule. FEI also states that RS 22 is available for all large industrial customers and grandfathered customers (RS 22A or RS 22B) may elect this rate schedule as an alternative.<sup>262</sup>

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<sup>258</sup> Exhibit B-21, BCUC IR 67.1.

<sup>259</sup> FEI Final Argument, p. 52.

<sup>260</sup> Exhibit B-1-5, p. 12-6.

<sup>261</sup> Ibid., pp. 12-6 – 12-7.

<sup>262</sup> Ibid., p. 12-6; FEI Final Argument, pp. 52-53.

FEI's final COSA results before and after rebalancing and the proposed rebalanced amounts are set out below.

**Table 7-3: R:C and M:1 C Results after Rate Design Proposals and Rebalancing<sup>263</sup>**

Rate Schedule	COSA after Rate Design Proposals		Rebalance Amount (\$000)	Approximate Annual Bill Change	COSA after Rate Design Proposals and Rebalancing	
	R:C	M:C			R:C	M:C
<b>Rate Schedule 1</b> <i>Residential Service</i>	96.4%	94.6%	1,214.4	0.2%	96.6%	94.6%
<b>Rate Schedule 2</b> <i>Small Commercial Service</i>	102.2%	104.1%			102.2%	104.1%
<b>Rate Schedule 3/23</b> <i>Large Commercial Sales and Transportation Service</i>	103.6%	107.6%			103.6%	107.6%
<b>Rate Schedule 5/25</b> <i>General Firm Sales and Transportation Service</i>	106.3%	112.6%	(1,138.5)	-1.2%	105.0%	112.6%
<b>Rate Schedule 6/6P</b> <i>Natural Gas Vehicle Service</i>	131.7%	160.4%	(75.9)	-20.3%	105.0%	109.5%
<b>Rate Schedule 22A</b> <i>Transportation Service (Closed) Inland Service Area</i>	113.0%	113.4%			113.0%	113.4%
<b>Rate Schedule 22B</b> <i>Transportation Service (Closed) Columbia Service Area</i>	103.1%	103.1%			103.1%	103.1%
<b>Rate Schedule 22</b> <i>Large Volume Transportation Service</i>	100.0%	100.0%			100.0%	100.0%

Rate Schedule <i>(rates not set using allocated costs)</i>	COSA after Rate Design Proposals		Rebalance Amount (\$000)	Approximate Annual Bill Change	COSA after Rate Design Proposals and Rebalancing	
	R:C	M:C			R:C	M:C
<b>Rate Schedule 4</b> <i>Seasonal Firm Gas Service</i>	150.2%	578.3%			150.2%	578.3%
<b>Rate Schedule 7/27</b> <i>General Interruptible Sales and Transportation Service</i>	139.3%	713.6%			139.3%	713.6%

To implement its proposed rebalancing, FEI seeks approval of the following proposed rate changes:

- Approval to increase the Delivery Charge per GJ of RS 1, 1U, 1X, and 1B by \$0.027 as a result of the revenue shifts and rebalancing of rates.
- Approval to decrease the Basic Charge in RS 5 and RS 25 by \$118.00 per month from \$587.00 per month to \$469.00 per month.
- Approval to decrease the Delivery Charge per GJ of RS 6 by \$1.622/GJ to address rebalancing.
- Approval to set the Delivery Charge per GJ for RS 6P to equal the Delivery Charge per GJ of RS 6.<sup>264</sup>

### *Intervener arguments*

BCSEA supports FEI's rate rebalancing proposals.<sup>265</sup>

<sup>263</sup> Exhibit B-1-5, p. 12-7, Table 12-3.

<sup>264</sup> FEI Final Argument, p. 53.

<sup>265</sup> BCSEA Final Argument, pp. 12-14.

CEC notes that the BCUC made no directions in its COSA and R:C Ratios Decision with regard to how rebalancing was to be undertaken and CEC reiterates its view that FEI should be rebalancing to unity where possible as a result of rate design. CEC supports FEI's rebalancing proposals for RS 5/25 and 6/6P and recommends rebalancing RS 22A to 105 percent with the revenue deficit being absorbed by RS 1.

CEC submits that FEI's use of the range of reasonableness is "inconsistent and illogical" and recommends the BCUC approve FEI's proposed rebalancing plans but "additionally enable rebalancing toward unity in all cases and not away from unity in some cases to ensure that there is consistent and logical application of rebalancing decisions."<sup>266</sup>

BCOAPO recommends that the BCUC should consider the combined impacts of the rate design changes, rate rebalancing and the ongoing cost increase impacting the residential rate class. BCOAPO submits the BCUC should require all classes to be brought within the range of reasonableness at the entry point of that range in a manner which minimizes negative rate impacts to the residential class which is required to absorb the revenue adjustment. BCOAPO suggests that the directional impact should be adjusted "to reduce the already high burden being foisted upon residential customers as a result of FEI's Rate Design proposals."<sup>267</sup>

ICG submits the BCUC should: set a 100 percent R:C ratio for all rate classes; direct FEI to rebalance RS 22A to a 100 percent R:C ratio; and direct FEI to rebalance RS 5/25 by adjusting the Demand Charge instead of the Basic Charge.

### *FEI reply argument*

FEI submits its rebalancing proposals are logical and consistent and further submits:

- Rebalancing to 100 percent would be inconsistent with the concept of a range of reasonableness;
- Although RS 22A is outside the range of reasonableness, there is no need to rebalance the rate schedule; and
- Rebalancing RS 5/25 by reducing the Demand Charge is preferable.

In subsections 7.1 to 7.3 of this decision, the Panel analyzes the positions of the parties including FEI's reply and other evidence related to (1) the appropriateness of rebalancing to unity, (2) the need to rebalance RS 22A and (3) FEI's approach to rebalancing RS 5/25. The Panel's overall determination on FEI's proposed revenue shifts and rebalancing follows the analysis in these subsections.

## **7.1 Appropriateness of rebalancing to unity**

### *Positions of the parties*

As noted above, ICG submits that the BCUC should set a 100 percent R:C ratio for all rate classes and CEC reiterates its view that FEI should be rebalancing to unity where possible as a result of rate design. These views are contrary to BCOAPO's submission that all classes be brought within the range of reasonableness at the entry point of that range in a manner which minimizes negative rate impacts to the residential class which is required to absorb the revenue adjustment.

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<sup>266</sup> CEC Final Argument, pp. 28-38.

<sup>267</sup> BCOAPO Final Argument, pp. 8-11.

In response, FEI submits there is no justification to shift more revenue to RS 1 since it is already within the range of reasonableness and there is no need to rebalance another rate schedule. Contrary to arguments presented by CEC and ICG, FEI argues its proposal to shift the revenue deficit to RS1 and to set the RS 22 firm rate at 100 percent are consistent with the range of reasonableness concept and industry practice.<sup>268</sup>

With respect to rebalancing to unity or 100 percent, FEI argues this would be inconsistent with the BCUC's determination in the COSA and R:C Ratios Decision to use an R:C ratio range of reasonableness of 95 percent to 105 percent. FEI submits this acceptance of a range of reasonableness means that rates are recovering their cost of service if they are within the range.<sup>269</sup> FEI refers to the following statement in the COSA and R:C Ratios Decision:

To set just, reasonable and not unduly discriminatory rates, utility costs must be fairly allocated to customers groups. The apportionment of shared utility costs to each of the rate classes through the COSA studies depends on assumptions, estimates and judgements. The Panel accepts that in theory an R:C ratio of 100 percent for each rate schedule would indicate that the revenues recovered from each rate schedule are equal to the cost to serve them. However, due to the assumptions, estimates and judgements involved in a COSA study, the Panel considers it appropriate to use a range of reasonableness. In the Panel's view, the size of the range of reasonableness depends on the precision of the cost allocation estimates and the stability of those estimates over time.<sup>270</sup>

FEI states it rebalances to the boundary of the range of reasonableness because there is no evidence to justify moving customer rates to unity since once rates are within the range of reasonableness, the evidence from the COSA establishes they are recovering their costs. FEI further supports this view with reference to expert evidence provided by the rate design experts, including Elenchus.<sup>271</sup>

## **7.2 Consideration of need to rebalance RS 22A**

### *Positions of the parties*

As noted above, both CEC and ICG argue FEI should rebalance RS 22A. CEC recommends rebalancing to 105 percent R:C ratio with the revenue deficit being absorbed by RS 1 and ICG prefers 100 percent.

CEC submits the required revenue reduction to rebalance to 105 percent of \$544 thousand could be absorbed by RS 1 without compromising its range of reasonableness.

ICG makes several points in its argument, including:

- There are no BCUC decisions or orders and no specific guidance that requires FEI to rebalance or not rebalance RS 22A to within FEI's proposed range of reasonableness<sup>272</sup> and FEI has acknowledged for RS 22A the terms and conditions are grandfathered, but not the rates.<sup>273</sup>

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<sup>268</sup> FEI Reply Argument, pp. 29-31.

<sup>269</sup> Ibid., pp. 31-32.

<sup>270</sup> COSA and R:C Ratios Decision, Appendix A, p. 35.

<sup>271</sup> FEI Reply Argument, pp. 32-33.

<sup>272</sup> ICG Final Argument, p. 5; Exhibit B-26, ICG IR 2.2.1, p. 4.

<sup>273</sup> ICG Final Argument, p. 7.

- FEI has rebalanced the rates and adjusted terms of service for RS 22A over the years since RS 22A was grandfathered. ICG notes, for example, in this proceeding FEI seeks to change the daily balancing tolerances for industrial customers, including RS 22A.<sup>274</sup>
- ICG stated that “In the 1993 Decision, the Commission explicitly accepted that RS 22A should be rebalanced based on the FDC (COSA) study showing that RS 22A was over-contributing to the costs.”<sup>275</sup>
- FEI should not be allowed to disregard the approved range of reasonableness and the COSA shows that RS 22A is outside the range of reasonableness and is contributing far more than its reasonable share of revenue.
- The revenue shift to rebalance RS 22A of \$554,500 [to within +/- 5 percent] is much less than the \$5,700,000 initially proposed in Workshop 3, and so the impact to RS 1 of rebalancing is much less and would result in a rate reduction of 7.1% for RS 22A.<sup>276</sup>
- FEI’s true motive for not rebalancing RS 22A to within the range of reasonableness is to “pressure RS 22A customers to move to RS 22.”<sup>277</sup>
- RS 22A is not assigned the full value of its economic contribution to the FEI system in that FEI assigns no value to the RS 22A peaking service in the COSA study. ICG states “By any reasonable measure, the RS 22A peaking service offers substantial value to the FEI system – even if it is only for 5 days a year. The RS 22A customers must stand by their obligation to the FEI system and incur the related cost. If a reasonable value were assigned to that peaking service, the RS 22A R:C ratio would be much higher than 113%.”<sup>278</sup>

ICG concludes that the argument against rebalancing RS 22A is not justifiable on basis of any BCUC decisions or any fairness principle. FEI’s own COSA analysis shows Rate Schedule 22A is paying more than its fair and reasonable share of its costs.<sup>279</sup>

In response, FEI argues against rebalancing RS 22A and submits:

- RS 22A is not too far from the range of reasonableness and benefits from a grandfathered cost allocation that results in favourable rates compared to other large industrial customers.<sup>280</sup>
- The range of reasonableness is a guideline used to inform rate design and rebalancing proposals and in past rate design decisions the BCUC has not rebalanced all rate schedules to within the range of reasonableness.<sup>281</sup>
- The initial proposal presented in the workshop was based on a materially incorrect calculation of the R:C ratio for RS 22A of 180 percent. Further, FEI is not bound by its preliminary proposals. FEI has put forward what it considers the most reasonable proposal in all the circumstances, including the correct cost allocation for RS 22A.<sup>282</sup>

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<sup>274</sup> ICG Final Argument, p. 7.

<sup>275</sup> Ibid., p. 10.

<sup>276</sup> Ibid., pp. 6-7; Exhibit B-35, ICG 3.1.1.

<sup>277</sup> Ibid., p. 7.

<sup>278</sup> Ibid., p. 10.

<sup>279</sup> Ibid., p. 10.

<sup>280</sup> FEI Reply Argument, p. 33.

<sup>281</sup> Ibid., p. 34.

<sup>282</sup> Ibid., p. 34.

- FEI states that it has set out the reasons for its proposals and “pressuring RS 22A customers to move to RS 22 is not part of those reasons” and since FEI’s proposed RS 22A rate is still well below RS 22, there is no pressure for RS 22A customers to move to RS 22.<sup>283</sup>
- The cost allocation to RS 22A is part of the grandfathered status of RS 22A and is what gives RS 22A a favourable rate compared to RS 22, BC Hydro and the VIGJV. If the cost allocation for RS 22A rates were not grandfathered, then FEI would have proposed to bundle RS 22A in its RS 22 proposal.<sup>284</sup>
- With respect to ICG’s reference to FEI’s balancing proposals being an example of adjustments to RS 22A, FEI concluded that it would not be appropriate to exclude RS 22A from the balancing rules that would apply to all other transportation customers. FEI argues RS 22A and RS 22B, while they are closed rates, should not be exempt from coming into line with general industry practices with respect to gas supply and further, FEI’s proposed changes to the transportation model are consistent with the spirit and intent of Rate Schedule 22A that customers, or their Shipper Agents, should supply gas reflecting their best estimate of consumption on a daily basis.<sup>285</sup>
- FEI submits that its treatment of the RS 22A peaking resource is consistent with past practice and BCUC Decisions.<sup>286</sup>

FEI notes that ICG’s reference to the BCUC’s decision to rebalance RS 22A in 1993 “does not note that the Commission rebalanced only towards a R:C ratio of 110 percent. As seen in the historical results, the 1993 Decision left RS 22A with a 123 percent M:C ratio under the Coincident Peak Method.”<sup>287</sup>

### 7.3 FEI’s approach to rebalancing RS 5/25

#### *Positions of the parties*

As noted above, CEC and BCSEA support FEI’s RS 5/25 rebalancing proposal and ICG argues the BCUC should direct FEI to rebalance RS 5/25 by adjusting the Demand Charge instead of the Basic Charge on the basis that:

- RS 1 would still remain below a 100% R:C ratio;
- The fairness within RS 5/25 would align better with the energy efficiency objective, which also a British Columbia energy objective under the Act;
- The implications for RS 7/27 and RS 4 would be minor; and
- The crossover signal between RS 3/23 and RS 5/25 would remain reasonable.<sup>288</sup>

In reply, FEI submits that rebalancing RS 5/25 by reducing the Demand Charge is preferable and ICG’s proposal should be rejected on the following basis:

- Since Demand Charge is the part of the RS 5/25 rate that encourages efficient use of the system, decreasing the Demand Charge would reduce the incentive for customers to use the system efficiently and thus be inconsistent with government policy;
- Reducing the Basic Charge results in each customer receiving the same reduction, while maintaining the incentives for efficient utilization that flow from the Demand Charge;

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<sup>283</sup> FEI Reply Argument, p. 34.

<sup>284</sup> *Ibid.*, pp. 34-35.

<sup>285</sup> *Ibid.*, p. 36.

<sup>286</sup> *Ibid.*, p. 36.

<sup>287</sup> *Ibid.*, p. 36.

<sup>288</sup> ICG Final Argument, p. 13.



- FEI's proposals also results in no changes to RS 7, RS 27, and RS 4 (which are based on the RS 5/RS 25 Demand Charge), and preserves the pricing relationship between General Firm and Large Commercial service by maintaining the incentive for customers with a load factor of 40 percent or greater to take service under RS 5 or RS 25;
- There is also no additional cost causation-based reason to adjust the Demand Charge because RS 1 is already within the range of reasonableness.<sup>289</sup>

### **BCUC determination**

**The Panel approves FEI's rebalancing requests to:**

1. **Increase the Delivery Charge per GJ of RS 1, 1U, 1X, and 1B by \$0.027 as a result of the revenue shifts and rebalancing of rates;**
2. **Decrease the Basic Charge in RS 5 and RS 25 by \$118.00 per month from \$587.00 per month to \$469.00 per month;**
3. **Decrease the Delivery Charge per GJ of RS 6 by \$1.622/GJ to address rebalancing; and**
4. **Set the Delivery Charge per GJ for RS 6P to equal the Delivery Charge per GJ of RS 6.**

**The Panel denies ICG's requests to: set a 100 percent R:C ratio for all rate classes; directs FEI to rebalance RS 22A to a 100 percent R:C ratio; and directs FEI to rebalance RS 5/25 by adjusting the Demand Charge instead of the Basic Charge.**

The Panel finds FEI's revenue shifting and rebalancing proposals to be just, reasonable and not unduly discriminatory and to reflect a reasonable balance of rate design principles. The Panel addresses the intervenor issues related to revenue shifting and rebalancing below.

#### Appropriateness of rebalancing to unity

The Panel finds that FEI has made a reasonable case for allocating the responsibility for the rate design revenue impacts and rate rebalancing to RS1. FEI's approach is consistent with past practice and reflects standard utility practice. RS 1's R:C ratio is the only rate class below 100 percent and RS 1 customers have the capacity to absorb these amounts with the lowest bill impact to individual customers. All parties including BCOAPO accept that the allocation of the rate design revenue and rebalancing impacts to RS 1. The only issue among the parties is the quantum of the rebalancing amount that should be allocated to RS 1.

ICG and CEC recommend the Panel direct FEI to rebalance to unity, whereas BCOAPO submits that all classes be brought within the range of reasonableness at the entry point of that range in a manner which minimizes negative rate impacts to the residential class which is required to absorb the revenue adjustment.

While the BCUC, in its COSA and R:C Ratios Decision, accepted that in theory an R:C ratio of 100 percent for each rate schedule would indicate that the revenues recovered from each rate schedule are equal to the cost to serve them, the assumptions, estimates and judgements involved in a COSA study, make it appropriate to use a range of reasonableness. In the Panel's view, the range of reasonableness should be used as a guideline to inform rate design and rebalancing. However, in some circumstances it is appropriate not to rebalance to within the accepted range of reasonableness when considering other rate design principles.

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<sup>289</sup> FEI Reply Argument, p. 37.



In this decision, the Panel places weight on the evidence provided by Elenchus that:

- Any R:C ratio that is within the defined range of reasonableness can be considered to be full cost recovery;
- Rebalancing should be undertaken to move all classes that are outside the approved range to the nearest boundary;
- It is not appropriate to periodically rebalance to R:C ratios of 1.00; and
- Elenchus is not aware of any jurisdiction that periodically rebalances rates so that all R:C ratios are 1.00.<sup>290</sup>

Accordingly, the Panel finds there is insufficient for the position that FEI should rebalance to unity. The Panel finds that FEI's approach reflects a reasonable balance of rate design principles and appropriately considers the rate impacts to the residential class which is within the range of reasonableness prior to any rebalancing.

#### Consideration of need to rebalance RS 22A

The Panel notes that RS 22A is only available to large industrial customers who were receiving transportation service prior to 1993 in the Inland Service Area. Since the 1993 Phase B Rate Design Decision, the existing RS 22A customers have been "grandfathered" in recognition of the unique service offering combining firm and interruptible rates, although RS 22A customers are still subject to general rate changes. RS 22A is closed to any new customers.<sup>291</sup>

The Panel finds that FEI's proposal to not rebalance RS 22A to be reasonable and not unduly discriminatory even though the RS 22A R:C ratio of 113 percent is outside the range of reasonableness of 95 percent to 105 percent. The Panel agrees with FEI and finds RS 22A's grandfathered cost allocation already results in favourable rates when compared to other large industrial customers and any rebalancing that further reduces RS 22A customer rates could result in unduly preferential treatment.<sup>292</sup>

Further, the residential rate class, which is within the range of reasonableness prior to any rebalancing, has already absorbed all other rebalancing impacts. Rebalancing RS 22A to 105 percent would result in an additional \$544.5 thousand reduction in revenue from RS22A which would then need to be shifted to other customer. While not determinative, FEI's proposal is responsive to BCOAPO's concern that rebalancing should be done in a manner which minimizes negative rate impacts to the residential class.

The range of reasonableness should be used as a guideline and not a requirement to rebalance when there are other rate design principles impacting the rebalancing decision. In this case, the closed RS 22A rate is still "well below" RS 22. While RS 22A customers have the option of selecting RS 22 as an alternative there is no requirement to move to RS 22.<sup>293</sup> The Panel notes FEI's statement that if the cost allocation for RS 22A rates were not grandfathered, then FEI would have proposed to bundle RS 22A in its RS 22 proposal.

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<sup>290</sup> Exhibit B2-8, Elenchus response to CEC IR 2.2.

<sup>291</sup> Exhibit B-1-5, p. 9-38; Order G-101-93, BCGUL 1993 Phase B Rate Design Application Decision dated October 25, 1993, pp. 44-45.

<sup>292</sup> Exhibit B-34, CEC IR 3.95.1, pp. 10-11; Transcript Vol 5, p. 487.

<sup>293</sup> FEI Reply Argument, pp. 34-35.

The Panel finds that FEI's approach to rebalancing RS 5/25 reflects a reasonable balance of rate design principles. Even though adjusting the Basic Charge reduces the alignment with cost causation, FEI's approach is supported by the rate design principles of rate and revenue stability. The Panel agrees with FEI that changing the Basic Charge and not the Demand or Delivery Charge to rebalance revenues for RS 5/25:

- Ensures that FEI's proposals for RS 7, RS 27 and RS 4 remain unchanged and that there will be no additional revenue shift from RS 7 and RS 27 to RS 1;
- Supports rates for RS 5 and RS 25 that continue to attract customers with at least a 40% Load Factor;<sup>294</sup> and
- Reducing the Basic Charge only keeps the price signal of the Demand Charge in place, which encourages customers to use the system efficiently.<sup>295</sup>

The Panel disagrees with IGC that adjusting the Demand Charge would align better with the energy efficiency objective. As pointed out by FEI, decreasing the Demand Charge would reduce the incentive for customers to use the system efficiently and would be inconsistent with government policy.

## **8.0 Tariff Amendments - General Terms and Conditions and Rate Schedules**

### **8.1 Approvals sought by FEI**

#### General Terms and Conditions

The FEI General Terms and Conditions (GT&Cs) set out the BCUC approved terms and conditions of service provided by FEI, which includes Fort Nelson. In section 11 of the Application. FEI describes the amendments it proposes to all sections of the GT&Cs and it seeks to implement the proposed amendments in the fourth quarter of 2018. A blacklined version of the proposed GT&Cs is set out in Appendix 11-1 of the Application.<sup>296</sup> The proposed amendments include some substantive changes, numerous housekeeping changes for consistency, and changes to the Standard Fees and Charges Schedule based on a jurisdictional and internal cost review.<sup>297</sup>

The more substantial amendments to the GT&Cs are summarized as follows:

- A number of new definitions have been proposed or moved from the rate schedules into the Definition section of the GT&Cs to reduce repetition in multiple rate schedules. These include definitions for Business Day CNG, CNG Service, Delivery Charge, Fort Nelson, LNG, LNG Service, and Service Line Cost Allowance;
- FEI is proposing to further combine service areas. The proposed GT&Cs have combined all of the service areas, with the exception of Fort Nelson, into one service area, which has been referred to as the Mainland and Vancouver Island Service Area;

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<sup>294</sup> Exhibit B-34, CEC IR3.93.1.

<sup>295</sup> Exhibit B-35, ICG IR

<sup>296</sup> Exhibit B-1-5, pp. 11-18, 23.

<sup>297</sup> FEI Final Argument, pp. 53-54.

- In Section 14 (Access to Premises and Equipment), FEI is proposing a new right to install and operate a remote meter, at the Customer's cost, in situations where FEI is unable to obtain regular access to a Customer's Premises;
- In Section 19.7 (Over-billing), a maximum refund period of six years has been proposed for over-billing errors; and
- A new paragraph (e) is being proposed for Section 23.2 (Discontinuance or Refusal Without Notice), which would authorize FEI to discontinue or to refuse Service without notice in the event that a Customer tampers with or otherwise alters a Meter Set.<sup>298</sup>

Proposed changes to the standard charges are set out in Appendix 11-2 of the Application and are summarized in the following table:

**Table 8-1: Summary of Proposed Changes to the Standard Charges Schedule and Accompanying Notes**<sup>299</sup>

Standard Charge/Fee Name		Fee/Charge	
Current	Proposed	Current	Proposed
Application Fee <sup>1</sup>	Application Charge <sup>1</sup>	<b>\$25.00</b>	<b>\$15.00</b>
Late Payment Charge	No change	1.5% per month <sup>2</sup>	No change
Dishonoured Cheque Charge	Returned Payment Charge	<b>\$20.00</b>	<b>\$8.00</b>
Interest on Cash Security Deposits	No change	FEI's prime interest rate minus 2% <sup>3</sup>	No change
Disputed Meter Testing Fees <sup>4</sup>	Meter Testing Charges <sup>4</sup>	<b>\$60.00</b>	No change
Disputed Meter Testing Fees <sup>5</sup>	Meter Testing Charges <sup>5</sup>	Actual Costs of Removal and Replacement	No change
Reactivation Charges Performed During Regular Working Hours	No change	<b>\$90.00</b>	No change
Reactivation Charges Performed After Regular Working Hours	No change	<b>\$115.00</b>	No change

**Notes:**

<sup>1</sup> Includes: Existing Installation  
New Installation – Manifold Meters  
New Installation – Vertical Subdivision

<sup>2</sup> 19.56% per annum on outstanding balance.

<sup>3</sup> FortisBC Energy prime interest rate is defined as the floating annual rate of interest which is equal to the rate of interest declared from time to time by FortisBC Energy's lead bank as its "prime rate" for loans in Canadian dollars.

<sup>4</sup> Meters rated at less than or equal to 14.2 m3/Hour.

<sup>5</sup> Meters rated greater than 14.2 m3/Hour.

FEI states that the proposed reductions to the Application Charge and the Returned Payment Charge "primarily reflect efficiencies in the business processes resulting from increased access to online and electronic information

<sup>298</sup> Exhibit B-1-5, pp. 11-2, 11-3.

<sup>299</sup> Ibid., Table 11-3, pp., 11-19 – 11-20.

necessary to perform these two services.”<sup>300</sup> FEI proposed changes to the GT&Cs took into consideration its review of the practices of other utilities.<sup>301</sup>

In its Final Argument, FEI notes “the correction to the amendments to Section 19.7 of the General Terms and Conditions filed in Attachment 11.1a to Exhibit B-8, and the correction to the proposed Returned Payment Charge of \$7 filed in Attachment 57.1 of Exhibit B-11.”<sup>302</sup>

### Rate Schedules

FEI’s rate schedules set out BCUC approved specific terms, conditions, and applicable charges for each of FEI’s different service offerings.<sup>303</sup> FEI states that “the revisions to each of the rate schedules reflects the proposals in the Application, aligns language between the rate schedules, and includes minor revisions to wording and housekeeping changes for consistency purposes.”<sup>304</sup> FEI proposes that the changes to the rate schedules be approved effective Q4 of 2018.<sup>305</sup> A summary of the proposed amendments to FEI rate schedules and tariff supplement G-21 for Creative Energy is located on pages 1 through to 10 of Exhibit B-1-1. Blacklined versions of the FEI rate schedules with the proposed amendments are included in Appendix 11-3 of Exhibit B-1-1. The proposed amendments include a proposal to decrease the Administration Charge per month:

- For Rate Schedules 22, 22A, 22B, 23, 25, 26 and 27 from \$78 to \$39; and
- For Fort Nelson RS 25 from \$202 to \$39.<sup>306</sup>

The analysis and supporting calculations for FEI’s proposed decrease in the Administration Charge is in Appendix 11-4 of Exhibit B-1-1.

### *Intervener arguments*

BCSEA and the CEC support the proposed changes to the GT&Cs and standard charges.<sup>307</sup> BCOAPO raises concern over the wording of the Tariff as relates to the return of security deposits. Security deposits are returned to residential customers after one year providing the customer has exhibited a good payment history. BCOAPO states that “this practice is different than the language that currently exists in the Tariff, which outlines that security deposits are only required to be refunded to the customer upon termination of services, regardless of the length of time the customer is with FEI or their payment history.”<sup>308</sup> BCOAPO states that the basis on which security deposits are to be returned should be “clear, regular and unequivocal” and customers with good payment histories “should be entitled to the return of their deposit plus interest.”<sup>309</sup>

A further concern put forward by BCOAPO relates to winter disconnection of service and submits that the BCUC should consider ordering their elimination.

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<sup>300</sup> Exhibit B-1-5, p. 11-19.

<sup>301</sup> Ibid., p 11-18.

<sup>302</sup> FEI Final Argument, p. 54.

<sup>303</sup> Exhibit B-1-5, p. 11-23.

<sup>304</sup> Exhibit B-1-1, p. 1.

<sup>305</sup> Exhibit B-1-5, p. 11-27.

<sup>306</sup> Exhibit B-1-1, pp. 8-9.

<sup>307</sup> BCSEA Final Argument, p. 14; CEC Final Argument, p. 38.

<sup>308</sup> BCOAPO Final Argument, p. 18.

<sup>309</sup> Ibid., p.19.

### *FEI reply argument*

FEI states that it proposes changes to Section 6.3 of the tariff to align its wording with current practice as relates to the return of security deposits under which FEI may return security deposits after one year. FEI indicates they wish to continue the use of the term “may” to deal with exceptions which may occur.<sup>310</sup>

With respect to the winter disconnection of service, FEI states that it views winter disconnection of service as a last resort, stating that the instances in which disconnections may be considered are infrequent. FEI sets out the remedies available to customers and the steps it takes to resolve conditions under which a disconnection may be required.<sup>311</sup> FEI states that during “the winter months, the weather conditions at the customer’s service location are taken into consideration by both collections and field staff before a decision is made to disconnect a customer. FEI delays disconnection based on individual circumstances.”<sup>312</sup> FEI concludes that:

[c]onsistent with current practices which have proven to be successful, FEI should retain the flexibility to withhold security deposits and make winter disconnections when necessary and prudent.<sup>313</sup>

### *BCUC determination*

**The housekeeping and other amendments to FEI’s General Terms and Conditions as set out in Appendices 11-1 and 11-2 to Exhibit B-1 are approved inclusive of the correction to the amendments to Section 19.7 of the General Terms and Conditions filed in Attachment 11.1a to Exhibit B-8 and the correction to the proposed Return Payment Charge of \$7 filed in Attachment 57.1 of Exhibit B-11.**

**The proposed amendments to the FEI Rate Schedules as set out in Appendix 11-3 to Exhibit B-1-1 are approved.**

In the Panel’s view, FEI’s proposed amendments to its GT&Cs and Standard Charges are just, reasonable and not unduly discriminatory. The Panel notes that FEI has considered practices in other jurisdictions in arriving at its proposed changes to the GT&Cs. Although BCOAPO raises concern over disconnection policies and practices relating to the return of security deposits, interveners were otherwise silent or supportive of the proposed changes.

The Panel is persuaded that FEI’s proposed amendment to the Tariff relating to the return of security deposits aligns the wording of the Tariff with current business practice. Moreover, the return of security deposits should remain subject to discretion, and that making the return of deposits mandatory at the end of one year is unnecessary given FEI’s current business practices.

The Panel is further persuaded that FEI should retain the capacity to discontinue service and to disconnect customers if in FEI’s view those customer’s practices unreasonably disadvantage other ratepayers. FEI’s current business practices achieve a reasonable balance allowing the company to exercise discretion in determining how to best decide disconnections on a case by case basis.

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<sup>310</sup> FEI Reply Argument, pp.26-27.

<sup>311</sup> Ibid., pp. 28-29.

<sup>312</sup> Ibid., p. 28.

<sup>313</sup> Ibid., p. 29.

The Panel finds FEI's current practices in respect of winter disconnections being treated as a last resort to be reasonable. The Panel notes that FEI takes into consideration weather conditions at the customer's location before a decision is made on whether or not to disconnect the customer and delays disconnection based on individual circumstances.

## 9.0 Fort Nelson rate design

FEI serves approximately 2,500 customers in Fort Nelson with an annual consumption of approximately 0.6 PJ of natural gas. Fort Nelson represents a small portion of FEI's overall customer base; approximately 0.2 percent of the total number of customers and approximately 0.3 percent of the total demand.<sup>314</sup> Although not a separate legal entity, Fort Nelson has its own rate base and revenue requirements for the purposes of determining rates. Fort Nelson was purchased by FEI's predecessor company in 1985 and has not undertaken a full rate design since that time.<sup>315</sup> FEI performed a COSA study for Fort Nelson which utilized the approved 2018 test year from Fort Nelson's Revenue Requirements Application.<sup>316</sup> The Fort Nelson COSA Study was addressed through Order G-4-18 with Reasons attached, dated January 9, 2018. On February 6, 2018, FEI filed amendments to its Application to reflect the directives in Order G-4-18.

In subsections 9.1 to 9.8 below, the Panel presents FEI's rate design and rate rebalancing proposals. Intervener arguments and the Panel's overall determination on FEI's proposals for Fort Nelson follow these subsections.

### 9.1 Approvals sought for Fort Nelson

FEI lists on pages 13-1 through to 13-4 of Exhibit B-1-5, the following approvals it seeks for the Fort Nelson service area.<sup>317</sup>

- The cancellation of certain rate schedules, each of which have no customers (Rate 1 Option A, Rate 2.4, Rate 3.2, and Rate 3.3);<sup>318</sup>
- Renaming Fort Nelson's remaining rate schedules to align with FEI's rate schedule naming convention as described in Table 13-1 in the Application;<sup>319</sup>
- Unbundling Fort Nelson's residential, commercial and industrial rates;<sup>320</sup>
- A deferral account to record the cost of changes to the billing system for Fort Nelson that is required to unbundle Fort Nelson's rates;
- Rate design and rebalancing proposals for residential, commercial and industrial rates as discussed in the respective sections below; and
- Housekeeping and other amendments to the Fort Nelson Gas Tariff.

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<sup>314</sup> Exhibit B-1-5, p. 13-5

<sup>315</sup> Ibid., p. 13-8

<sup>316</sup> Ibid., p. 13-13.

<sup>317</sup> Ibid., pp. 13-1 – 13-4.

<sup>318</sup> Ibid., pp. 13-1 – 13-2.

<sup>319</sup> Ibid., Table 13-1, pp. 13-5 – 13-6.

<sup>320</sup> Ibid., pp. 13-20 – 13-22.

## 9.2 Unbundling of Fort Nelson's rates

FEI proposes to unbundle Fort Nelson's rates. Currently Fort Nelson's rates are bundled which means there is no distinction between commodity, midstream and transportation delivery components on a customer's bill. FEI notes the rates in FEI's other service areas have been unbundled since the early 1990s.<sup>321</sup>

FEI argues that unbundling of Fort Nelson's rates:<sup>322</sup>

- Provides transparency by allowing customers to see the different components on their bill (commodity, midstream and delivery) as well as the changes to each component from one period to the next;
- Provides Fort Nelson customers the ability to participate in services that require unbundled rates such as the Renewable Natural Gas Program, subject to BCUC approval in the future;
- Was preferred by Fort Nelson residential customers based on the results of FEI's survey; and
- Is consistent with the use of unbundled rates in other jurisdictions as identified in Elenchus' Rate Design Report.

FEI points out that Elenchus agreed with FEI's analysis of the unbundling of Fort Nelson's rates. However, FEI also acknowledged potential downsides of unbundling rates.<sup>323</sup>

One downside that was highlighted by Elenchus is that there would be some degree of customer confusion until they understand and accept the new rate structure.<sup>324</sup> FEI plans to "support customer understanding and acceptance through a communication plan leading up to the implementation date." FEI states that communication activities would include bill messages, bill inserts and digital communications and customer service representatives would be provided training and education material in order to assist customers understand the changes. FEI submits that customer communication will mitigate potential for customer confusion.<sup>325</sup>

FEI "estimates that the one-time pre-tax cost to make the changes to the billing system is approximately \$70 thousand."<sup>326</sup> It requests approval for a deferral account to record the cost of changes to the billing system due to the unbundling of Fort Nelson's rates in which accounts the actual costs would be recorded on a net-of-tax basis and amortized over five years beginning in 2019. FEI submits that the five-year amortization period "is appropriate given the long-term benefit of unbundling rates, and will spread out the rate impact of these costs on Fort Nelson customers."<sup>327</sup>

## 9.3 Fort Nelson rate structure

FEI proposes to replace Fort Nelson's existing declining block rate structure with a flat rate structure.<sup>328</sup>

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<sup>321</sup> FEI Final Argument, pp. 56-57.

<sup>322</sup> Ibid., pp. 57-58.

<sup>323</sup> Ibid., p. 58.

<sup>324</sup> Exhibit A2-10, Elenchus Rate Design Report, p. 29.

<sup>325</sup> FEI Final Argument, pp. 59-58.

<sup>326</sup> Ibid., p. 59.

<sup>327</sup> FEI Final Argument, p. 59.

<sup>328</sup> Ibid.

FEI submits that Fort Nelson’s “existing declining block structure is complex and sends price signals to increase consumption, contrary to policies in favour of conservation and efficiency.”<sup>329</sup> FEI further notes that the declining block rate structure for FEI was eliminated in 1993.<sup>330</sup> In support of its Application for a flat rate structure, FEI submits:<sup>331</sup>

- It is easy for customers to understand and FEI to administer;
- It improves rate and revenue stability due to more accurate annual forecasting results;
- It removes price signals that discourage efficiency and conservation;
- It is most common in Canada as seven out of eleven Canadian natural gas utilities use a flat rate structure; and
- It would eliminate fluctuating minimum charges caused by the current rate structure and fluctuating commodity prices.

FEI notes that Elenchus highlighted benefits of a flat rate structure to be “price signals to encourage conservation, alignment with standard practice, consistency across service areas, and alignment with the nature of the utility’s operating costs.”<sup>332</sup> FEI states that the potential concerns raised by Elenchus regarding customer understanding and rate impacts will be addressed through FEI’s communication plan and amortization of billing system costs.<sup>333</sup>

For FEI’s proposed unbundled flat rate structure for RS 1, 2, 3, 5 and 6, FEI proposes to set a:

- Commodity Cost Recovery Charge based on classifying commodity costs as energy-related and allocating those costs to all sales customers based on throughput, as discussed in section 13.4.2 of the Application; and
- Storage and Transport Charge based on classifying midstream costs as demand-related and allocating those costs to all sales customers based on their load factor adjusted volume, as discussed in section 13.4.2 of the Application.<sup>334</sup>

## **9.4 Residential rate design**

FEI proposes to implement, for the Fort Nelson residential customers, a “separate Commodity Cost Recovery Charge, Storage and Transport Charge and a flat volumetric Delivery Charge with a fixed daily Basic Charge” similar to FEI’s residential rate structure.<sup>335</sup> The Commodity Cost Recovery Charge and Storage and Transport Charge which would be set separately as part of the BCUC’s review of FEI’s quarterly Gas Cost Reports.<sup>336</sup> FEI states that it has used a linear programming technique to calculate the proposed daily Basic Charge and volumetric Delivery Charge in a way that “achieves the lowest maximum dollar amount bill increase for any individual customer.”<sup>337</sup> FEI submits that its proposal yields minimal bill impact for the majority of customers and low consumption customers will see decreases due to the elimination of the 2 GJ minimum daily charge.<sup>338</sup>

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<sup>329</sup> Ibid.

<sup>330</sup> Ibid.

<sup>331</sup> Ibid., pp. 60-63.

<sup>332</sup> Ibid., p. 63.

<sup>333</sup> Ibid., p. 63.

<sup>334</sup> Exhibit B-1-5, pp. 13-2–13-3.

<sup>335</sup> Ibid., p. 13-30.

<sup>336</sup> FEI Final Argument, p. 63.

<sup>337</sup> Ibid.

<sup>338</sup> Ibid., p. 64.



FEI states that setting Fort Nelson’s residential Basic Charge to the same rate as FEI’s residential Basic Charge would result in rate shock with residential customers experiencing annual changes between negative 26 percent and positive 24 percent.<sup>339</sup> FEI notes that setting the Fort Nelson Basic Charge so that there is no bill impact for the residential customer with average monthly consumption yields results similar to FEI’s proposal.<sup>340</sup>

FEI states that it “will reevaluate the level of the Basic Charge for Fort Nelson residential customers in future COSA studies, which the Commission directed FEI to file 5 years after the date of the final decision in this proceeding.”<sup>341</sup> FEI further states that it will apply for an adjustment to Fort Nelson’s Basic Charge at that time.<sup>342</sup>

## 9.5 Commercial rate design

For the Fort Nelson commercial customer rate design, FEI proposes to implement a “separate Commodity Cost Recovery Charge, Storage and Transport Charge and a flat volumetric Delivery Charge with a fixed daily Basic Charge” similar to FEI’s commercial rate structure.<sup>343</sup> FEI also proposes to set the annual consumption threshold separating small and large commercial customers at 2,000 GJ per year, down from the existing threshold at 6,000 GJ per year.<sup>344</sup> FEI states that this threshold would be consistent with the threshold between FEI’s RS 2 and RS 3 customers.<sup>345</sup>

FEI argues that the 2,000 GJ per year threshold:<sup>346</sup>

- Is within the range supported by analysis of load factor and consumption data for Fort Nelson commercial customers;
- Is within the range of thresholds in other jurisdictions and the current 6,000 GJ per year threshold is outside the range of jurisdictions surveyed;
- Is consistent with the threshold used in FEI’s other service areas; and
- Can be implemented with minimal impact where an estimated nine small commercial customers would be migrated to the large commercial rate and receive a minor rate reduction as a result.

FEI submits that its proposed charges for small and large commercial customers balance several rate design principles and considerations including, among other things, the load factors and the cost to serve small commercial customers when compared to large commercial customers.<sup>347</sup> In determining the proposed Basic and Delivery Charges, FEI sought to limit the bill impact to customers. FEI submits that the largest increase for small commercial customers would be 2 percent and the largest increase for large commercial customers would be 0.7 percent.<sup>348</sup>

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<sup>339</sup> Ibid.

<sup>340</sup> Ibid.

<sup>341</sup> Ibid., pp. 64-65.

<sup>342</sup> FEI Final Argument, p. 65.

<sup>343</sup> Exhibit B-1-5, p. 13-38; FEI Final Argument, p. 65.

<sup>344</sup> Exhibit B-1-5, p. 13-38; FEI Final Argument, p. 65.

<sup>345</sup> Exhibit B-1-5, p. 13-38; FEI Final Argument, p. 65.

<sup>346</sup> FEI Final Argument, pp. 65–66.

<sup>347</sup> FEI Final Argument, pp. 67-68.

<sup>348</sup> Ibid., p. 68.

## 9.6 Industrial rate design

FEI proposes that the new rate structure for Fort Nelson’s Industrial customers, following the proposed elimination of the declining block rate structure, be comprised of:<sup>349</sup>

- a Basic Charge per month;
- a Demand Charge per GJ per month;
- a Delivery Charge per GJ; and
- an Administration Charge per month (applicable only to Fort Nelson’s RS 25).

FEI’s proposals result in a rate structure consistent with FEI’s other service areas. Rate 3.1 (which FEI proposed to rename RS 5) would also have a Commodity Cost Recovery Charge per GJ and a Storage and Transport Charge per GJ.<sup>350</sup> The following table shows FEI’s proposed rates before rebalancing.

**Table 9-1: Proposed Rate Structure for Fort Nelson Industrial Customers Before Rebalancing**<sup>351</sup>

	Rate 3.1	RS 25
Basic Charge (per Month)	\$600.00	\$600.00
Demand Charge (per GJ per Month)	\$28.727	\$28.727
Delivery Charge (per GJ)	\$1.000	\$1.000
Administration Charge (per Month)	n/a	\$39.00
Commodity Cost Recovery Charge (per GJ)	\$1.275	n/a
Storage and Transport Charge (per GJ)	\$0.019	n/a

FEI notes that Fort Nelson has only one industrial customer currently taking service under RS 25, but is no longer operating its production facility and only uses natural gas for space heating.<sup>352</sup> FEI supports its proposal by stating that the proposed rates will be designed to collect the same revenue as was forecast in Fort Nelson’s 2017-2018 Revenue Requirement, so that other rate schedules are not impacted by the change.<sup>353</sup>

FEI also proposes to phase-out the Revenue Stabilization Adjustment Mechanism (RSAM) for Rate 3.1 and RS 25. The RSAM stabilizes delivery margin received from customers due to Use Per Customer (UPC) variances. Whenever industrial customers’ actual UPC varies from the forecast UPC used to set rates, whether due to weather variances or other causes, FEI records the differences in the RSAM deferral account for refunding or charging through a rate rider to the RSAM rate schedules over a two year period.<sup>354</sup> FEI submits that since a large portion of the revenues will now be recovered through fixed charges via the Basic Charge, Administrative Charge and the Demand Charge, it is no longer reasonable for the RSAM to apply to Fort Nelson’s Rate 3.1 and RS 25.<sup>355</sup> FEI notes that this proposal is consistent with the exclusion of FEI’s RS 5 and RS 25 from the RSAM.<sup>356</sup>

<sup>349</sup> Ibid.

<sup>350</sup> Ibid.

<sup>351</sup> Exhibit B-1-5, Table 13-24, p. 13-45.

<sup>352</sup> FEI Final Argument, p. 69.

<sup>353</sup> Ibid.

<sup>354</sup> Exhibit B-1-5, p. 13-46; FEI Final Argument, p. 69.

<sup>355</sup> FEI Final Argument, p. 69.

<sup>356</sup> Ibid., p. 70.

FEI concludes that although it is proposing the elimination of the RSAM for the industrial rate schedules, the RSAM Rider may need to continue temporarily for the existing RS 25 customer. FEI notes that the RS 25 customer would be contributing to the build-up of the RSAM deferral account balance up to the end of 2017 under the existing rate design and that this would attract the RSAM rate rider for the two subsequent years, 2018 and 2019.<sup>357</sup> FEI submits that it will address the discontinuation of the RSAM Rider for the existing RS 25 customer in a future Fort Nelson revenue requirements application.<sup>358</sup>

## **9.7 Amendments to Fort Nelson Gas Tariff**

The Fort Nelson Tariff sets out the BCUC approved terms, conditions rates and rate schedule for each of Fort Nelson's rate schedules. FEI proposes amendments to the Fort Nelson Tariff to "reflect the proposals in the Application and to align the tariff language with that of FEI's rate schedules."<sup>359</sup> FEI has also made "minor revisions to wording and housekeeping changes for consistency purposes."<sup>360</sup> On page 13-47 of the Application, FEI provides a summary of the primary changes being proposed to each of the proposed Fort Nelson rate schedules.<sup>361</sup> A more detailed review of the amendments is provided in Appendix 13-6.<sup>362</sup> The amendments include but are not limited to a common table of charges in several rate schedules, decreasing the monthly Administration Charge for RS 25 from \$202 to \$39, and introducing new rate schedules, based on FEI's rate design proposals, such as RS 3, RS 5 and RS 6.<sup>363</sup>

FEI notes that RS 6, which is for Natural Gas Vehicle Service in Fort Nelson, is a new rate schedule, which is substantially consistent with FEI's RS 6. FEI proposes to use the FEI RS 6 as the basis for Fort Nelson's RS 6 since there are no Fort Nelson RS 6 customers. FEI expects that Fort Nelson RS 6 customers will have similar characteristics to FEI's RS 6 customers.<sup>364</sup>

## **9.8 Fort Nelson final COSA results and rate rebalancing**

The Fort Nelson R:C ratios after the rate design proposals and proposed amendments for the Fort Nelson Gas Tariff were 91.7% for Rate 1; 108.2% for Rate 2.1; 115.8% for Rate 2.2; and 91.5% for RS 25.<sup>365</sup> As directed by Order G-4-18, FEI used a 95% to 105% R:C ratio range of reasonableness to inform rate design and rebalancing proposals for Fort Nelson. FEI proposes to adjust revenue responsibility to bring each of the four rate schedules within the R:C ratio range of reasonableness, as shown in Table 9-2 below.

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<sup>357</sup> Exhibit B-1-5, p. 13-46.

<sup>358</sup> FEI Final Argument, p. 70.

<sup>359</sup> Exhibit B-1-5, p. 13-46.

<sup>360</sup> Ibid., p. 13-46.

<sup>361</sup> Ibid., p. 13-47.

<sup>362</sup> Exhibit B-1-1, Appendix 13-6.

<sup>363</sup> Exhibit B-1-5, p. 13-47; p. 13-50.

<sup>364</sup> FEI Final Argument, p. 70.

<sup>365</sup> Exhibit B-1-5, Table 13-26, p. 13-50.

**Table 9-2: Fort Nelson Revenue to Cost and Margin to Cost Ratios after rate rebalancing<sup>366</sup>**

Rate Schedule	COSA after Rate Design Proposals		Rebalance Amount (\$000)	Approximate Annual Bill Change	COSA after Rate Design Proposals and Rebalancing	
	R:C	M:C			R:C	M:C
<b>Rate 1</b> <i>Domestic (Residential) Service</i>	91.7%	89.4%	66.5	5.4%	95.9%	94.8%
<b>Rate 2.1</b> <i>General (Small Commercial) Service</i>	108.2%	110.8%	(35.0)	-2.2%	105.0%	106.6%
<b>Rate 2.2</b> <i>General (Large Commercial) Service</i>	115.8%	120.0%	(37.2)	-8.6%	105.0%	106.4%
<b>Rate Schedule 25</b> <i>General Firm Transportation Service</i>	91.5%	91.5%	5.7	6.2%	95.0%	95.0%

### Residential

FEI proposes to increase the Basic Charge to \$0.3701 per day “so that the \$66.5 thousand in revenue shift is recovered from all residential customers equally.”<sup>367</sup> FEI submits that by collecting the entire revenue shift through the Basic Charge, low consumption residential customer will experience a greater impact than customers with higher consumption. However FEI notes that this is offset due to the fact that the lowest consuming customers received the greatest rate reductions to their annual bills through the unbundling of Fort Nelson residential rates.<sup>368</sup> FEI also notes that this proposal also results in Fort Nelson collecting more of its customer-related charges through the fixed Basic Charge.<sup>369</sup>

### Commercial

FEI proposes to adjust the rates for Rate 1.1 and Rate 2.2 to account for the decrease in revenue responsibility of \$35 thousand and \$37.2 thousand respectively. FEI submits that its rate rebalancing proposals maintain the economic breakeven threshold of 2,000 GJ per year, aligns the basic charge of Rate 2.1 and Rate 2.2 proportionally to the customer-classified costs from the COSA model and limits individual customer’s annual bill impact.<sup>370</sup>

### Industrial

FEI proposes to adjust the Demand Charge for RS 25 to account for the increase in revenue responsibility of \$5.7 thousand. FEI states that this will result in an annual bill increase of approximately 4%.<sup>371</sup> FEI submits that increasing the Demand Charge “provides recovery of the increased allocated fixed demand-related cost and the amount needed for rebalancing” and is an appropriate and reasonable approach that is consistent with rate design principles.<sup>372</sup>

<sup>366</sup> Exhibit B-1-5, Table 13-27, p. 13-51.

<sup>367</sup> FEI Final Argument, p.71.

<sup>368</sup> Ibid.

<sup>369</sup> Ibid., p. 72.

<sup>370</sup> Ibid.

<sup>371</sup> Ibid.

<sup>372</sup> FEI Final Argument, p. 73.

### Fort Nelson proposed rates based on rate design and rebalancing

FEI's proposed rates for Fort Nelson after the rate design and rebalancing proposals described above are summarized in Table 9–3 below.

**Table 9-3: Proposed Fort Nelson Rate Schedules and Rates after Rate Design and Rebalancing**

Current RS Name	Proposed RS Name	Proposed Rates <sup>373</sup>	
Rate 1 Option B Domestic Service	Rate Schedule 1 Residential Service	Basic Charge per Day	\$0.3701
		Delivery Charge	\$3.512 per GJ
Rate 2.1 General Service	Rate Schedule 2 Small Commercial Service	Basic Charge per Day	\$1.2151
		Delivery Charge	\$3.781 per GJ
Rate 2.2 General Service	Rate Schedule 3 Large Commercial Service	Basic Charge per Day	\$3.6845
		Delivery Charge	\$3.33 per GJ
Rate 2.3 Natural Gas Vehicle Fuel Service	Rate Schedule 6 Natural Gas Vehicle Service	Basic Charge per Day	Equal to FEI's approved January 1, 2018 RS 6 rates
		Delivery Charge	
Rate 3.1 Industrial Service	Rate Schedule 5 General Firm Service	Basic Charge per Month	\$600
		Demand Charge	\$30.35 per Month per GJ of Daily Demand
		Delivery Charge	\$1 per GJ
Rate Schedule 25 General Firm Transportation	Rate Schedule 25 General Firm Transportation Service	Basic Charge per Month	\$600
		Demand Charge	\$30.35 per Month per GJ of Daily Demand
		Delivery Charge	\$1 per GJ

### Annual bill impact and phase-in period

FEI considered the annual bill impact for Fort Nelson residential customers. FEI noted that when the rate design and rebalancing proposals in this Application were combined with the 2018 Revenue requirement increases, the total year 2018 percentage increase would equate to 10.60 percent.<sup>374</sup>

FEI examined a two-year phase-in period for Fort Nelson's residential customer rates. However, FEI does not recommend a phase-in period for two keys reasons. Firstly, FEI notes that the 2018 delivery margin increases were applied to the rates effective January 1, 2018 and these were more than offset by commodity cost decreases, mitigating the overall bill impact on Rate 1 customers.<sup>375</sup> FEI points out that "the total bill impacts to

<sup>373</sup> Exhibit B-1-5, pp. 13-3 – 13-4; Table 13-29, p. 13-56.

<sup>374</sup> Ibid., pp. 13-56 – 13-57.

<sup>375</sup> Ibid., p. 13-57.

residential customers in 2018 would be negative 2 percent, largely due to decreasing commodity rates.”<sup>376</sup> Secondly, FEI notes that it will take some time to implement its rate design proposals for Fort Nelson, including the implementation of a customer communications plan. FEI acknowledges that the rate changes could occur in 2019 and argues that at this time it is not known what impact, if any, the Fort Nelson 2019/2020 Revenue Requirements Application will have on the overall bill impact for Rate 1 customers. FEI submits that it will consider both the Rate Design and Revenue Requirement impacts together once they are known and will propose a phase-in of rate changes if warranted in Fort Nelson’s 2019/2020 Revenue Requirements Application.<sup>377</sup>

### *Intervener arguments*

BCSEA and CEC support FEI’s rate design and rebalancing proposals for Fort Nelson. The interveners submit, among other points, the following:

- CEC states that unbundled rates are important from a conservation and efficiency perspective as it enables customers to better understand their gas consumption.<sup>378</sup>
- CEC submits that it has considered the benefits and drawbacks of a flat rate structure and when compared to the alternatives the flat rate structure is the best option.<sup>379</sup>
- BCSEA and CEC support FEI’s proposed Basic and Delivery Charges for Fort Nelson.<sup>380</sup> BCSEA considers FEI’s approach to setting the rates acceptable.<sup>381</sup> CEC notes that no customers appear to experience an annual bill impact of more than \$11 and submits that these impacts are acceptable.<sup>382</sup>
- BCSEA notes that the proposed 2,000 GJ per year annual threshold between the small and large commercial customers is supported by the COSA results and the existing 6,000 GJ per year threshold is not supported by any data.<sup>383</sup> CEC submits that “the principles and proposals behind the above changes are sound and generally support recovery based on cost causation.”<sup>384</sup>
- BCSEA agrees with FEI’s reasons for adopting the RS 5/ RS 25 rate structure in Fort Nelson, but takes no position on FEI’s RSAM proposals for Fort Nelson.<sup>385</sup> CEC recommends that the BCUC approve the Fort Nelson industrial rate design as proposed by FEI.<sup>386</sup>
- BCSEA supports FEI’s rebalancing proposals for Fort Nelson arguing that it is supported by the Bonbright price signal principle. BCSEA notes that there may be some Fort Nelson residential customers that experience an annual bill increase of greater than 10% and submits that it does not oppose a phase-in mechanism.<sup>387</sup>

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<sup>376</sup> FEI Final Argument, p. 73.

<sup>377</sup> Ibid.

<sup>378</sup> CEC Final Argument, p. 39.

<sup>379</sup> Ibid.

<sup>380</sup> BCSEA Final Argument, p. 15.

<sup>381</sup> BCSEA Final Argument, p. 15; CEC Final Argument, p. 40.

<sup>382</sup> CEC Final Argument, p. 40.

<sup>383</sup> BCSEA Final Argument, p. 15; CEC Final Argument, p. 41.

<sup>384</sup> CEC Final Argument, p. 41.

<sup>385</sup> BCSEA Final Argument, pp. 16-17.

<sup>386</sup> CEC Final Argument, p. 43.

<sup>387</sup> BCSEA Final Argument, p. 18.

## **BCUC determination**

**The Panel approves FEI's rate design and rebalancing requests and related proposed amendments to the FEI Rate Schedules for the Fort Nelson Service area as set out on pages 13-1 to 13-4 of Exhibit B-1-5 and Appendix 13-6 of Exhibit B-1-1.**

The Panel finds FEI's rate design proposals for the Fort Nelson Service area to be just, reasonable and not unduly discriminatory and to reflect a reasonable balance of rate design principles including consideration minimizing the bill impact of changes on individual customers. Furthermore, the Panel notes the interveners acceptance of FEI's rate design and rebalancing proposals for Fort Nelson. The Panel considers the most significant impacts of FEI's rate design proposals below, followed by its findings on FEI's rebalancing proposals for Fort Nelson.

### Unbundled rates

**The Panel approves FEI's proposal to unbundle Fort Nelson's rates.**

The Panel is persuaded that unbundling rates together with FEI's proposed communication plan will improve transparency and support customer understanding of the changes regarding the different bill components. Further, FEI's plan to support customer understanding prior to and during implementation will assist with customer understanding and acceptance. The results of FEI's customer survey indicate the change is preferred by Fort Nelson residential customers. CEC supports the proposal indicating that unbundled rates will help customers to better understand their gas consumption and enable conservation and efficiency. Furthermore, the Panel notes the following points made by Elenchus regarding unbundled rates:

- All Canadian gas utilities in the Elenchus review have unbundled rates where gas costs, delivery charges, and storage and transport charges are shown on consumers' bills. This approach provides greater transparency of the cost drivers since the line items are consistent with the costs of the various services provided by the utility to their customers.<sup>388</sup>
- An approach that is more consistent with standard practice will align the billing of Fort Nelson customers more closely with customer expectations which include a bill that provides more information on the factors that drive their energy costs and in doing so provide better price signals for customers that wish to manage their natural gas bills more effectively by investing in more efficient appliances and managing their use more prudently.<sup>389</sup>

**To mitigate the rate impacts of billing system changes, the Panel approves FEI's request for a regulatory account to record the cost of changes to the billing system for Fort Nelson that are required to unbundle Fort Nelson's rates. The Panel also approves the five-year amortization period for this account.**

### Flat rate structure

**The Panel approves FEI's proposal to move Fort Nelson's rates to a flat rate structure.** The Panel agrees with FEI that the change is supported by a number of rate design principles and considerations including improved customer understanding, simplified administration, price signals that encourage efficiency and conservation and consistency with other jurisdictions. The results of FEI's customer survey indicate the change is preferred by Fort Nelson residential customers. CEC supports the proposal as the best option. Furthermore, the Panel notes the

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<sup>388</sup> Exhibit A2-10, Elenchus Rate Design Report, p. 27.

<sup>389</sup> Ibid., p. 28.

following points made by Elenchus regarding the change from a declining block rate structure to a flat rate structure:

- Customers whose energy consumption never exceeds the first block would be indifferent to a flat rate structure, while larger volume customers will have increased information on the financial value to them of reducing their consumption;<sup>390</sup>
- Abandoning the declining block rate structure in favour of a flat rate structure would align the Fort Nelson rates with standard practice and all customers in FEI's service territory would be under the same rate structure;
- A flat rate structure sends a better price signal for conservation than a declining block rate structure; and
- Any change in a utility's rate structure results in some degree of customer confusion until customers understand and accept the new rate structure. The utility will have to make an extra effort in communicating the change and reasoning behind the change to customers.<sup>391</sup>

The Panel considers that FEI's communication plan to support customer understanding of the changes prior to and during implementation should assist with customer understanding and acceptance.

#### Rebalancing

**The Panel approves FEI's rebalancing proposals for the Fort Nelson service area. The Panel directs FEI to consider the appropriateness of implementing a mitigation mechanism to address the impact of rate design and rebalancing proposals on Fort Nelson's residential rates in the Fort Nelson's 2019/2020 Revenue Requirements Application.**

The Panel finds FEI's proposals for rebalancing Fort Nelson customer classes to be consistent with the approach used by FEI as set out in Section 7 of this decision. In the COSA and R:C Ratios Decision, the BCUC found the Fort Nelson COSA methodology generally follows standard practice and directed FEI to use an R:C ratio range of reasonableness of 95 percent to 105 percent to inform rate design and rebalancing proposals in the Application. Consistent with evidence provided by Elenchus that rebalancing should be undertaken to move all classes that are outside the approved range to the nearest boundary, FEI proposes to adjust revenue responsibility to bring each of the four rate schedules within the R:C ratio range of reasonableness as directed in the COSA and R:C Ratios Decision.

In this decision, the Panel makes no determination on an explicit methodology for measuring rate shock. To consider whether the impact of FEI's proposals on residential customers are outside an acceptable range so as to be inconsistent with the stability and predictability rate design principle and thus should be mitigated by a phase-in mechanism, the Panel notes Elenchus' observations on rate shock:

Elenchus has observed that a common threshold for defining a rate/bill increase that constitutes rate shock is a double-digit increase (i.e., 10% or more). This view of rate shock appears to be more reflective of perceived societal values than any analytic basis for defining undue hardship resulting from a rate increase. Indeed, the hardship resulting from a rate increase is more

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<sup>390</sup> Exhibit A2-10, Elenchus Rate Design Report, p. 28.

<sup>391</sup> Exhibit A2-10, Elenchus Rate Design Report, p. 29.



closely correlated to income than the rate increase itself. Further, since customers tend to focus on the change in their total bills, rather than changes in individual components of the bill, it is typical, and in the view of Elenchus more appropriate, to define rate shock in terms of the increase in the total bill.

FEI's proposed rates for all rate classes are within the 10% rate increase threshold. Furthermore, FEI's approach as indicated in the Procedural Conference dated April 5, 2017, appears to be consistent with the approach that has been accepted in other jurisdictions.<sup>392</sup>

BCSEA does not oppose a phase-in mechanism for Fort Nelson residential customers if some customers will experience an annual bill increase of greater than 10 percent. The Panel finds a mitigation mechanism is not required for 2018 because:

- FEI's initial calculation of a 10.6 percent impact included the rate design and rebalancing proposals combined with the 2018 revenue requirement increases. FEI later states the total bill impacts to residential customers in 2018 would be negative 2 percent, largely due to decreasing commodity rates mitigating the overall bill impact on residential customers;
- It will take some time to implement its rate design proposals for Fort Nelson the rate changes could occur in 2019. At this time it is not known what impact, if any, the Fort Nelson 2019/2020 Revenue Requirements Application will have on the overall bill impact for residential customers.
- FEI states that it will consider both the Rate Design and Revenue Requirement impacts together once they are known and will propose a phase-in of rate changes if warranted in Fort Nelson's 2019/2020 Revenue Requirements Application.

The Panel agrees with FEI that it is appropriate to defer the finalization of this issue and to consider the appropriateness of a mitigation mechanism to address the impact of rate design and rebalancing proposals on Fort Nelson's residential rates in the Fort Nelson's 2019/2020 Revenue Requirements Application.

## **10.0 Transportation Service Review**

### **10.1 Introduction and background**

#### **10.1.1 Approvals sought by FEI**

FEI filed its Monthly Balanced Transportation Service Review (Transportation Service Review), as a part of the FEI 2016 RDA.

The approvals sought by FEI in respect of its Transportation Service Review, to be made effective in the fourth quarter of 2018, are as follows:

- Amendments to Rate Schedules 22, 22A, 22B, 23, 25, 26 and 27 to implement daily balancing for all transportation customers, as set out in Section 10.6 of the Application, and
- Amendments to Rate Schedules 22, 22A, 22B, 23, 25, 26 and 27 to reduce the daily balancing tolerance to a 10 percent threshold and to introduce a balancing charge of \$0.25/ gigajoule (GJ) for transportation

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<sup>392</sup> Ibid., pp. 8-9.

customers for gas supply shortfalls within a 10 to 20 percent tolerance level, as discussed in Section 10.7 of the Application.<sup>393</sup>

FEI also seeks approval of the proposed amendments to the applicable Rate Schedules as set out in the blacklined rate schedules in Appendix 11-3 of the Application.<sup>394</sup> With these amendments, all transportation service customers will be subject to the same balancing rules.<sup>395</sup>

### **10.1.2 Previous filings and decisions**

FEI's current transportation service model was developed in 1993 as part of the FEI two-phase rate design process commencing with the 1991 Phase A Rate Design Application and followed by the 1993 Phase B Rate Design Application.<sup>396</sup>

On May 13, 2014, FEI applied to BCUC to amend the monthly balancing charges for balancing gas applicable to transportation service under Rate Schedules 23, 25, 26, and 27 (collectively referred to as Monthly Balanced Transportation Service). FEI's application to amend the charge for balancing gas supplied under Monthly Balanced Transportation Service was denied by Order G-187-14 and reasons for decision (Monthly Balancing Charge Decision). In that decision, FEI was directed to file a rate design application on monthly Balanced Transportation Service by December 1, 2015<sup>397</sup> and include, among other things, a review or discussion of the following list of items in its subsequent rate design application:

- The need for continuing to offer Monthly Balanced Transportation Service;
- The balancing charge to incent the appropriate behaviour across a range of market conditions;
- The rate design mechanism to incent the appropriate behaviour throughout the month; and
- The need for setting out imbalance tolerances in the tariff, whether these tolerances should apply to both positive and negative imbalances and including a review of the practices of other utilities in the region.<sup>398</sup>

BCUC further directed FEI to include in its subsequent rate design application, a review of the impact of FEI acting as a Shipper Agent supplying gas under RS 14A to Monthly Balanced Transportation Service Shippers.<sup>399</sup> BCUC outlined the details of the items to be included in the review.<sup>400</sup>

On May 20, 2015, FEI requested that the deadline for filing the subsequent rate design application be extended from December 1, 2015 to December 1, 2016 and that FEI be allowed to do such filing either as part of or along with a broader rate design application.<sup>401</sup> BCUC approved FEI's request<sup>402</sup> and directed FEI to add the following items to the list of issues to be reviewed in the rate design on Monthly Balanced Transportation Service:

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<sup>393</sup> Exhibit B-1, Section 2.2, Item 11, pp. 2-3 - 2-4; Exhibit B-1-5, Section 2.2, p. 2-3.

<sup>394</sup> Exhibit B-1-1, FEI Supplemental Filing, Appendix 11-3.

<sup>395</sup> Exhibit B-30, pp. 1-2.

<sup>396</sup> Exhibit B-1, Section 3.3.2, pp. 3-10 to 3-11; Phase B decision accompanying Commission Order G-101-93, Section 10.

<sup>397</sup> BCUC Order G-187-14 dated December 1, 2014.

<sup>398</sup> BCUC Decision in regard to FEI's Application to Amend the Balancing Charges for Rate Schedules 23, 25, 26 and 27 (Monthly Balancing Charge Decision) accompanying Order G-187-14, p. 22.

<sup>399</sup> *Ibid.*, p. 25.

<sup>400</sup> *Ibid.*

<sup>401</sup> FEI Application to reconsider Order G-187-14, FEI Final Argument, pp. 4-5.

<sup>402</sup> BCUC Order G-135-15, Directives 1 and 2.

- The appropriateness of the business practice of allowing transfers of imbalances between daily balanced and monthly balanced accounts; and
- The extent of FEI's use of core gas cost resources to balance the overall transportation service imbalances for each day and the cost to the core customers.<sup>403</sup>

FEI's Transportation Service Review filed as part of its Application responds to BCUC Orders stemming from the events listed above.

### 10.1.3 Transportation Customer Business Model

#### Overview

Under FEI's transportation services operating model, transportation service customers (Shippers) must source their own gas supply, either on their own or from a marketer they have appointed to act on their behalf (Shipper Agent), and arrange to have the gas supply delivered directly to FEI's system at an interconnection point.<sup>404</sup> In this decision, the term "Shipper/Shipper Agent" refers to the party who has taken responsibility to manage the supply and balance to the transportation customer's demand.

FEI's current transportation rate schedules are either daily or monthly balanced, except for Rate Schedule 22B which has no monthly or daily balancing rules.<sup>405</sup> Daily balanced means that the gas supplied to FEI's System for the transportation customer must be balanced with the transportation customer's demand on a daily basis. Monthly balanced means that by the end of each month the aggregate supply of gas over the month must balance to the transportation customer's aggregate demand over the same month. Shipper Agents are permitted to pool their customers into daily or monthly balanced groups.<sup>406</sup> If a group includes one or more customers on a daily balanced rate schedule, daily balancing rules apply to the group and all customers in the group.<sup>407</sup>

FEI provides balancing services with no charge to transportation system customers operating within the applicable balancing tolerances. Daily and monthly balanced customers incur charges when balancing tolerances are exceeded.<sup>408</sup> For daily balanced customers the balancing tolerance is 20 percent under normal conditions. If a daily balanced customer's under-deliveries for the day exceed the 20 percent balancing tolerance outlined in the rate schedule, FEI provides a balancing service with balancing charges of \$0.30/GJ during the summer (April to October) and \$1.10/GJ during the winter (November to March).<sup>409</sup> FEI has no balancing tolerance for over-deliveries.<sup>410</sup> Monthly balanced customers have no daily balancing tolerances but must end the month with a zero or positive inventory balance.<sup>411</sup> If the balance for a monthly balanced customer is negative, representing a monthly aggregate under-delivery, FEI supplies Monthly Balancing Gas.<sup>412</sup>

<sup>403</sup> Order G-135-15, Directives 1 and 2, Appendix A, Directive 3.

<sup>404</sup> Exhibit B-1, Section 10.3.1, p. 10-9.

<sup>405</sup> Exhibit B-1, Section 10.3.7, Table 10.3.7; Exhibit B-30, FEI Final Argument, table on p. 2.

<sup>406</sup> Ibid., Section 10.3.4, pp. 10-11 and 10-12.

<sup>407</sup> Ibid., Section 10.3.7, Table 10-2 footnote, p. 10-17; also Exhibit B-1, Section 10.6.1, p. 10-21.

<sup>408</sup> Ibid., Section 10.3.3, p. 10-11; Exhibit B-30, Table summarizing current balancing rules, p. 2.

<sup>409</sup> Ibid., Section 10.7.1, p. 10-26.

<sup>410</sup> Ibid., Section 10.7.5, p. 10-36.

<sup>411</sup> Ibid., Section 10.3.6, p. 10-13.

<sup>412</sup> Ibid., Section 10.3.7, Table 10-2, p. 10-17; Exhibit B-30, Table summarizing current balancing rules, p. 2.

Rate Schedules 22 and 22A are daily balanced, while Rate Schedules 23, 25, 26 and 27 are monthly balanced.<sup>413</sup> Rate Schedule 22B<sup>414</sup> has no monthly or daily balancing rules.<sup>415</sup> However, during supply constraints a five percent tolerance is applicable to all transportation rate schedules including RS 22B.<sup>416</sup>

### *Evolution of the industry and tools available*

FEI notes that the natural gas industry has evolved since the inception of its transportation service offering in 1985.<sup>417</sup> When the transportation service model first began, Shipper Agents used fax machines to transmit gas nominations (i.e. requested supply) and receive confirmation of authorized quantities from transmission and local distribution pipeline companies. There were only two nomination gas cycles to make supply adjustments within the day.<sup>418</sup> Issues with collection of metered consumption meant the customer demand was sometimes estimated rather than actual. Authorized supply and customer demand (actual or estimated) were manually updated by FEI in a database. Imbalance positions were faxed or emailed to Shipper Agents on a bi-weekly basis.<sup>419</sup>

Currently all Shipper Agents representing monthly balanced customers have the same access to customer consumption as Shipper Agents with daily balanced customers through FEI's Web Information and Nomination System (WINS).<sup>420</sup> Over 95 percent of all transportation customers sites have Automatic Meter Reading (AMR) which reports their customers' metered consumption on a daily basis within 24 hours of the end of the gas day. This is done through wireless connections, recorded in WINS and then made available to Shipper Agents.<sup>421</sup>

In addition to more timely customer consumption data, FEI notes that the number of nomination gas cycles have been increased to five cycles for each gas day. FEI points out that all Shipper Agents currently have the ability to make changes to their requested supply up to five times for each gas day through WINS to best match their forecast of customer consumption. Two of the nomination cycles occur prior to the gas day and the remaining three are intraday nomination cycles.<sup>422</sup>

FEI also observes that "generally marketers have become sophisticated" since the inception of its transportation service offering in 1985.<sup>423</sup> A number of FEI Shipper Agents have moved their customers into an exclusively daily balanced group and are adhering to daily balancing provisions.<sup>424</sup>

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<sup>413</sup> Exhibit B-1, Section 10.3.3, p. 10-11; Exhibit B-30 Table summarizing current balancing rules, p. 2. For a description of each rate schedule, please see Exhibit B-2, FEI Workshop No. 1, slide 97.

<sup>414</sup> RS 22B is a closed rate schedule for five specific large industrial customers in the Columbia region.

<sup>415</sup> Exhibit B-1, Section 10.3.7, Table 10-2, p. 10-17.

<sup>416</sup> Ibid.

<sup>417</sup> FEI TSR SRP, Transcript Vol. 6, p. 566.

<sup>418</sup> Ibid.

<sup>419</sup> Exhibit B-5, BCUC IR 56.1, pp. 243-244.

<sup>420</sup> Ibid., BCUC IR 56.1, p. 243.

<sup>421</sup> Ibid., BCUC IR 56.1, p. 244.

<sup>422</sup> Exhibit B-5, BCUC IR 56.1.1, pp. 245-246.

<sup>423</sup> FEI TSR SRP, Transcript Vol. 6, p. 567.

<sup>424</sup> Exhibit B-1, Section 10.6.1, p. 10-23.

## 10.2 Daily balancing provisions

FEI is applying to implement daily balancing rules for all transportation rates schedules across all regions. Inherent in the elimination of monthly balancing is the elimination of the current business practice whereby FEI allows Shipper Agents who hold both daily balanced and monthly balanced groups at a delivery point to transfer imbalances between those accounts. FEI submits that the reasons supporting its proposal for all customers to balance daily can be grouped into five key points:

1. *Daily balancing will result in closer alignment with the intent of the rate schedules that the customers or Shipper Agent provide daily supply based on a best estimate of daily demand.*<sup>425</sup> FEI stated that the consistent pattern of monthly balanced groups to undersupply each month and daily balanced groups to over supply each month makes it clear that, although the obligation to provide a best estimate each day is common across rate schedules, it is price signals from balancing rules that influence behaviour.<sup>426</sup>
2. *Daily balancing will more closely align FEI's transportation model with industry standard practice.*<sup>427</sup> FEI referenced the jurisdictional reviews by its consultant, Black & Veatch, and by Elenchus, who both concluded that daily balancing is standard industry practice.<sup>428</sup> FEI highlighted that it is held to daily balancing requirements by the upstream pipelines to which it connects.<sup>429</sup>
3. *All transportation customers are now able to manage under daily balancing provisions and should therefore be treated equally.*<sup>430</sup> FEI referred to the evolution of the transportation service model and that all transportation service customers now have the tools to daily balance with AMR reporting metered consumption daily and information being transmitted to customers daily through FEI's self-serve WINS.<sup>431</sup> FEI states the evidence shows that daily balancing is occurring today for many transportation groups, including those containing customers on monthly balanced rate schedules.<sup>432</sup>
4. *Daily balancing will reduce opportunities for arbitrage.*<sup>433</sup> FEI has not sought to prove arbitrage is occurring but concludes there is no doubt that there are opportunities for this to occur.<sup>434</sup> FEI references Elenchus who stated that more flexible balancing requirements will inevitably facilitate gaming of the system.<sup>435</sup> FEI referred to an example of this type of arbitrage opportunity as illustrated in a scenario set out in BCUC IR 59.2.<sup>436</sup> FEI noted that the coexistence of monthly and daily groups also creates opportunities for arbitrage as Shipper Agents can over-supply daily groups and under-supply monthly groups and then net the difference to avoid balancing charges.<sup>437</sup>
5. *Daily balancing will improve efficiency and fairness between sales and transportation customers.*<sup>438</sup> FEI submits that moving all transportation customers to daily balancing aligns with rate design principle 2 (fair apportionment of costs among customers) and rate design principle 3 (price signals that encourage efficient use).<sup>439</sup>

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<sup>425</sup> Oral Argument Transcript Vol. 7, p. 723.

<sup>426</sup> Exhibit B-5, BCUC IR 55.1.1.

<sup>427</sup> Oral Argument, Transcript Vol. 7, pp. 723–724.

<sup>428</sup> Exhibit B-1, Appendix 10-1, pp. 2 and 16-35; Exhibit A2-10, p. 37.

<sup>429</sup> Exhibit B-5, BCUC IR 59.1.1.

<sup>430</sup> Oral Argument, Transcript Vol. 7, p. 724.

<sup>431</sup> FEI TSR SRP, Transcript Vol. 6, p. 566; Exhibit B-5, BCUC 56.1; FEI TSR SRP Transcript Vol. 6, p. 567.

<sup>432</sup> Exhibit B-1, pp. 10-21, 10-23, 10-24.

<sup>433</sup> Oral Argument, Transcript Vol. 7, p. 724.

<sup>434</sup> *Ibid.*, p. 730.

<sup>435</sup> Exhibit A2-10, p. 37.

<sup>436</sup> Exhibit B-5, BCUC IR 59.2.

<sup>437</sup> Exhibit B-1, section 10.6.1, pp. 10-22.

<sup>438</sup> Oral Argument, Transcript Vol. 7, p. 724 and p. 732.

<sup>439</sup> *Ibid.*, p. 732.

### *Intervener arguments*

CEC supports FEI's proposed changes to implement daily balancing for all transportation rates schedules and is of the view that FEI has "generally met the test that they put forward, fair, just, and reasonable proposals."<sup>440</sup> BCSEA also supports FEI's proposed changes on the basis of "fair apportionment of costs, system efficiency, jurisdictional support ..."<sup>441</sup> ICG supports FEI's proposal for the elimination of monthly balancing.<sup>442</sup>

Shell supports the elimination of monthly balancing at "both the BC Gas Interior and BC Gas Lower Mainland."<sup>443</sup> Absolute supports FEI's proposal to move all shippers to daily balancing and indicates that it has been balancing its entire customer load at several interconnects on the Fortis system exclusively under daily balance rules for a number of years.<sup>444</sup> However, as noted in subsection 10.4.4 of this decision, Shell and Absolute object to balancing provisions being imposed on customers in the Columbia region.

Access Gas opposes FEI's daily balancing proposal and submits that FEI should retain monthly balancing for those rate schedules that are currently monthly balanced and eliminate the ability for a Shipper Agent to hold both monthly and daily balanced accounts at a delivery point with the option to transfer month-end inventory between the two.<sup>445</sup> Access Gas maintains that by "permitting multiple customer groups at a single delivery point, FortisBC has been complicit in exacerbating historical imbalances."<sup>446</sup> Access Gas also argues that the "easiest fix [for monthly balanced rate schedules] would be to change the balancing charge from the average price for the month to the price on the very last day of the month."<sup>447</sup>

### *FEI reply argument*

FEI reiterates its point that monthly balancing is not standard industry practice and that having monthly balancing is not fair to sales customers because monthly balancing rules enable monthly balanced transportation customers to draft the system without incurring any balancing charges throughout the month.<sup>448</sup> FEI states that monthly balancing rules are not fair to other transportation customers because they all have the capability to daily balance, but some are given more lenient rules than others.<sup>449</sup>

### *BCUC determination*

**The Panel approves FEI's proposal to implement daily balancing for all transportation customers and the amendments related to daily balancing for Rate Schedules 23, 25, 26 and 27.** Rate Schedules 22 and 22A are currently daily balanced rate schedules. The issue of whether daily balancing provisions should apply to the Rate Schedule 22B customers is dealt with separately in subsection 10.4.4 of this decision.

The Panel finds FEI's proposal to eliminate monthly balancing to be just and reasonable and not unduly discriminatory. The Panel notes the current monthly balancing rate schedules state that a shipper's requested

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<sup>440</sup> Oral Argument, Transcript Vol. 7, pp. 755-756.

<sup>441</sup> Ibid., p. 758.

<sup>442</sup> Ibid., p. 759.

<sup>443</sup> Ibid., p. 791.

<sup>444</sup> Ibid., p. 796.

<sup>445</sup> Ibid., p. 783.

<sup>446</sup> Ibid., p. 781.

<sup>447</sup> Ibid., p. 783.

<sup>448</sup> Ibid., p. 813.

<sup>449</sup> Ibid., p. 813.

quantity should equal its best estimate of the quantity it should actually consume in a day.<sup>450</sup> The Panel finds that the industry has evolved sufficiently and the necessary tools are now available to transportation service customers and/or the Shipper Agents who represent them to facilitate estimation of daily requirements. Daily balancing ensures all transportation customers are treated equally and appropriately reduces the need for FEI to use core resources to provide balancing gas for transportation customers. Further, both Black & Veatch and Elenchus identify that daily balancing is standard industry practice.

### 10.3 New balancing charge applicable to a reduced tolerance range

FEI proposes to modify the current daily balancing rules by introducing a new balancing charge that will apply to daily gas supply shortfalls in the tolerance range from 10 percent up to 20 percent.<sup>451</sup> FEI's existing balancing charge on daily gas supply shortfalls of more than 20 percent will remain unchanged. FEI proposes that daily under-supply between the 10 percent tolerance and the existing 20 percent tolerance attract an associated balancing charge of \$0.25 per GJ and this will result in a tiered balancing charge structure as shown in Table 10-1 below.<sup>452</sup>

**Table 10-1: FEI's Proposed Range of Supply Shortfall Tolerances and Associated Charges<sup>453</sup>**

Range	Winter Charge/GJ	Summer Charge/GJ
Tier 1: 0-10%	No fee	No fee
Tier 2: 10-20%	\$0.25	\$0.25
Tier 3: 20+%	\$1.10	\$0.30

In subsection 10.3.1, the Panel first addresses FEI's proposal to introduce a balancing charge applicable to for gas supply shortfalls within a tolerance range of 10 to 20 percent. The Panel then considers the appropriateness of proposed charge of \$0.25 per GJ on daily gas supply shortfalls within the 10 to 20 percent range in subsection 10.3.2.

#### 10.3.1 Application of a balancing charge to a tolerance range of 10 to 20 percent

FEI submits the following points in support of the introduction of the 10 to 20 percent balancing tolerance range for gas supply shortfalls.

1. *The current 20 percent balancing tolerance is substantially more accommodating than the industry standard.*<sup>454</sup> FEI quotes the Black & Veatch finding that “[t]hresholds rarely exceed 10% and are sometimes as low as 0%.”<sup>455</sup> FEI states that the “most similar utilities in the Pacific Northwest have

<sup>450</sup> Exhibit B-1-1, Appendix 11-3, Rate Schedule 23, 25, 26 and 27, Article 7.2, current tariff wording states “The Shipper’s Requested Quantity for each Day will equal the Shipper’s best estimate, at the time of notification to FortisBC Energy of the Requested Quantity, of the quantity of Gas the Shipper will actually consume on such Day.”

<sup>451</sup> Exhibit B-1, Section 10.7.6, p. 10-36.

<sup>452</sup> Ibid., Section 10.7.6, p. 10-37.

<sup>453</sup> Ibid., Table 10-10, p. 10-37.

<sup>454</sup> Oral Argument, Transcript Vol. 7, p. 735.

<sup>455</sup> Exhibit B-1, Appendix 10-1 p. 3.



balancing tolerances between 3 percent and 5 percent.”<sup>456</sup> FEI refers to Elenchus’ jurisdictional review which shows balancing thresholds of 5 percent or lower.<sup>457</sup>

2. *The addition of a 10 percent tolerance level brings FEI within industry norms and is a reasonable addition to FEI's current balancing tolerance level.*<sup>458</sup> FEI highlights Table 10-8 in the Application and submits that a 10 percent tolerance is realistic and achievable as many Shipper Agents already balance to within a 10 percent tolerance regardless of having a large or small portfolio and regardless of being located in the Lower Mainland or the Interior.<sup>459</sup> FEI submits that a 10 percent tolerance level is “at the high end of industry norms, but fits nicely within FEI's existing 20 percent tolerance and ability to impose a 5 percent tolerance when needed.”<sup>460</sup>
3. *The alternative of a balancing fee on all throughput is not necessary or effective at reducing imbalances.*<sup>461</sup> FEI submits its “proposal to introduce a tighter balancing tolerance represents a targeted approach to remedying the issues of the transportation model.”<sup>462</sup> FEI considered a potential volumetric charge that each transportation service customer would pay per GJ of annual transportation throughput; however, FEI decided not to propose such a volumetric charge as it would remove the incentive for Shipper Agents to adhere to their responsibility to balance and penalize Shipper Agents who are already balancing their groups within a 10 percent threshold on a daily basis.<sup>463</sup>
4. *The resulting tiered balancing charge sends appropriate price signals to increase efficiency and fairness.*<sup>464</sup> FEI submits that “reducing the extent to which transportation customers rely on FEI for balancing will increase the efficient use of FEI's midstream resources” and will bring FEI's transportation model in closer alignment with rate design principle number 3, price signals that encourage efficient use.<sup>465</sup> FEI further submits that since the balancing revenue would be credited to the midstream portfolio, the sales customers would be compensated for the use of midstream resources to balance the system which would increase fairness in line with rate design principle number 2, fair apportionment of costs among customers.<sup>466</sup>

### *Intervener arguments*

CEC and BCSEA support FEI’s proposed changes. CEC submits that FEI has “generally met the test that they put forward, fair, just, and reasonable proposals.”<sup>467</sup> BCSEA supports FEI’s proposed changes on the basis of “fair apportionment of costs, system efficiency, jurisdictional support and, in the case of imbalance charges, sending the appropriate price signal.”<sup>468</sup>

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<sup>456</sup> Exhibit B-5, BCUC 59.1.

<sup>457</sup> Oral Argument, Transcript Vol. 7, p. 736; Exhibit A2-10, p. 36.

<sup>458</sup> Ibid., p. 735.

<sup>459</sup> Ibid., pp. 737-738; Exhibit B-1, Table 10-8, pp. 10-35 and 10-36.

<sup>460</sup> Oral Argument, Transcript Vol. 7, p. 738.

<sup>461</sup> Ibid., p. 735.

<sup>462</sup> Ibid., p. 739.

<sup>463</sup> Exhibit B-1, Appendix 10-1.

<sup>464</sup> Oral Argument, Transcript Vol. 7, p. 735.

<sup>465</sup> Ibid., p. 743.

<sup>466</sup> Ibid., pp. 743-744.

<sup>467</sup> Ibid., p. 756.

<sup>468</sup> Ibid., p. 758.



ICG, Access Gas, Shell and Absolute oppose FEI's proposal to amend the balancing tolerances from 20 percent to 10 percent.<sup>469</sup>

ICG submits that "FEI has not demonstrated a pressing need for the change" and that "moving all customers to daily balancing should resolve any concerns about ... excessive imbalances in the system."<sup>470</sup> ICG submits that the combination of FEI's daily balancing proposal and the tightening of the daily tolerances "would be too much" and further submits that "there are important details that have not been worked out" such as the informal operating practice of imbalance return.<sup>471</sup> ICG argues that the penalties were set years ago and have not been recalibrated to this new set of tolerances. ICG also argues that FEI currently has adequate remedies in its tariff to increase balancing discipline on its system. ICG submits that in order to "avoid unintended consequences, the Commission should direct FEI to adopt a phased approach to the move to daily balancing now, and then report back in three years on the balancing metrics, to see if a tightening of the daily balancing tolerances is required."<sup>472</sup>

Access Gas submits that adding a 10 percent tolerance is "overly restrictive," and that "the balancing tolerance level should not be changed from 20 to 10 percent."<sup>473</sup> Access Gas submits that the "forecasting limitations in this market segment should be recognized" and "the change to the 10 percent tolerance 365 days a year is not palatable given the post-flow risk in the current system."<sup>474</sup> Access Gas expresses concerns about the potential for incurring balancing penalties as a result of prior period metering adjustments.<sup>475</sup>

Shell submits that balancing to a 10 percent tolerance will be much more difficult to achieve once monthly balancing groups are eliminated.<sup>476</sup>

Absolute argues that the proposed changes to move from 20 percent to 10 percent will cause two results; "[f]irstly, some customers [will be] constantly receiving penalty charges for being outside the ten percent range and secondly, shippers [will be] consistently ordering an excessive amount of supply in an attempt to remain within the ten percent range and avoid penalties."<sup>477</sup>

In support of its position, Absolute raises the issue of potential reduced access to imbalance return. Absolute submits that if monthly balancing is eliminated the number of daily shipper groups "will move from 6 to 14" and if "shipper group requests for imbalance return volumes double from the current levels, then it is safe to assume that the current imbalance return volumes available to each shipper will be cut by 50 percent."<sup>478</sup>

### *FEI reply argument*

In reply to ICG's submission that FEI has not demonstrated a pressing need for change, FEI reiterated rate design principles and cost allocation and stated that FEI does have the tools to manage imbalances but they come with a cost as "when imbalances occur due to transportation customers, FEI manages them with the resources of the

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<sup>469</sup> Oral Argument, Transcript Vol. 7, pp. 759–760; p. 785; p. 792; p. 796.

<sup>470</sup> *Ibid.*, p. 760.

<sup>471</sup> *Ibid.*, p. 760.

<sup>472</sup> *Ibid.*, pp. 760–761.

<sup>473</sup> *Ibid.*, p. 785.

<sup>474</sup> *Ibid.*, p. 785.

<sup>475</sup> *Ibid.*, p. 785.

<sup>476</sup> *Ibid.*, p. 792.

<sup>477</sup> *Ibid.*, p. 799.

<sup>478</sup> *Ibid.*, pp. 797–798.

sales customers.”<sup>479</sup> FEI emphasizes that the imbalances can be managed with their current resources but that the problem is about rate design, cost allocation, fairness and efficiency.<sup>480</sup> FEI argues that the principle of rate design is that customers should pay for the costs they cause and states that currently there is a lack of fairness.<sup>481</sup>

FEI further argues that the industry has evolved over the past 20 to 30 years, the balancing rules are significantly out of step with industry practice, and Shipper Agents have not demonstrated why FEI’s system is “so unique that our rules should be significantly more lenient than every other local distribution company in North America.”<sup>482</sup>

With regard to Access Gas’ comments regarding post-flow risk and prior period adjustments, FEI notes that it is unclear regarding the issue as it was not explored in the proceeding.<sup>483</sup>

FEI submits that the move to daily balancing alone “won’t address the large swings that we’re currently seeing between supply and demand for transportation customers.” FEI submits that the “net view of volatility” shown in slide 13 of FEI’s SRP presentation “won’t be fixed by simply moving to daily balancing.”<sup>484</sup>

### **BCUC determination**

**The Panel approves FEI’s proposed amendments to reduce the daily balancing tolerance to a 10 percent threshold and to introduce an additional daily balancing charge for gas supply shortfalls within a 10 to 20 percent tolerance level for Rate Schedules 22, 22A, 23, 25, 26 and 27.** The issue of balancing tolerances for Rate Schedule 22B is dealt with separately in subsection 10.4.4 of this decision.

The Panel finds the resulting tiered structure of the balancing charges to be just, reasonable and not unduly discriminatory in that this rate structure is consistent with rate design principles of fair apportionment of costs among customers and price signals that encourage efficient use of resources.

With respect to fair cost allocation, the Panel finds that imbalances caused by transportation customers are managed by FEI using mid-stream resources that are paid for by sales customers. The Panel agrees with FEI that the proposed tiered approach provides a greater incentive for transportation customers and Shipper Agents to balance within 10 percent which should result in tighter balancing and less use of mid-stream resources.

The Panel is also persuaded that maintaining the status quo and leaving the responsibility on FEI to monitor and manage Shipper Agent behaviour using mid-stream resources is not only unfair from a cost allocation perspective, it is also not an efficient use of resources. In the Panel’s view, the establishment of appropriate price signals will incent and encourage more efficient use of resources.

Further, Black & Veatch and Elenchus present findings that support FEI’s proposal of a 10 percent tolerance level as being more in line with industry norms, albeit at the low end compared to other jurisdictions. The Panel finds

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<sup>479</sup> Oral Argument, Transcript Vol. 7, p. 802; p. 812; p. 818.

<sup>480</sup> Ibid., p. 818.

<sup>481</sup> Ibid., pp. 802–803.

<sup>482</sup> Ibid., p. 803.

<sup>483</sup> Ibid., p. 812.

<sup>484</sup> Ibid., p. 806.

the movement to 10 percent tolerance is a reasonable step in appropriately tightening the balancing requirements and this will result in tolerance levels that are more comparable with industry practice.

The movement of the tolerance level from 20 to 10 percent is also supported by the improvement and evolution of the necessary tools enabling more precise estimates of demand and more timely adjustments to supply than when the 20 percent tolerance was originally introduced.

The Panel acknowledges that the result of introducing the 10 percent tolerance for daily under-deliveries may possibly result in an increased potential for over-deliveries and discusses this further in subsection 10.4.1 below. There may be other operational issues that arise as suggested by Access Gas in regard to prior period adjustments. In the absence of evidence in this proceeding, the Panel is of the view that consultation between FEI and Shippers and Shipper Agents could address these operational issues as they arise.

### **10.3.2 Appropriateness of proposed charge of \$0.25 per GJ**

FEI proposes a charge of \$0.25 per GJ on daily gas supply shortfalls within the 10 to 20 percent tolerance levels. It states that the \$0.25 per GJ figure was developed using a cost-based approach and is based on the variable cost of balancing its system. FEI determined this rate by referencing the variable costs of accessing FEI's mid-stream storage resources at different market prices at the Sumas trading hub ranging from \$2.50 to \$5.00 US dollars per million British Thermal units (USD/MMBtu). FEI states that it would apply to BCUC to update the applicable balancing charges should the Sumas market price exceed \$5.00 USD per MMBtu.<sup>485</sup> FEI states that, with the proposed charge, transportation customers are given access to FEI's midstream resources based on only the variable cost FEI incurs and not fixed costs.<sup>486</sup> The charge for being over the 20 percent under-supply tolerance remains unchanged at \$1.10 per GJ in winter and \$0.30 per GJ in summer.<sup>487</sup>

FEI submits that the proposed balancing charge of \$0.25 per GJ would reasonably compensate sales customers who pay for the midstream resources used to balance the system.<sup>488</sup>

FEI further submits its proposal "results in a tiered balancing charge which would send the appropriate price signals to increase efficiency and fairness."<sup>489</sup> FEI states that the "balancing charge revenue would be a credit to the midstream portfolio and would therefore compensate sales customers who pay for the midstream resources used to balance the system."<sup>490</sup> FEI also submits that "according to Black & Veatch it is common in the industry to have a tiered charge that assesses higher charges as the size of the customer's imbalance increases."<sup>491</sup>

### ***Intervener arguments***

CEC and BCSEA support FEI's proposed balancing changes and express no specific position on the proposed charges.<sup>492</sup>

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<sup>485</sup> Exhibit B-1, Section 10.7.6, pp. 10-36 to 10-37.

<sup>486</sup> Oral Argument, Transcript Vol. 7, p. 739.

<sup>487</sup> Exhibit B-1, Section 10.7.6, p. 10-37.

<sup>488</sup> Oral Argument, Transcript Vol. 7, p. 739.

<sup>489</sup> *Ibid.*, p. 741.

<sup>490</sup> *Ibid.*, p. 739.

<sup>491</sup> *Ibid.*, p. 742.

<sup>492</sup> *Ibid.*, p. 755, CEC; p. 758, BCSEA.

ICG argues that there may be unintended consequences by adding a new tolerance level to the existing 20 percent tolerance at the same time as moving to daily balancing for all transportation service customers and submits that “[t]he penalties also, at the outer edges [i.e. at the 20 percent level], were set years ago and have not been recalibrated to these new tolerances.”<sup>493</sup>

Access Gas submits that “FortisBC’s contention that from zero to ten there are no costs [to the transportation service customer], or zero to 20 under the existing rate schedule is just not true. Of our current five shipper groups on the FortisBC system, the Sumas Gas Daily Index is almost always punitive in four of these groups.”<sup>494</sup> Access Gas concludes that FEI’s proposal to introduce tiered balancing charges is “overly punitive, because it effectively adds an additional penalty to what is already a penalty,” the daily market price of gas supply.<sup>495</sup>

### *FEI reply argument*

In response to Access Gas’ argument that the proposed charge at the ten percent tolerance is punitive, FEI replies that it has “proposed a cost base charge ... based only on the variable cost that FEI incurs to move gas ... the 25 cents [per] gigajoule is pretty cheap access to FEI’s midstream resources.”<sup>496</sup> FEI further adds that “neither is the cost of daily balancing gas punitive ... we charge a rate based on the Sumas daily price. It’s a market base price.”<sup>497</sup> With regard to the charges at the 20 percent tolerance, FEI submits that “[a]t 20 percent the charges go up, but by ... 5 cents in the summer, and in the winter it’s a larger, more ... punitive charge. It reflects that in the winter-time variances of greater than 20 percent should not be happening.”<sup>498</sup>

### *BCUC determination*

**The Panel approves FEI’s proposed amendments to introduce an additional daily balancing charge of \$0.25 per GJ for gas supply shortfalls within a 10 to 20 percent tolerance level for Rate Schedules 22, 22A, 23, 25, 26 and 27.** The additional daily balancing charge for Rate Schedule 22B is dealt with separately in subsection 10.4.4 of this decision. In the Panel’s view, \$0.25 per GJ applicable for daily under-deliveries in the 10 to 20 percent tolerance range is just, reasonable and not unduly discriminatory given the methodology for determining the charge is reflective of the potential variable cost to the core of supplying this gas which provides a reasonable proxy for the cost of service thereby supporting the rate proposed by FEI.

The Panel does not agree with and places no weight on Access Gas’ assertion, absent any evidence on the point, that purchasing supply at the Sumas Gas Daily Index price is punitive enough since this is the market price of gas on the day to acquire supply to match demand.

The Panel recognizes that the current balancing charges applicable at the 20 percent tolerance level remain higher than the new charge and finds this appropriate considering the magnitude of the tolerance level as compared to current industry standards, which are often at the 5 percent tolerance, even sometimes as low as 0 percent, and rarely exceeding 10 percent.<sup>499</sup> Further, as discussed in subsection 10.3.1 of this decision, the

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<sup>493</sup> Oral Argument, Transcript Vol. 7, pp. 774–775.

<sup>494</sup> Ibid., pp. 785–786.

<sup>495</sup> Ibid., p. 786.

<sup>496</sup> Ibid., pp. 814–815.

<sup>497</sup> Ibid., p. 815.

<sup>498</sup> Ibid., p. 819.

<sup>499</sup> Exhibit B-1, Section 10.7.2, p. 10-31.

resulting tiered rate structure sends an appropriate price signal to incent and encourage more efficient use of resources.

## 10.4 Other balancing issues

### 10.4.1 Potential for increased over-deliveries

The potential for increased over-deliveries by Shippers/Shipper Agents once monthly balancing is eliminated and the 10 percent tolerance level balancing charge is introduced was discussed in this proceeding. FEI notes that in general, daily balanced groups tend to pack while monthly balanced groups tend to draft the system.<sup>500</sup> FEI “recognizes that exclusive daily balancing provisions may incent Shipper Agents to over-deliver in order to avoid potential charges.”<sup>501</sup> FEI highlights that the economics of over-supply are different than under-supply as the customers and/or Shipper Agents have to pay for the gas and this provides a natural check on the amount of over-supply.<sup>502</sup> When asked whether the potential for over-deliveries might require changes to the nature and operation of the midstream portfolio, FEI stated it does not anticipate that over-deliveries will become significant enough to require an associated increase in the midstream resources and costs.<sup>503</sup>

FEI states it “considered imposing an upper threshold which would apply when over-deliveries on the system occur. When over deliveries have occurred in the past, the excess gas has been manageable from an operations and systems perspective. The business practices related to imbalance return provide flexibility to manage inventory on FEI’s system. For these reasons, FEI is not proposing a balancing tolerance for over-deliveries at this time.”<sup>504</sup> In the SRP FEI elaborated on how it works consultatively with Shippers/Shipper Agents to rectify large positive imbalances by returning excess inventory either through a Shipper/Shipper Agent’s use of imbalance return or by FEI’s use of the tariff provisions to reduce a Shipper/Shipper Agent’s supply nomination to the interconnecting upstream transmission pipeline.<sup>505</sup> FEI submits it is not opposed to having a balancing charge for over-deliveries as well as under-deliveries but believes it is not necessary at this time and “now is not the time to introduce more change than what is proposed.”<sup>506</sup> FEI submits it would be prudent to monitor the changes in behavior brought on by FEI’s current proposals and confirms it is open to reporting to BCUC on the implications of implementing balancing charges on over-supplies after sufficient time and experience is gained with the new balancing rules.<sup>507</sup>

### *Intervener arguments*

Some interveners expressed concerns that the proposed balancing changes will result in increased over-deliveries. ICG submits that “eliminating monthly balancing ...will incent behaviour that will have all shippers .... behave like the current group of daily balanced shippers and that group tends to pack.”<sup>508</sup> ICG further submits “there’s going to be great incentive to avoid drafting ... so to avoid the unintended consequences it’s important

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<sup>500</sup> Exhibit B-5, BCUC IR 55.1.1.

<sup>501</sup> Exhibit B-8, Cascadia IR 1.7.c.

<sup>502</sup> Oral Argument, Transcript Vol. 7, p. 750.; Exhibit B-5, BCUC 86.1.

<sup>503</sup> Exhibit B-21, BCUC IR 86.1.1.

<sup>504</sup> Exhibit B-1, Section 10.7.5, p. 10-36.

<sup>505</sup> FEI TSR SRP, Transcript Vol. 6, pp. 678-680.

<sup>506</sup> Oral Argument, Transcript Vol. 7, p.751.

<sup>507</sup> Ibid., p. 751.

<sup>508</sup> Ibid., p. 765.

to move in a measured way based on good information in the marketplace and [providing] a chance for behaviours to change.”<sup>509</sup>

Access Gas submits the introduction of tiered charges “is going to create an even greater incentive for shippers to perpetually over-deliver on the system.”<sup>510</sup> Absolute submits one of the consequences of adding penalties at the 10 percent tolerance will be “shippers consistently ordering an excessive amount of supply in an attempt to remain within the ten percent range and avoid penalties.”<sup>511</sup>

### *Panel discussion*

The Panel acknowledges there may potentially be an increase in over-deliveries when FEI implements the approved balancing changes. However, at this point in time it is difficult to predict whether over-deliveries will occur, the magnitude of any over-deliveries, and the impact on FEI and its sales customers. In the absence of this information, the Panel encourages FEI to monitor the situation and to work with Shippers/Shipper Agents to manage over-deliveries using the tools available under the tariff. Future reporting and consideration of this issue is dealt with in section 10.5 of this decision.

#### **10.4.2 Imbalance return**

When a Shipper/Shipper Agent’s customer demand for its group is less than the delivered gas supply for that Shipper/Shipper Agent group on a day, the imbalance results in excess gas or a “pack” left on FEI’s system.<sup>512</sup> FEI records this excess gas amount in an inventory account for each Shipper/Shipper Agent group. FEI’s daily balanced transportation service tariffs provide for return of this excess inventory at no charge.<sup>513</sup>

The transportation service tariffs do not provide specific details on the mechanics regarding the return of excess inventory.<sup>514</sup> FEI has in place a business practice referred to as “imbalance return” that allows Shippers/Shipper Agents with daily balanced groups to access their excess inventory as an authorized source of supply on a day to supplement physical supply nominated by the Shipper/Shipper Agent for delivery off an interconnecting pipeline to the FEI system.<sup>515</sup> FEI confirms that “returning excess inventory” can also be an action initiated by FEI whereby, if Shipper Agents are not taking appropriate action to reduce their excess inventory, FEI can use the provisions of the tariff to reduce the Shipper/Shipper Agent nomination to the interconnecting pipeline for physical supply.<sup>516</sup>

Imbalance return is an “interruptible service” under which FEI reserves the right to reduce or eliminate the service.<sup>517</sup> FEI typically reduces or eliminates the service when colder weather occurs.<sup>518</sup> Historically, FEI limits the amount of imbalance return to 40,000 GJ per day in the Interior and 40,000 GJ per day in the Lower

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<sup>509</sup> Oral Argument, Transcript Vol. 7, pp. 774-775.

<sup>510</sup> Ibid., p. 786.

<sup>511</sup> Ibid., p. 799.

<sup>512</sup> Exhibit B-1, Section 10.2.3.4, p. 10-9, footnote.

<sup>513</sup> Exhibit B-1-1, Appendix 11-3, Rate Schedule 22, Article 9.4 (Adjustments to Inventory).

<sup>514</sup> FEI TSR SRP, Transcript Vol. 6, pp. 684-687.

<sup>515</sup> Exhibit B-1, Section 10.7.1, p. 10-27.

<sup>516</sup> FEI SRP, Transcript Vol. 6, pp. 679-680.

<sup>517</sup> Exhibit B-10, Cascadia IR 1.c, p. 2.

<sup>518</sup> Ibid.

Mainland (including Vancouver Island) and notes that “[t]he limit of 40,000 GJ/Day per region is the maximum FEI has found to be operationally manageable during the year under normal weather conditions.”<sup>519</sup>

FEI explains that the current imbalance return is not calculated and allocated on the basis of demand but is calculated and allocated based on the number of requesters, number of Shipper Agents requesting the use of imbalance return, and the amount requested.<sup>520</sup>

In response to Access Gas’ concerns, raised during the SRP, that the amount of imbalance return that is available will decrease when all Shipper Agents groups are daily balanced, FEI stated that “if you have more people requesting imbalance returns ... depending on the request volume by each shipper agent ... there may be less available than there was before.”<sup>521</sup> In response to Shell’s queries in the SRP as to whether the 40,000 GJ per day maximum amount available would change if the Joint Venture customers move to Rate Schedule 22, FEI confirmed that the amount available for imbalance return would remain the same regardless of the number of transportation customers and Joint Venture customers who become RS 22 customers. All transportation customers, including any Joint Venture customers who move to RS 22, would have the ability to request imbalance return in the same manner as other RS 22 customers.<sup>522</sup>

FEI submits that “the details of the imbalance return should remain as a business practice to provide FEI with the flexibility to change in response to changing markets and system conditions. As business practices, FEI can respond to customer concerns, consult and make changes relatively quickly. .... If customers believe that FEI is not carrying out its business practices fairly, customers have the option of filing a complaint with the Commission, in which case the Commission can commence a process if necessary.”<sup>523</sup>

### *Intervener arguments*

Some interveners expressed concerns that the amount of imbalance return available will be inadequate once the proposed balancing changes are implemented and that the current allocation methodology is unclear, unfair and/or should be reviewed.

ICG submits that imbalance return will be under greater pressure when everyone is moved to daily balancing and this is going to result in “a need for clearer rules”. ICG takes issue with FEI’s suggestion the customer can complain submitting there is a “huge economic and effort threshold to filing a complaint with the Commission.”<sup>524</sup>

Access Gas submits that “the allocation methodology [for imbalance return] currently being employed by FortisBC must be reviewed because the existing methodology does not fairly allocate to shippers. Under the current methodology, two shipper agents requesting the same amount of [imbalance return] gas would be allocated the same volume” regardless of the daily consumption of its customers. Access Gas requests “a formal

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<sup>519</sup> Exhibit B-1, Section 10.3.5, p. 10-13.

<sup>520</sup> FEI SRP, Transcript Vol. 6, pp. 671–672.

<sup>521</sup> Ibid., pp. 661–662.

<sup>522</sup> FEI SRP Transcript Vol. 6, pp. 675–676.

<sup>523</sup> Oral Argument, Transcript Vol. 7, pp. 752–753.

<sup>524</sup> Ibid., pp. 770–773.

review of the imbalance return allocation methodology, or the formation of a working group that includes shipper agents to determine an appropriate allocation methodology that is fair to all participants.”<sup>525</sup>

Shell submits that “currently there’s no benefit for monthly balanced groups to nominate imbalance return. However, going forward, in order to minimize balancing penalties, [these] shipper agents will enter into imbalance requests for their customer groups. Therefore, the amount of imbalance return currently available to daily balance groups will decrease, making it more difficult to balance accurately on a daily basis.”<sup>526</sup> Shell Energy submits it does not support limiting the amount of imbalance return to 40,000 GJ in the Interior and 40,000 GJ in the Lower Mainland. Shell also raises questions regarding how the imbalance return allocation would apply to large new RS 22 customers, such as the Vancouver Island Joint Venture members.<sup>527</sup>

Absolute argues that the increase in the number of daily balanced groups will “significantly impact the amount of imbalance return available to each shipper and impinge upon their ability to effectively balance customer loads within the proposed 10 percent threshold.”<sup>528</sup>

### *FEI reply argument*

FEI submits that 80,000 GJ per day is the amount of imbalance return that is currently available: 40,000 GJ per day in the Lower Mainland and 40,000 GJ per day in the Interior. FEI notes that this is not an insignificant amount since the total throughput for transportation customers is about 205,000 GJ per day.<sup>529</sup> FEI highlights that 80,000 GJ represents about 40 percent of the average daily throughput for transportation customers.<sup>530</sup> It states “that amount is based on system operating constraints.” FEI also reiterates that imbalance return is “accessed free of charge,” customers can “get the positive imbalance back at any time” subject to the current business practices and it’s “a free service that FEI provides” even though FEI may incur variable charges to bring that gas on.<sup>531</sup>

FEI states that how it “manages imbalance return, the amount and the allocation process, were developed with marketers. ... So if FEI sees that there is an issue with the allocation process, once these new rules are proposed, it can make changes.” FEI submits that the business practices can always be moved to the tariff if that’s what customers prefer, but the “downside is that if it’s in the tariff then FEI must abide by those rules. ... and changing [the tariff] requires process.”<sup>532</sup>

### *BCUC determination*

The Panel finds it appropriate for imbalance return to continue as a business practice rather than setting out the details of the imbalance return service in the transportation service tariff provisions.

The Panel acknowledges that the availability of imbalance return gas is limited by the physical and operational constraints of the FEI system and is currently a maximum of 40,000 GJ per day in the Interior and 40,000 GJ/d in

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<sup>525</sup> Oral Argument, Transcript Vol. 7, p. 787.

<sup>526</sup> Ibid., pp. 792–793.

<sup>527</sup> Ibid., p. 793.

<sup>528</sup> Ibid., p. 797.

<sup>529</sup> Ibid., p. 808.

<sup>530</sup> Ibid., p. 808.

<sup>531</sup> Ibid., pp. 810–811.

<sup>532</sup> Ibid., pp. 809–810.



the Lower Mainland regions, respectively. Given these limitations, the Panel considers it is important for FEI to have an imbalance return allocation methodology that is fair. Accordingly, FEI is strongly encouraged to undertake a fair and effective consultation process that engages Shippers and Shipper Agents in addressing any imbalance return issues that arise under existing business practices. FEI should make modifications to the current allocation procedures as appropriate and in response to changes in demand for imbalance return especially issues arising as a result of implementing changes in the balancing rules.

### 10.4.3 Implementation of the approved tariff changes

This section of the decision considers the issue raised during the proceeding regarding whether the proposed balancing changes should be phased in, with monthly balancing eliminated in the first phase and the balancing tolerances and charges adjusted in the second phase.

FEI stated “[t]here are no major pros or cons to a phased approach as FEI is able to make these changes to the WINS system at any time.”<sup>533</sup> Initially, FEI submitted that implementing the changes in a phased approach would be acceptable to FEI, but FEI's “preference would be to implement both changes at the same time.”<sup>534</sup>

Subsequently in argument, FEI submits it does not see a need to phase in the proposed changes to the balancing rules and that its proposals represent a reasonable and achievable change in the balancing rules. FEI further submits there is no reasonable way to phase in the move to daily balancing and provides three reasons for not adopting a phased approach:

1. Many shipper agents are already balancing daily within 10 percent tolerance;
2. FEI's proposals already represent a reasonable step in the right direction rather than a drastic change to the much tighter standards already imposed throughout North America; and
3. It will have been two years from the time FEI first consulted on its proposals filed in the Application and when the proposed rules would be in place in 2018.<sup>535</sup>

#### *Intervener arguments*

ICG submits that moving from monthly balancing to daily balancing, and adding to that the tightening of the daily tolerances at the same time would be too much.<sup>536</sup> ICG expresses concerns that FEI will not be well equipped in terms of imbalance return to deal with the increased potential for pack situations when all customers have to move to daily balancing and submits there is a need for clearer rules around imbalance return to be worked out first.<sup>537</sup> ICG also submits the charges for exceeding the 20 percent tolerance, which were set years ago, need to be recalibrated to the new tolerances.<sup>538</sup> ICG maintains there is “no compelling reason to make the change to tighter daily balancing tolerances.”<sup>539</sup> ICG submits that “moving all customers to

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<sup>533</sup> Exhibit B-5, BCUC IR 57.1.

<sup>534</sup> Ibid.

<sup>535</sup> Oral Argument, Transcript Vol. 7, p. 754

<sup>536</sup> Ibid., p. 760.

<sup>537</sup> Ibid., p. 773.

<sup>538</sup> Ibid., p. 775.

<sup>539</sup> Ibid., p. 779.

daily balances should resolve any concerns FEI has about balancing its system”<sup>540</sup> and references a statement by FEI in the SRP that “a shift to exclusive daily balancing will reduce gaming.”<sup>541</sup> ICG is of the view that “FEI has adequate remedies in its tariff to increase balancing discipline on its system now.”<sup>542</sup> ICG submits “[t]o avoid unintended consequences, the Commission should direct FEI to adopt a phased approach to the move to daily balancing now, and then report back in three years on the balancing metrics, to see if a tightening of the daily balancing tolerances is required.”<sup>543</sup>

Access Gas and Shell also support a phased approach with the view that this would provide the opportunity to assess whether the tightening of tolerances and additional penalties are necessary.<sup>544</sup>

CEC acknowledges “there are some concerns with respect to the amount of changes being implemented as part of the application” but further observes that “it would have been very helpful in this process if the sales agents had put forward a body of evidence.”<sup>545</sup>

### *FEI reply argument*

FEI submits that it is not its position that daily balancing alone is a significant change, as suggested by ICG.<sup>546</sup> FEI also restates its position that “the daily balancing and 10 percent tolerance level as a package are a reasonable and achievable change.”<sup>547</sup>

### *BCUC determination*

**The Panel directs FEI to implement the balancing changes for all transportation rate schedules, with the exception of Rate Schedule 22B, at the same time to be effective in the fourth quarter of 2018 as proposed by FEI.** RS 22B is discussed in subsection 10.4.4 below.

The Panel finds a phased approach is not warranted. As noted previously in section 10.3 of this decision, the Panel considers the proposed transportation service rate design changes to be justified from a regulatory perspective. The Panel evaluates the appropriateness of ‘phasing’ or any other mitigation of these changes by considering the rate design principle regarding the stability and predictability of the rates. The Panel places considerable weight on FEI’s evidence that many Shipper Agents are already balancing daily within 10 percent tolerance. The Panel is persuaded by FEI’s argument that its proposals represent a reasonable step toward standard industry practice rather than a drastic change to the much tighter standards already imposed throughout North America. The Panel also acknowledges that FEI has spent considerable time and effort communicating to and consulting with parties on these proposed changes.

#### **10.4.4 Rate Schedule 22B**

RS 22B is a closed rate schedule for five specific large industrial customers in the Columbia region.<sup>548</sup> RS 22B customers are currently not held to any monthly or daily balancing requirements as RS 22B currently has no

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<sup>540</sup> Oral Argument, Transcript Vol. 7, p. 764.

<sup>541</sup> Ibid., p. 766.

<sup>542</sup> Ibid., p. 780.

<sup>543</sup> Ibid., p. 761.

<sup>544</sup> Ibid., (Access Gas) p. 788; (Shell) p. 792.

<sup>545</sup> Ibid., p. 756.

<sup>546</sup> Ibid., p. 804.

<sup>547</sup> Ibid., p. 805.

<sup>548</sup> Exhibit B-1-1, Supplemental Filing, Appendix 11-3, Rate Schedule 22B, Original Page R-22B.1.

balancing provisions set out in the tariff with the exception of the 5 percent tolerance that can be imposed during supply constraints for all transportation rate schedules.<sup>549</sup> FEI's proposed changes in the Application include applying the daily balancing provisions to RS 22B customers, including the new 10 percent to 20 percent tolerance and associated balancing charge.<sup>550</sup>

The issue of whether the proposed move to daily balancing should apply to RS 22B customers was raised by Teck Coal Limited (Teck Coal), one of FEI's Rate Schedule 22B transportation service customers. Teck Coal filed a Letter of Comment in which it maintains that it (not FEI) is responsible for balancing the Sparwood Tap [the interconnection between the FEI system and TransCanada's Foothills BC transmission pipeline (Foothills BC)] from which it is served.<sup>551</sup> Teck Coal points out that the RS 22B tariff currently states "FortisBC Energy will not provide any Gas to the Shipper for balancing purposes and will not maintain a Gas inventory account for the Shipper."<sup>552</sup> Teck Coal maintains that "FEI does not provide balancing services to RS 22B customers; no FEI midstream resources are used to balance Teck Coal's Account."<sup>553</sup>

In response to Teck Coal's Letter of Comment, FEI states it disagrees with Teck Coal's view that FEI does not provide any balancing service to RS 22B customers. FEI notes that FEI's Columbia region is served by seven laterals from Foothills BC. These laterals serve FEI's RS 22B customers, Byron Creek Coal as well as FEI sales customers.<sup>554</sup> FEI states that historically each individual shipper had an Operating Balancing Agreement (OBA) with Foothills BC. This situation changed approximately ten years ago when Foothills BC found it too onerous to hold OBAs with shippers and entered into OBAs with FEI who took over responsibility for balancing supply and demand between the FEI and Foothills BC systems. FEI states it manages its OBAs with Foothills BC as a whole and uses midstream resources to balance the overall supply and demand with Foothills BC through the larger interconnection at Yahk, where FEI accesses gas from the Foothills BC system to serve FEI's Interior region loads through the Southern Crossing Pipeline.

FEI states that large variances are frequently tolerated on the Sparwood Tap due to FEI's efforts to manage gas supply and demand for the much larger loads at Yahk.<sup>555</sup> Yahk is where the main FEI system on the Southern Crossing Pipeline connects to the Foothills BC system. This interconnect is also known as the East Kootenay Exchange (EKE).<sup>556</sup> FEI provides graphical evidence of the magnitude of these variances in its response to the Teck Coal letter<sup>557</sup> and in response to Shell IR 2.<sup>558</sup> The data shows that the transportation customers' imbalances are generally significantly greater in absolute terms than the imbalances for the small core sales customer load that FEI serves at Sparwood.<sup>559</sup> FEI stated that "[i]n the cases where the imbalance is caused by

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<sup>549</sup> Exhibit B-13, FEI Response to Teck Coal, p. 2; Exhibit B-1, Section 10.3.7, Table 10-2, p. 10-17.

<sup>550</sup> Exhibit B-1, Section 2.2 Approvals Sought, p. 2-4.

<sup>551</sup> Exhibit E-1, Teck Letter of Comment, p. 2.

<sup>552</sup> Section 6.2 of Rate Schedule 22B currently states "FortisBC Energy will not provide any Gas to the Shipper for balancing purposes and will not maintain a Gas inventory account for the Shipper." See Exhibit B-1-1, Appendix 11-3, Rate Schedule 22B, proposed deletions from tariff shown on blackline version of Original Page R-22B.4.

<sup>553</sup> Exhibit E-1, p. 1.

<sup>554</sup> Exhibit B-13, p. 1.

<sup>555</sup> Ibid., p. 2.

<sup>556</sup> Oral Argument, Transcript Vol. 7, p. 816.

<sup>557</sup> Exhibit B-13, p. 3.

<sup>558</sup> Exhibit B-27, Shell IR 2.

<sup>559</sup> Exhibit B-27, Shell IR 2.

Shell [and/or] Teck Coal at the Sparwood Tap, Shell [Teck Coal's Shipper Agent] is typically able to resolve the imbalance over several days or a week."<sup>560</sup> During that time, FEI provides balancing using midstream resources available to FEI for balancing the Columbia region load.<sup>561</sup>

FEI confirmed that all RS 22B customers are represented by Shipper Agents and states that "Shipper Agents representing customers in the Columbia region use WINS in the same manner that they do for managing customers in the Lower Mainland and Interior regions. Shipper Agents are required to use WINS to insert and change supply nominations on behalf of customers."<sup>562</sup> With respect to whether it might be appropriate to provide Rate Schedule 22B customers a longer period than FEI's other transportation service customers to transition to the proposed balancing provisions, FEI stated it does not believe there is a need to for a delayed transition since the Shipper Agents managing the customers in the Columbia Region all have the ability to monitor and manage imbalances through WINS.<sup>563</sup>

When asked to provide copies of any relevant correspondence communicating the changes associated with FEI taking over the management of the OBAs, FEI provided emails from 2010 sent from FEI to Foothills BC that referred to telephone conversations between FEI and two Shipper Agents. In the emails sent to Foothills BC, FEI noted the Shipper Agents were "good" or "fine" with what FEI was proposing. In the response to the information request, FEI did not provide any direct evidence of communication or correspondence between FEI and Shipper Agents or customers, for example Teck.<sup>564</sup>

### *Intervener arguments*

Shell and Absolute object to FEI imposing balancing provisions on customers in the Columbia region. Shell argues it should remain exempt from balancing provisions.<sup>565</sup>

Absolute supports FEI's proposal to move all shippers to daily balancing but is "opposed to the Fortis proposal to include the Columbia services territory with all the other regions on the Fortis system regarding the proposed changes to balancing rules."<sup>566</sup> Absolute states "Currently there are no balancing provisions in place for this region, other than that shippers use best efforts to trend their imbalances towards the zero balance. If the shipper's imbalances are becoming too large, then Fortis communicates this and the shipper takes appropriate action to rebalance. Balancing customer loads in the region is restrictive, in part due to the lack of supply options, and also due to limited firm capacity coming out of Alberta on the Foothills system"<sup>567</sup>

Shell supports the elimination of monthly balancing at both the BC Gas Interior and BC Gas Lower Mainland but "strongly objects to imposing balancing provisions on customers in the Columbia region."<sup>568</sup> Shell submits that that the Columbia region should remain exempt.<sup>569</sup> Shell states "Given that Foothills B.C. monitors imbalances at

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<sup>560</sup> Ibid., Shell IR 3.

<sup>561</sup> Ibid., Shell IR 3.

<sup>562</sup> Exhibit B-21, BCUC IR 87.2.

<sup>563</sup> Ibid., BCUC IR 87.3.

<sup>564</sup> Exhibit B-21, BCUC IR 87.1 and Attachment 87.1.

<sup>565</sup> Oral Argument, Transcript Vol. 7, p. 793.

<sup>566</sup> Ibid., p. 800.

<sup>567</sup> Ibid., p. 800.

<sup>568</sup> Ibid., p. 791, p. 793.

<sup>569</sup> Oral Argument, Transcript Vol. 7, p. 793.

each tap separately, it is Shell Energy's position that the fact that the FEI is balanced [at] EKE has no bearing on the imbalance allowed at the Sparwood tap.”<sup>570</sup>

Shell takes issue with FEI's response to Shell question 2 in IR No. 2<sup>571</sup> regarding “how FEI would make supply adjustments when [Teck's] imbalances are extreme,” and states “Shell Energy does not understand how this explanation could be true. ... It can't be possible for both parties to be balancing.”<sup>572</sup>

### *FEI reply argument*

In reply, FEI submits that “the Columbia region customers are seeing the benefit of FEI's actions at East Kootenay. FEI keeps the upstream pipeline happy by balancing the largest piece of the pie, and then they are essentially more lenient with larger swings on the smaller taps. .... Columbia customers are currently receiving the benefit of FEI's actions of balancing the Foothills B.C. pipeline. FEI holds the OBA with the upstream pipelines, and in our submission it's fair to expect these customers to adhere to industry standard practices with respect to balancing, just like it is fair for everyone else.”<sup>573</sup>

### *BCUC determination*

#### **The Panel approves FEI's proposed changes to the balancing provisions for Rate Schedule 22B effective November 1, 2019.**

The Panel finds that the same daily balancing provisions proposed by FEI for other transportation service customers should apply to RS 22B. The Panel finds that FEI is responsible for balancing at the interconnections between FEI and Foothills BC, based on the fact FEI holds the OBAs with Foothills BC, and uses midstream resources contracted to serve the sales customers to do this. RS 22B customers, who currently have no balancing provisions set out in the tariff, benefit by having more lenient requirements for managing their supply/demand imbalance than other large transportation service customers on the FEI system. The Panel considers this is unduly discriminatory to both sales customers and other transportation service customers on the FEI system.

With respect to comments from Teck Coal and submissions from Shell and Absolute, the Panel is not convinced that the change in responsibility for balancing RS 22B customers in 2010 was appropriately communicated by FEI to transportation customers and Shipper Agents impacted by these changes. In addition, the Panel observes that Section 6.2<sup>574</sup> of RS 22B tariff was not updated to reflect these changes. For these reasons, the Panel finds that a delay in implementation of the proposed balancing changes to November 1, 2019 is warranted to afford the parties adequate time to make commercial arrangements to accommodate the changes.

As noted above, the Panel has concerns regarding the effectiveness of FEI's communication with Shippers and Shipper Agents regarding the RS 22B balancing. The Panel also notes the issue of effective communication has

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<sup>570</sup> Ibid., pp. 793–794.

<sup>571</sup> Exhibit B-27, Shell IR 2.

<sup>572</sup> Ibid., pp. 794–795.

<sup>573</sup> Ibid., pp. 815–817.

<sup>574</sup> Section 6.2 of Rate Schedule 22B currently states “FortisBC Energy will not provide any Gas to the Shipper for balancing purposes and will not maintain a Gas inventory account for the Shipper.” See Exhibit B-1-1, Appendix 11-3, Rate Schedule 22B, proposed deletions from tariff shown on blackline version of Original Page R-22B.4.

been raised elsewhere in the proceeding. For example, Access Gas noted that although it has been a Shipper Agent for twelve years, it was unaware of the business practice that allowed the transfer of imbalances between monthly and daily balanced accounts.<sup>575</sup> In section 10.4.2 of this decision it was noted that interveners expressed concerns regarding the need for clarity related to imbalance return business practices. Access Gas' concerns about the potential for prior period metering adjustments to trigger balancing penalties<sup>576</sup> are another example where further discussions between FEI and Shipper Agents regarding business practices may be warranted. The Panel encourages FEI to clearly and transparently communicate its business practices to Shippers and Shipper Agents and to establish a process that facilitates consultation with these parties to modify business practices as required by changing markets and systems.

#### **10.4.5 Rate Schedule 14A – FEI as a Shipper Agent**

In the Monthly Balancing Charge Decision, the BCUC directed as follows:

The Panel directs that when FEI makes its Monthly Balanced Transportation Service rate design application that it is to include a review of the impact of FEI acting as Shipper Agent supplying gas under Rate Schedule 14A to Monthly Balanced Transportation Service Shippers. In the application FEI is directed to describe, in the context of Monthly Balanced Transportation Service, how FEI as a Shipper Agent procures gas under Rate Schedule 14A, how its practices are similar and dissimilar to other Shippers/Shipper Agents, how it impacts the costs to the core, and to provide information on FEI's use of Balancing Gas in a manner similar to all other Shippers/Shipper Agents.<sup>577</sup>

The Panel notes that FEI did not, in accordance with the above BCUC directive, provide the above information, or any reference to RS 14A in this Application. Rather, FEI provided the information in response to BCUC IR 60.1.<sup>578</sup>

In its role as Shipper Agent, FEI has incurred significant balancing gas penalties in recent years. Over the past five years FEI's share of overall monthly balancing gas volumes has ranged from 3.9 to 21.5 percent.<sup>579</sup> The revised version of Table 10-8 of the Application provided in response to BCUC IR 60.9.1 shows FEI ranked as the Shipper Agent with the second worst balancing issues.<sup>580</sup>

In the SRP, FEI confirmed the proposed daily balancing rules will apply to FEI as Shipper Agent.<sup>581</sup> FEI states it has no objections to adding the reporting of the balancing gas charges incurred by FEI as Shipper Agent as part of its annual RS 14A compliance report if directed by BCUC.<sup>582</sup>

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<sup>575</sup> Oral Argument, Transcript Vol. 7, p. 781.

<sup>576</sup> Ibid., p. 785.

<sup>577</sup> BCUC Decision in regard to FEI's Application to Amend the Balancing Charges for Rate Schedules 23, 25, 26 and 27 (Monthly Balancing Charge Decision) accompanying Order G-187-14, p. 25.

<sup>578</sup> Exhibit B-5, BCUC IR 60.1.

<sup>579</sup> Exhibit B-21, BCUC IR 89.2.

<sup>580</sup> Exhibit B-5, BCUC IR 60.9.1.

<sup>581</sup> FEI TSR SRP, Transcript Vol. 6, pp. 717–718.

<sup>582</sup> Exhibit B-21, BCUC 90.4.

## *BCUC determination*

**The Panel directs FEI to include a reporting of the quantities and amount of balancing gas charges incurred by FEI as Shipper Agent in FEI's annual Rate Schedule 14A compliance report.** This additional compliance reporting is warranted in light of FEI's past performance in its role of Shipper Agent.

### **10.5 Future evaluation**

In the SRP, parties explored the need for a review of transportation service balancing at some point in the future to determine the effectiveness of the balancing rules, the need for further changes and whether the costs incurred by sales customers are appropriately recovered. FEI states it does not have a problem with a future review but suggested the timing should be in three to five years to provide adequate time for the Shippers/Shippers Agents to adjust behaviour given this is the first significant change to the balancing rules in 20 years. FEI also noted it would be desirable to have data from a range of market conditions.<sup>583</sup> FEI agreed that it would be appropriate to include in such future review the implications of implementing tolerances and penalties for over-supply.<sup>584</sup>

In response to CEC questions regarding the timing if core sales customers were to look for further tightening of balancing tolerances to 5 percent in the future, FEI stated that it would take three to five years to be in a position to determine whether tolerances should be tightened further.<sup>585</sup>

In reference to the potential for implementing a tolerance on over-supplies, FEI submits in argument that it would be prudent to monitor the changes in behaviour resulting from FEI's current proposals and determine if further changes such as a balancing charge for oversupplies, are required. FEI states after sufficient time and experience is gained with the new balancing rules, FEI is open to reporting back to the BCUC on the implications of implementing balancing charges on oversupplies.<sup>586</sup>

## *Intervener arguments*

CEC notes Shipper Agents have expressed concerns with respect to the amount of change being implemented and argues that "in year three of the application there be a review."<sup>587</sup> CEC provides three topics to include in such review:

1. Whether these [balancing] changes have impacted the gas supply marketplace in a way that is adverse to customers, and potentially adverse to [Shipper] [A]gents;
2. Whether the charges associated with the transportation [balancing] services are being appropriately allocated to the parties causing the costs; and
3. Whether the core sales customers are being fairly protected and compensated for the use of assets paid for by the core.<sup>588</sup>

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<sup>583</sup> FEI TSR SRP, Transcript Vol. 6, p. 708.

<sup>584</sup> Ibid., p. 708.

<sup>585</sup> Ibid., pp. 597–598.

<sup>586</sup> Oral Argument, Transcript Vol. 7, p. 751.

<sup>587</sup> Ibid., p. 756.

<sup>588</sup> Ibid., p. 757.

CEC also notes that it “pursued in IRs a volumetric charge in terms of the balances, as opposed to a tiered approach” and thinks that is “something worth looking at a future date.”<sup>589</sup>

BCSEA submits it “support[s] the concept that there be monitoring and evaluation of changes in behaviour, as associated with these new rules” but takes no position on the appropriate time frame.<sup>590</sup>

In its argument for a phased implementation of the changes, ICG submits that “to avoid unintended consequences, the Commission should direct FEI to adopt a phased approach to the move to daily balancing now, and then report back in three years on the balancing metrics on its system to see if a tightening of the balancing tolerances is required.”<sup>591</sup>

Access Gas, Shell and Absolute do not state positions on the need for a future review or the timing of such review. As noted in section 10.4.3 of this decision, each of these interveners has expressed concerns about the amount of proposed change and potential adverse impacts.

### *FEI reply argument*

FEI submits it has no concerns with the concept of a review, including the three items mentioned by CEC. It submits that three to five years would provide sufficient time to report back.<sup>592</sup> FEI states “we can look at where we go next, in three to five years ... [whether] FEI has not gone far enough, or [whether] some of the rules need to be tweaked.”<sup>593</sup> FEI submits that imbalance return can also be added to the list of things to review.<sup>594</sup>

### *BCUC determination*

**The Panel directs FEI to file a written report with BCUC on transportation service balancing by June 1, 2022. The report is to include the following:**

- **Impact of new balancing rules on the use of core resources including both changes to variable costs of balancing the system to accommodate transportation service and changes to fixed costs arising from a need to contract midstream resources differently;**
- **Effectiveness of imbalance return as a tool for Shippers/Shipper Agents to manage excess inventory including discussion of any modifications made to the allocation methodology in response to changes in demand for imbalance return after the balancing rule changes are implemented;**
- **Whether there should be further tightening of tolerances for under-supply;**
- **Whether it is necessary to implement tolerances and associated charges for over-supply; and**
- **Whether the balancing charges appropriately recover the costs of providing balancing to transportation service customers and provide sufficient incentive to transportation service customers to balance their supply and demand.**

The Panel considers that the effectiveness of the approved balancing changes, any adverse impacts and the need for further changes should be reviewed by BCUC once there has been sufficient experience with the new

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<sup>589</sup> Oral Argument, Transcript Vol. 7, p. 758.

<sup>590</sup> Ibid., p. 759.

<sup>591</sup> Ibid., p. 761.

<sup>592</sup> Ibid., p. 802.

<sup>593</sup> Ibid., p. 819.

<sup>594</sup> Ibid., p. 811.



balancing rules. The reporting time frame directed above would provide nearly four years of balancing experience for FEI and transportation service customers in the Interior and Lower Mainland regions and three years of experience in the Columbia region. FEI is encouraged to engage in stakeholder review in the preparation of the report.

With respect to CEC's submission regarding revisiting the alternative of a volumetric transportation service charge that would apply to all transportation service customers in a future review, the Panel notes that FEI had already considered this as an alternative to the proposed tiered balancing charges.<sup>595</sup> As presented in section 10.3.1 of this decision, FEI decided not to propose such a volumetric charge arguing that it would remove the incentive for Shipper Agents to adhere to their responsibility to balance and penalize Shipper Agents who are already balancing their groups within a 10 percent threshold on a daily basis. The Panel considers that this alternative is not consistent with rate design principles of fair apportionment of costs among customers and price signals that encourage efficient use of resources. The Panel will not direct FEI to revisit a volumetric transportation service charge as an alternative to tiered balancing charges.

## 11.0 Other

### 11.1 Implementation and effective date

FEI requests a BCUC Decision by August 2018 and estimates an effective date for its proposals to be in the fourth quarter of 2018.<sup>596</sup> FEI requests that the specific implementation date for its rate design proposals be approved as part of its compliance filing in response to the BCUC's Decision on the Application.<sup>597</sup> FEI noted that the specific implementation date cannot be determined until a decision is received and FEI has had "an opportunity to review the decision and prepare a compliance filing to reflect the implications of the decision."<sup>598</sup> FEI stated that it "requires 60 to 90 days following acceptance of the compliance filing to implement the rate changes."<sup>599</sup> In the case of Fort Nelson, FEI notes that the implementation process includes "training and education materials for customer service representatives so they can help customers understand the changes to their bills."<sup>600</sup>

#### *BCUC determination*

**The Panel approves FEI requests that the specific implementation date for its rate design proposals be approved as part of its compliance filing. FEI is directed to file the compliance filing no later than 60 days after the release of this decision.** The Panel notes that BCSEA does "not oppose FEI's request that the effective date for the rate design changes be determined as part of the compliance filing."<sup>601</sup>

### 11.2 Next rate design application

In Order G-4-18, the Panel directed FEI to file a "comprehensive and updated COSA study for each of FEI and Fort Nelson for review by the BCUC five years after the release of the final decision on FEI's 2016 RDA." No

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<sup>595</sup> Oral Argument, Transcript, Vol. 7, pp. 740-741.

<sup>596</sup> FEI Final Argument, p. 2; Exhibit B-1-5, p. 2-5.

<sup>597</sup> FEI Final Argument, p. 2; p. 74.

<sup>598</sup> Exhibit B-32, BCUC IR 91.1, p. 2.

<sup>599</sup> Ibid., BCUC IR 91.1, p. 2.

<sup>600</sup> FEI Final Argument, p. 58.

<sup>601</sup> BCSEA Final Argument, p. 2.

submissions were made on the timing of the next rate design application. In response to information requests FEI did not consider it to be “beneficial or efficient to perform a rate design each time an updated COSA study is carried out.”<sup>602</sup> FEI further noted the complexity, time, effort and cost implications of preparing and filing a rate design application for regulatory review.<sup>603</sup> FEI notes that there is the option of carrying out targeted rate design applications to address specific issues and points out that performing a rate design could be beneficial if the COA study highlights issues or there is a significant change in FEI’s business.<sup>604</sup> FEI believes it should be a fluid process to file rate design applications, whether targeted or comprehensive, as opposed to filing at specific intervals. However, FEI states, “it would be reasonable to expect a comprehensive rate design about once every 10 years” due to changes in the business or changes in government policy.<sup>605</sup>

### *BCUC determination*

In the COSA and R:C Ratios Decision, the BCUC directed FEI to file a comprehensive and updated COSA study for each of FEI and Fort Nelson for review by the BCUC five years after the release of the final decision on this Application.<sup>606</sup>

The Panel agrees with FEI’s views on the timing of the next comprehensive rate design and notes that the next rate design application should be filed by FEI depending on the results of the next COSA study as well as consideration of any other information indicating that rate design changes should be explored. If FEI determines that rate design and/or rebalancing should take place based on the results of the next COSA study or any other information, the Panel expects that FEI will file such rate design and or rate rebalancing proposals together with the COSA study.

## **12.0 Summary of Directives**

This Summary is provided for the convenience of readers. In the event of any difference between the Directions in this Summary and those in the body of the Decision, the wording in the Decision shall prevail.

	<b>Directive</b>	<b>Page</b>
1.	<b>The Panel approves FEI’s requests for RS1, 1B, 1U, and 1X to increase the Basic Charge per day by \$0.0195 from \$0.3890 to \$0.4085 and to decrease the Delivery Charge per GJ by \$0.086 to maintain revenue neutrality with the Basic Charge increase.</b>	11
2.	<b>The Panel denies CEC’s proposal to increase the Basic Charge by 15 percent.</b>	11

<sup>602</sup> Exhibit B-21, BCUC IR 62.1, p. 2.

<sup>603</sup> Ibid.

<sup>604</sup> Ibid.

<sup>605</sup> Ibid., BCUC IR 62.2, p. 3.

<sup>606</sup> COSA and R:C Ratios Decision, p. 22.

	Directive	Page
3.	<p>The Panel approves FEI's commercial rate design proposals for:</p> <ul style="list-style-type: none"> <li>Rate Schedules 2, 2B, 2U, and 2X to increase the Basic Charge per Day by \$0.1324 from \$0.8161 to \$0.9485 and decrease the Delivery Charge per GJ by \$0.186; and</li> <li>Rate Schedules 3, 3B, 3U, 3X, and 23 to increase the Basic Charge per Day by \$0.4357 from \$4.3538 to \$4.7895 and increase the Delivery Charge per GJ by \$0.001.</li> </ul>	14
4.	The Panel approves FEI's proposal to revise the multiplier in the Daily Demand formula in RS 5 and RS 25 from 1.25 to 1.10 and to increase the Demand Charge in RS 5 and RS 25 by \$3.00/GJ/Month.	20
5.	The Panel approves FEI's request to decrease the Delivery Charge of RS 7 and RS 27 by \$0.012/GJ.	23
6.	The Panel approves FEI's request to increase RS 4 rates due to the proposed changes in RS 5 and RS 7 by increasing the Off-Peak Delivery Rate by \$0.114/GJ and by decreasing the Extension Period Rate by \$0.018/GJ.	25
7.	<p>The Panel approves FEI's proposal to set the rates for RS 22 on a cost of service basis for all large industrial customers, excluding closed rate schedules RS 22A and RS 22B, as follows:</p> <ul style="list-style-type: none"> <li>Firm Demand Charge of \$25.000/GJ/Month.</li> <li>Firm Monthly Transportation Quantity (MTQ) Delivery Charge of \$0.15/GJ.</li> <li>Interruptible MTQ Delivery Charge of \$0.972/GJ.</li> </ul>	31
8.	The Panel also approves FEI's request to terminate Tariff Supplement G-21, FEI's contract with Creative Energy Vancouver Platforms Inc., effective in the fourth quarter of 2018.	32
9.	The Panel approves FEI's request to continue the closed RS 22A and RS 22B service offerings.	32
10.	<p>The Panel approves FEI's rebalancing requests to:</p> <ol style="list-style-type: none"> <li>Increase the Delivery Charge per GJ of RS 1, 1U, 1X, and 1B by \$0.027 as a result of the revenue shifts and rebalancing of rates;</li> <li>Decrease the Basic Charge in RS 5 and RS 25 by \$118.00 per month from \$587.00 per month to \$469.00 per month;</li> <li>Decrease the Delivery Charge per GJ of RS 6 by \$1.622/GJ to address rebalancing; and</li> <li>Set the Delivery Charge per GJ for RS 6P to equal the Delivery Charge per GJ of RS 6.</li> </ol>	41
11.	The Panel denies ICG's requests to: set a 100 percent R:C ratio for all rate classes; directs FEI to rebalance RS 22A to a 100 percent R:C ratio; and directs FEI to rebalance RS 5/25 by adjusting the Demand Charge instead of the Basic Charge.	41
12.	The housekeeping and other amendments to FEI's General Terms and Conditions as set out in Appendices 11-1 and 11-2 to Exhibit B-1 are approved inclusive of the correction to the amendments to Section 19.7 of the General Terms and Conditions filed in Attachment 11.1a to Exhibit B-8 and the correction to the proposed Return Payment Charge of \$7 filed in Attachment 57.1 of Exhibit B-11.	46

	<b>Directive</b>	<b>Page</b>
13.	<b>The proposed amendments to the FEI Rate Schedules as set out in Appendix 11-3 to Exhibit B-1-1 are approved.</b>	46
14.	<b>The Panel approves FEI's rate design and rebalancing requests and related proposed amendments to the FEI Rate Schedules for the Fort Nelson Service area as set out on pages 13-1 to 13-4 of Exhibit B-1-5 and Appendix 13-6 of Exhibit B-1-1.</b>	56
15.	<b>The Panel approves FEI's proposal to unbundle Fort Nelson's rates.</b>	56
16.	<b>To mitigate the rate impacts of billing system changes, the Panel approves FEI's request for a regulatory account to record the cost of changes to the billing system for Fort Nelson that are required to unbundle Fort Nelson's rates. The Panel also approves the five-year amortization period for this account.</b>	56
17.	<b>The Panel approves FEI's proposal to move Fort Nelson's rates to a flat rate structure.</b>	56
18.	<b>The Panel approves FEI's rebalancing proposals for the Fort Nelson service area. The Panel directs FEI to consider the appropriateness of implementing a mitigation mechanism to address the impact of rate design and rebalancing proposals on Fort Nelson's residential rates in the Fort Nelson's 2019/2020 Revenue Requirements Application.</b>	57
19.	<b>The Panel approves FEI's proposal to implement daily balancing for all transportation customers and the amendments related to daily balancing for Rate Schedules 23, 25, 26 and 27.</b>	63
20.	<b>The Panel approves FEI's proposed amendments to reduce the daily balancing tolerance to a 10 percent threshold and to introduce an additional daily balancing charge for gas supply shortfalls within a 10 to 20 percent tolerance level for Rate Schedules 22, 22A, 23, 25, 26 and 27.</b>	67
21.	<b>The Panel approves FEI's proposed amendments to introduce an additional daily balancing charge of \$0.25 per GJ for gas supply shortfalls within a 10 to 20 percent tolerance level for Rate Schedules 22, 22A, 23, 25, 26 and 27.</b>	69
22.	<b>The Panel directs FEI to implement the balancing changes for all transportation rate schedules, with the exception of Rate Schedule 22B, at the same time to be effective in the fourth quarter of 2018 as proposed by FEI.</b>	75
23.	<b>The Panel approves FEI's proposed changes to the balancing provisions for Rate Schedule 22B effective November 1, 2019.</b>	78
24.	<b>The Panel directs FEI to include a reporting of the quantities and amount of balancing gas charges incurred by FEI as Shipper Agent in FEI's annual Rate Schedule 14A compliance report.</b>	80

	Directive	Page
25.	<p>The Panel directs FEI to file a written report with BCUC on transportation service balancing by June 1, 2022. The report is to include the following:</p> <ul style="list-style-type: none"> <li>• Impact of new balancing rules on the use of core resources including both changes to variable costs of balancing the system to accommodate transportation service and changes to fixed costs arising from a need to contract midstream resources differently;</li> <li>• Effectiveness of imbalance return as a tool for Shippers/Shipper Agents to manage excess inventory including discussion of any modifications made to the allocation methodology in response to changes in demand for imbalance return after the balancing rule changes are implemented;</li> <li>• Whether there should be further tightening of tolerances for under-supply;</li> <li>• Whether it is necessary to implement tolerances and associated charges for over-supply; and</li> <li>• Whether the balancing charges appropriately recover the costs of providing balancing to transportation service customers and provide sufficient incentive to transportation service customers to balance their supply and demand.</li> </ul>	81
26.	<p>The Panel approves FEI requests that the specific implementation date for its rate design proposals be approved as part of its compliance filing. FEI is directed to file the compliance filing no later than 60 days after the release of this decision.</p>	82

**DATED** at the City of Vancouver, in the Province of British Columbia, this 20<sup>th</sup> day of July 2018.

*Original signed by:*

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K. A. Keilty  
Panel Chair / Commissioner

*Original signed by:*

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W. M. Everett, QC  
Commissioner

*Original signed by:*

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D. J. Enns  
Commissioner



**ORDER NUMBER  
G-135-18**

IN THE MATTER OF  
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

FortisBC Energy Inc.  
2016 Rate Design Application

**BEFORE:**

K. A. Keilty, Commissioner/Panel Chair  
W. M. Everett QC, Commissioner  
D. J. Enns, Commissioner

on July 20, 2018

**ORDER**

**WHEREAS:**

- A. On December 19, 2016, FortisBC Energy Inc. (FEI) filed its 2016 Rate Design Application with the British Columbia Utilities Commission (BCUC) and on February 2, 2017, FEI submitted a supplemental filing which included FEI's rate design for the Fort Nelson Service Area as well as FEI's revisions to its rate schedules based on its proposals (Application);
- B. FEI seeks the necessary approvals, pursuant to sections 58 to 61 of the *Utilities Commission Act* (UCA), to adjust its rate design and terms and conditions of service for all service areas effective the fourth quarter of 2018. FEI requests that the specific implementation date be determined as part of a compliance filing in response to the BCUC's Decision on the Application;
- C. On July 18, 2017, by Order G-109-17, the BCUC determined that a decision would be issued, following a streamlined review process (SRP) and written arguments, with determinations on the following key topics:
  - i. The Cost of Service Allocation (COSA) studies included in the Application; and
  - ii. The Revenue to Cost (R:C) ratios and the corresponding range of reasonableness;
- D. The SRP on the COSA studies, R:C ratios and the range of reasonableness was held on September 12, 2017. FEI and interveners filed final arguments on these key topics on September 18 and 25, 2017 respectively and FEI filed its reply argument on October 2, 2017;
- E. On January 9, 2018, the BCUC issued Order G-4-18 and Reasons for Decision on FEI's proposed COSA and R:C ratios (COSA and R:C Ratios Decision);
- F. Order G-109-17 also outlined that FEI's Transportation Service Review, included in the Application, would be addressed through an SRP followed shortly after by oral arguments on the same topic;

- G. The SRP for FEI's Transportation Service Review was held on November 22, 2017, and the oral arguments took place on November 27, 2017. The Panel stated that the determinations on FEI's Transportation Service Review would be included in the overall decision for the Application;
- H. On February 6, 2018, FEI filed updates to the Application in response to the findings and directives in COSA and R:C Ratios Decision;
- I. FEI and interveners filed final arguments on all remaining topics on March 27, 2018 and April 10, 2018 respectively. FEI filed its reply argument on all remaining topics on April 24, 2018; and
- J. The Panel has considered the Application, the evidence filed, the arguments and has made determinations regarding the Application.

**NOW THEREFORE**, pursuant to sections 58 to 61 of the UCA, for the reasons provided in the decision issued concurrently with this order, the BCUC orders as follows:

- 1. Amendments to the Rate Schedules and General Terms and Conditions of service in the FEI Tariff are approved as outlined in the Decision.
- 2. Amendments to the Rate Schedules and General Terms and Conditions of service in the Fort Nelson Tariff are approved as outlined in the Decision.
- 3. Adjustments to FEI's Transportation Service model are approved as outlined in section 10 of the Decision.
- 4. The effective date of the approved amendments is to be in the fourth quarter of 2018, with the specific date to be determined in a compliance filing to be submitted no later than 60 days after the release of this order.
- 5. FEI is to comply with all directives stated in the Decision.

**DATED** at the City of Vancouver, in the Province of British Columbia, this 20<sup>th</sup> day of July 2018.

BY ORDER

*Original signed by:*

K. A. Keilty  
Commissioner



### List of Acronyms

Acronym	Description
Absolute	Absolute Energy Inc.
Access Gas	Access Gas Services Inc.
AMR	Automatic Meter Reading
Application	Review of the rate design for FortisBC Energy Inc. and Fort Nelson service areas
BC Hydro	British Columbia Hydro and Power Authority
BC Hydro IG	British Columbia Hydro and Power Authority Island Generation
BCOAPO	BC Public Interest Advocacy Centre, representing British Columbia Old Age Pensioners' Organization <i>et al.</i>
BCSEA	B.C. Sustainable Energy Association and Sierra Club of B.C.
BCUC or Commission	British Columbia Utilities Commission
Cascadia	Cascadia Energy Ltd.
Catalyst Paper	Catalyst Paper Corporation
CEC	Commercial Energy Consumers Association of British Columbia
CNG	Compressed natural gas
COSA	Cost of service allocation
COSA and R:C Ratios Decision	Order G-4-18 and Reasons for Decision on FEI's Proposed COSA and revenue to cost ratios
Direct Energy	Direct Energy Marketing Ltd.
DTQ	Daily Transportation Quantity
EKE	East Kootenay Exchange
Elenchus	Elenchus Research Associates Inc.
Extension Period	November 1 <sup>st</sup> to March 31 <sup>st</sup>
FEI	FortisBC Energy Inc.
FNDCC	Fort Nelson & District Chamber of Commerce
GHG	Greenhouse Gas
GJ	Gigajoule
GT&Cs	General Terms and Conditions
ICG	Industrial Customer Group

Acronym	Description
IR	Information requests
IT	Interruptible Transportation
LNG	Liquefied natural gas
Monthly Balancing Charge Decision	Order G-187-14 and reasons for decision
MTQ	Monthly Transportation Quantity
NSA	Negotiated Settlement Agreement
NSP	Negotiated Settlement Process
OBA	Operating Balancing Agreement
Off-Peak Perion	Off-peak period from April 1 <sup>st</sup> to October 31 <sup>st</sup>
OIC	Order in Council
PJ	Petajoules
R:C	Revenue to Cost
RDA	Rate Design Application
RS	Rate Schedule
RSAM	Revenue Stabilization Adjustment Mechanism
Shell	Shell Energy North America (Canada) Inc.
Shippers	Transportation service customers
SRP	Streamlined Review Process
Teck Coal	Teck Coal Limited
Transportation Service Review	Monthly Balanced Transportation Service Review
TSA	Transportation Service Agreement
UCA	<i>Utilities Commission Act</i>
UPC	Use Per Customer
USD/MMBtu	US dollars per million British Thermal units
VIGJV	Vancouver Island Gas Joint Venture
WINS	Web Information and Nomination System

IN THE MATTER OF  
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

FortisBC Energy Inc.  
2016 Rate Design Application

**EXHIBIT LIST**

<b>Exhibit No.</b>	<b>Description</b>
<i>COMMISSION DOCUMENTS</i>	
A-1	Letter dated December 22, 2016 - Appointing the Panel for the review of FEI's 2016 Rate Design Application
A-2	Letter dated January 20, 2017 – Commission Order G-6-17 establishing Regulatory Timetable and Public Notice
A-3	Letter dated February 21, 2017 – Commission Submitting Workshop Information
A-4	Letter dated February 21, 2017 – Commission Submitting Consultant Introduction
A-5	Letter dated March 2, 2017 – Commission Order G-30-17 establishing the Regulatory Timetable
A-6	Letter dated March 31, 2017 – Procedural Conference information and staff proposed key topics
A-7	Letter dated April 26, 2017 – Commission submitting Scope of Rate Design Report
A-8	Letter dated May 4, 2017 – Commission submitting Information Request No. 1 to FEI
A-9	Letter dated May 24, 2017 – Commission submitting Information Request No. 1 to Elenchus on the COSA Report
A-10	Letter dated June 28, 2017 – Procedural conference information and questions
A-11	Letter dated July 18, 2017 – Commission Order G-109-17 establishing the further regulatory timetable
A-12	Letter dated August 10, 2017 –Commission Information Request No. 2 to Elenchus on the Rate Design Report
A-13	Letter dated August 10, 2017 – Commission submitting Technical Questions to FEI on COSA and revenue to cost ratios

<b>Exhibit No.</b>	<b>Description</b>
A-14	Letter dated September 7, 2017 – Commission submitting information on September 12, 2017 streamlined review process
A-15	Letter dated September 28, 2017 – Commission submitting response to FEI extension request
A-16	Letter dated October 12, 2017 – Commission submitting Information Request No. 2 to FEI
A-17	Letter dated November 16, 2017 – Streamlined Review Process Information
A-18	Letter dated January 9, 2018 – Commission Order G-5-18 providing further regulatory timetable
A-19	Letter dated February 27, 2018 – Commission submitting IR No. 3 to FEI

*COMMISSION STAFF DOCUMENTS*

A2-1	Letter dated February 21, 2017 – Commission staff submitting RFP 8103 for Independent Expert consultant for Rate Design Application
A2-2	Letter dated April 26, 2017 – Commission staff submitting COSA Report
A2-3	Letter dated May 4, 2017 – Commission staff submitting FEI Monthly Balancing Charge Application – BCUC IR Attachment 1
A2-4	Letter dated May 4, 2017 – Commission staff submitting FEI 2015 16 RS 14A Gas Purchases Sales Summary – G-152-12 Compliance Filing
A2-5	Letter dated June 9, 2017 – Commission staff submitting Elenchus response to BCUC IR No. 1 on COSA Report
A2-6	Letter dated June 9, 2017 – Commission staff submitting Elenchus response to BCOAPO IR No. 1 on COSA Report
A2-7	Letter dated June 9, 2017 – Commission staff submitting Elenchus response to BCSEA IR No. 1 on COSA Report
A2-8	Letter dated June 9, 2017 – Commission staff submitting Elenchus response to CEC IR No. 1 on COSA Report
A2-9	Letter dated June 9, 2017 – Commission staff submitting Elenchus response to ICG IR No. 1 on COSA Report
A2-10	Letter dated June 23, 2017 - Commission staff submitting Elenchus Rate Design Report

<b>Exhibit No.</b>	<b>Description</b>
A2-11	Letter dated August 31, 2017 – Commission staff submitting Elenchus response to BCUC IR No. 2 on Rate Design Report
A2-12	Letter dated August 31, 2017 – Commission staff submitting Elenchus response to Access IR No. 2 on Rate Design Report
A2-13	Letter dated August 31, 2017 – Commission staff submitting Elenchus response to BCOAPO IR No. 2 on Rate Design Report
A2-14	Letter dated August 31, 2017 – Commission staff submitting Elenchus response to BCSEA IR No. 2 on Rate Design Report
A2-15	Letter dated August 31, 2017 – Commission staff submitting Elenchus response to Cascadia IR No. 2 on Rate Design Report
A2-16	Letter dated August 31, 2017 – Commission staff submitting Elenchus response to CEC IR No. 2 on Rate Design Report
A2-17	Letter dated August 31, 2017 – Commission staff submitting Elenchus response to FEI IR No. 2 on Rate Design Report
A2-17	Submitted at Streamlined Review Process September 12, 2017 – Commission staff submitting Elenchus Presentation Materials

***APPLICANT DOCUMENTS***

B-1	<b>FORTISBC ENERGY INC. (FEI)</b> Letter dated December 19, 2016 - 2016 Rate Design Application
B-1-1	Letter dated February 2, 2017 - FEI Supplemental Filing – Fort Nelson Rate Design and FEI Rate Schedules
B-1-1-1	Letter dated April 7, 2017 - FEI Submitting Fort Nelson Evidentiary Update
B-1-2	Letter dated March 10, 2017 – FEI Submitting Supplemental Filing Erratum
B-1-3	Letter dated April 7, 2017 - FEI Submitting Rate Design Application Errata
B-1-4	Letter dated February 6, 2018 - FEI Submitting Rate Design Application Updates - Blacklined
B-1-5	Letter dated February 6, 2018 - FEI Submitting Rate Design Consolidated Updated Application - Clean
B-2	Letter dated March 2, 2017 – FEI Submitting Workshop No. 1 Presentation
B-3	Letter dated March 3, 2017 – FEI Submitting COSA Models

<b>Exhibit No.</b>	<b>Description</b>
B-4	Letter dated March 9, 2017 – FEI Submitting Workshop No. 2 Presentation
B-5	Letter dated June 9, 2017 – FEI Submitting Response to BCUC IR No.1
B-5-1	Confidential Letter dated June 9, 2017 – FEI Submitting Confidential Response to BCUC IR No.1
B-6	Letter dated June 9, 2017 – FEI Submitting Response to Absolute IR No.1
B-7	Letter dated June 9, 2017 – FEI Submitting Response to BC Hydro IR No.1
B-8	Letter dated June 9, 2017 – FEI Submitting Response to BCOAPO IR No.1
B-9	Letter dated June 9, 2017 – FEI Submitting Response to BCSEA IR No.1
B-10	Letter dated June 9, 2017 – FEI Submitting Response to Cascadia IR No.1
B-11	Letter dated June 9, 2017 – FEI Submitting Response to CEC IR No.1
B-11-1	Letter dated August 31 2017 FEI Submitting Response to CEC IR No.1 – Attachment 66.1 Erratum
B-12	Letter dated July 4, 2017 – FEI Submitting Response to the Procedural Conference Questions
B-13	Letter dated August 3, 2017 – FEI Submitting Response to letter from Teck Coal Limited
B-14	Letter dated August 10, 2017 – FEI Submitting Information Requests to Elenchus on Rate Design Report
B-15	Letter dated August 31, 2017 – FEI Submitting Response to BCUC Technical Information Requests on COSA and revenue to cost ratios
B-16	Letter dated August 31, 2017 – FEI Submitting Response to BCOAPO Technical Information Requests on COSA and revenue to cost ratios
B-17	Letter dated August 31, 2017 – FEI Submitting Response to ICG Technical Information Requests on COSA and revenue to cost ratios - replacement
B-18	Letter dated August 31, 2017 – FEI Submitting Response to CEC Technical Information Requests on COSA and revenue to cost ratios
B-19	Letter dated September 12, 2017 – FEI Submitting COSA SRP Presentation
B-20	Letter dated September 27, 2017 – FEI Submitting Request for Extension to file COSA Reply
B-21	Letter dated November 7, 2017 – FEI Submitting IR No. 2 Response to BCUC

<b>Exhibit No.</b>	<b>Description</b>
B-22	Letter dated November 7, 2017 – FEI Submitting IR No. 2 Response to BCOAPO
B-22-1	Letter dated November 7, 2017 – FEI Submitting IR No. 2a Response to BCOAPO
B-22-2	Letter dated November 7, 2017 – FEI Submitting IR No. 2b Response to BCOAPO
B-23	Letter dated November 7, 2017 – FEI Submitting IR No. 2 Response to Absolute
B-24	Letter dated November 7, 2017 – FEI Submitting IR No. 2 Response to Catalyst
B-24-1	Letter dated March 20, 2018 – FEI Submitting Errata to IR No. 2.4 Response to Catalyst
B-25	Letter dated November 7, 2017 – FEI Submitting IR No. 2 Response to CEC
B-26	Letter dated November 7, 2017 – FEI Submitting IR No. 2 Response to ICG
B-27	Letter dated November 7, 2017 – FEI Submitting IR No. 2 Response to Shell
B-28	Letter dated November 22, 2017 – FEI SRP on Transportation Service Review Presentation
B-29	Letter dated November 24, 2017 – FEI Submitting Transcript Clarification
B-30	Letter dated November 27, 2017 – FEI Final Submission on Transportation Service Review
B-31	Letter dated December 13, 2017 - FEI Submission on Further Process
B-32	Letter dated March 20, 2018 – FEI Submitting IR No. 3 Response to BCUC
B-33	Letter dated March 20, 2018 – FEI Submitting IR No. 3 Response to Catalyst
B-34	Letter dated March 20, 2018 – FEI Submitting IR No. 3 Response to CEC
B-35	Letter dated March 20, 2018 – FEI Submitting IR No. 3 Response to ICG

*INTERVENER DOCUMENTS*

C1-1	<b>BRITISH COLUMBIA HYDRO AND POWER AUTHORITY (BC HYDRO)</b> Letter dated February 3, 2017 - Request to Intervene by Fred James
C1-2	Letter dated April 20, 2017 – BC Hydro Submitting comments regarding roles of Commission staff
C1-3	Letter dated May 11, 2017 – BC Hydro Submitting Information Request No. 1 to FEI
C2-1	<b>ACCESS GAS SERVICES INC. (ACCESS GAS)</b> Letter dated February 17, 2017 – Request to Intervene by Tom Dixon

<b>Exhibit No.</b>	<b>Description</b>
C2-2	Letter dated August 10, 2017 – Access Gas Submitting Information Requests to Elenchus on Rate Design Report
C3-1	<b>BRITISH COLUMBIA OLD AGE PENSIONERS' ORGANIZATION, ACTIVE SUPPORT AGAINST POVERTY, COUNCIL OF SENIOR CITIZENS' ORGANIZATIONS OF BC, DISABILITY ALLIANCE BC, AND THE TENANT RESOURCE AND ADVISORY CENTRE (BCOAPO)</b> Letter dated February 22, 2017 – Request to Intervene by Kate Keeney & Tannis Braithwaite
C3-2	Letter dated May 11, 2017 – BCOAPO Submitting Information Request No. 1 to FEI
C3-3	Letter dated May 24, 2017 – BCOAPO Submitting Information Request No. 1 to Elenchus on COSA Report
C3-4	Letter dated June 28, 2017 – BCOAPO Submitting Notice on Filing Intervener Evidence
C3-5	Letter dated August 10, 2017 – BCOAPO Submitting Information Request to Elenchus on Rate Design Report
C3-6	Letter dated August 10, 2017 – BCOAPO Submitting Information Request to FEI on COSA and revenue to cost ratios
C3-6-1	Letter dated October 12, 2017 – BCOAPO submitting Additional IR Request
C3-7	Letter dated October 12, 2017 – BCOAPO submitting Information Request No. 2 to FEI
C3-8	Letter dated December 5, 2017 - BCOAPO submitting Evidence
C3-9	Letter dated January 11, 2018 – BCOAPO submitting change regarding counsel
C4-1	<b>CATALYST PAPER CORPORATION (CATALYST)</b> Letter dated February 22, 2017 – Request to Intervene by Jouni Martiskainen
C4-2	Letter dated October 12, 2017 – Catalyst submitting Information Request No. 2 to FEI
C4-3	Letter dated February 27, 2018 – Catalyst submitting IR No. 3 to FEI
C5-1	<b>SHELL ENERGY NORTH AMERICA (CANADA) INC. (SHELL)</b> Letter dated February 22, 2017 – Request to Intervene by Mary McCordic and Paul Kerr
C5-2	Letter dated October 12, 2017 – Shell submitting Information Request No. 2 to FEI
C6-1	<b>COMMERCIAL ENERGY CONSUMERS ASSOCIATION OF BRITISH COLUMBIA (CEC)</b> Letter dated February 23, 2017 – Request to Intervene by David Craig and Christopher Weafer
C6-2	Letter dated May 11, 2017 – CEC Submitting Information Request No. 1 to FEI



<b>Exhibit No.</b>	<b>Description</b>
C6-3	Letter dated May 24, 2017 – CEC Submitting Information Request No. 1 to Elenchus on COSA Report
C6-4	Letter dated August 10, 2017 - CEC Submitting Information Request No. 2 to FEI on Technical Revenue to Cost Ratios
C6-5	Letter dated August 10, 2017 - CEC Submitting Information Request No. 2 to Elenchus on Rate Design Report
C6-6	Letter dated October 12, 2017 – CEC submitting Information Request No. 2 to FEI
C6-7	Letter dated December 8, 2017 – CEC Submission on Further Process
C6-8	Letter dated February 27, 2018 – CEC submitting IR No. 3 to FEI
C7-1	<b>DIRECT ENERGY MARKETING LTD. (DIRECT ENERGY)</b> Letter dated February 23, 2017 – Request to Intervene by Karen Cooke
C8-1	<b>BC SUSTAINABLE ENERGY ASSOCIATION AND SIERRA CLUB BC (BCSEA)</b> Letter dated February 23, 2017 – Request to Intervene by Thomas Hackney and William J. Andrews
C8-2	Letter dated May 11, 2017 – BCSEA Submitting Information Request No. 1 to FEI
C8-3	Letter dated May 24, 2017 – BCSEA Submitting Information Request No. 1 to Elenchus on COSA Report
C8-4	Letter dated June 28, 2017 – BCSEA Submitting Notice on Filing Intervener Evidence
C8-5	Letter dated July 4, 2017 – BCSEA Submitting comments on Procedural conference information and questions
C8-6	Letter dated August 10, 2017 – BCSEA Submitting Information Request No. 2 to Elenchus
C8-7	Letter dated October 12, 2017 – BCSEA submitting Comments regarding IR No. 2
C9-1	<b>TECK RESOURCES LIMITED , DOMTAR INC., WEYERHAEUSER COMPANY LIMITED, AND ZELLSTOF CELGAR LIMITED PARTNERSHIP (COLLECTIVELY “INDUSTRIAL CUSTOMER GROUP”) (ICG)</b> Letter dated 24, 2017 – Request to Intervene by David Bursey and Jim Langley
C9-2	Letter dated May 24, 2017 – ICG Submitting Information Request No. 1 to Elenchus on COSA Report
C9-3	Letter dated July 4, 2017 – ICG Submitting comments regarding procedural questions
C9-4	Letter dated August 10, 2017 – ICG Submitting Information Request to FEI on COSA and revenue to cost ratios

<b>Exhibit No.</b>	<b>Description</b>
C9-5	Letter dated October 12, 2017 – ICG submitting Information Request No. 2 to FEI
C9-6	Letter dated February 27, 2018 – ICG submitting IR No. 3 to FEI
C10-1	<b>FORT NELSON &amp; DISTRICT CHAMBER OF COMMERCE (FNDCC)</b> Letter dated February 23, 2017 – Request to Intervene by Bev Vandersteen
C11-1	<b>MARTY, NICHOLAS (MARTY)</b> Letter dated February 22, 2017 – Request to Intervene by Nicholas Marty
C12-1	<b>ABSOLUTE ENERGY INC. (ABSOLUTE ENERGY)</b> Letter dated March 4, 2017 – Request to Intervene by Peter Kresnyak
C12-2	Letter dated May 11, 2017 – Absolute Energy Submitting Information Request No. 1 to FEI
C12-3	Letter dated October 12, 2017 – Absolute Energy submitting Information Request No. 2 to FEI
C13-1	<b>CASCADIA ENERGY LTD (CASCADIA ENERGY)</b> Letter dated March 6, 2017 – Request to Intervene by Nick Caumanns and Steve Connelly
C13-2	Letter dated May 11, 2017 – Cascadia Energy Submitting Information Request No. 1 to FEI
C13-3	Letter dated July 4, 2017 – Cascadia Energy Submitting comments on Procedural conference information and questions
C13-4	Letter dated August 11, 2017 – Cascadia Energy Submitting Information Request No. 2 to Elenchus - Replacement

*INTERESTED PARTY DOCUMENTS*

D-1	<b>PACIFIC NORTHERN GAS LTD. (PNG)</b> Letter dated February 17, 2017 – Request for Interested Party Status by Verlon Otto
D-2	<b>INDEPENDENT ENERGY CONSULTANTS (IEC)</b> Letter dated February 22, 2017 – Request for Interested Party Status by Ken Fuhr
D-3	<b>DUNKLEY LUMBER LTD. (DUNKLEY LUMBER)</b> Letter dated April 27, 2017 - Request for Interested Party Status by Tony Mogus
D-4	<b>TOLKO INDUSTRIES LTD. (TOLKO)</b> Letter dated April 27, 2017 - Request for Interested Party Status by Michael Towers
D-5	<b>WEST FRASER MILLS LTD. (WEST FRASER MILLS)</b> Letter dated April 27, 2017 - Request for Interested Party Status by Veikko Paivinen

<b>Exhibit No.</b>	<b>Description</b>
D-5-1	Letter dated June 28, 2017 – West Fraser Mills Submitting Comments
D-6	<b>HUSKY OIL OPERATIONS LIMITED (HUSKY)</b> Letter dated May 17, 2017 - Request for Interested Party Status by Milanda Aksomitis
D-7	<b>HOWE SOUND PULP &amp; PAPER CORPORATION (HOWE SOUND PP)</b> Letter dated July 6, 2017 - Request for Interested Party Status by Fred Fominoff
D-7-1	Letter dated September 21, 2017 – Howe Sound PP Submitting Comments

*LETTERS OF COMMENT*

E-1	Sutherland, J. Letter of Comment dated June 26, 2017
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FortisBC Energy Inc.  
2016 Rate Design Application

**List of the Regulatory Timetables**

BCUC Order G-6-17

ACTION	DATE (2017)
FEI Supplemental Filing – Fort Nelson Rate Design and FEI Rate Schedules	Thursday, February 2
FEI to publish Public Notice	After FEI Supplemental Filing and no later than Wednesday, February 8
Intervener registration deadline	Thursday, February 23
Workshop No. 1	Thursday, March 2, 9:00 a.m.
Workshop No. 2	Thursday, March 9, 9:00 a.m.
Further process	To be determined

BCUC Order G-30-17

ACTION	DATE (2017)
Procedural Conference on the Rate Design Report key topics	Wednesday, April 5, 9:00 a.m.
Elenchus' Cost of Service Allocation Report	Wednesday, April 26
Commission Information Request No. 1 to FortisBC Energy Inc. (FEI)	Thursday, May 4
Intervener Information Request No. 1 to FEI	Thursday, May 11
Information Request to Elenchus on COSA Report	Wednesday, May 24
Participant Assistance/Cost Award Budgets	Wednesday, May 24
FEI Response to Information Request No. 1	Friday, June 9
Elenchus Response to Information Request on COSA Report	Friday, June 9
Elenchus' Rate Design Report	Friday, June 23
Intervener Notice on Filing Intervener Evidence	Wednesday, June 28
Procedural Conference - on further process	Wednesday, July 5, 9:00 a.m.
Further process	To be determined

BCUC Order G-109-17

Action	Date (2017)
FEI Response to letter from Teck Coal Limited	Thursday, August 3
Technical Questions to FEI on COSA and revenue to cost ratios	Thursday, August 10
Information Request to Elenchus on Rate Design Report	Thursday, August 10
FEI Responses to Technical Questions on COSA and revenue to cost ratios	Thursday, August 31
Elenchus Response to Information Request on Rate Design Report	Thursday, August 31
Streamlined Review Process on COSA and revenue to cost ratios <sup>(1)</sup>	Tuesday, September 12
FEI Written Final Argument on COSA and revenue to cost ratios	Monday, September 18
Intervener Written Argument on COSA and revenue to cost ratios	Monday, September 25
FEI Written Reply Argument on COSA and revenue to cost ratios	Friday, September 29
Information Request No. 2 to FEI	Thursday, October 12
FEI Response to Information Request No. 2	Tuesday, November 7
Streamlined Review Process on Transportation Service Review	Wednesday, November 22
Oral Arguments on Transportation Service Review <i>(If Oral Arguments not delivered at SRP on Wednesday, November 22)</i>	Monday, November 27
BCOAPO Evidence	Tuesday, December 5
Intervener Written Submissions on BCOAPO Evidence Further Process	Friday, December 8
FEI Written Submission on BCOAPO Evidence Further Process	Thursday, December 14
Further Process	To be determined

BCUC Order G-5-18

Action	Date (2018)
FEI files updates to Application	Tuesday, February 6
Information Request (IR) No. 3 to FEI	Tuesday, February 27
FEI Response to IR No. 3	Tuesday, March 20
FEI Written Final Argument	Tuesday, March 27
Intervener Written Final Argument	Tuesday, April 10
FEI Written Reply Argument	Tuesday, April 24



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**ORDER NUMBER**  
**G-4-18**

IN THE MATTER OF  
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

FortisBC Energy Inc.  
2016 Rate Design Application

**BEFORE:**

K. A. Keilty, Commissioner/Panel Chair  
W. M. Everett QC, Commissioner  
D. J. Enns, Commissioner

On January 9, 2018

**ORDER**

**WHEREAS:**

- A. On December 19, 2016, FortisBC Energy Inc. (FEI) filed its 2016 Rate Design Application with the British Columbia Utilities Commission (Commission) and on February 2, 2017, FEI provided a supplemental filing which included a review of the rate design for the Fort Nelson service area (together the Application);
- B. On March 2, 2017, by Order G-30-17, the Commission established further regulatory process, which included a procedural conference to be held on July 5, 2017 to seek input from FEI and registered interveners on further regulatory process;
- C. On July 18, 2017, by Order G-109-17, the Commission determined that a decision will be issued, following a streamlined review process (SRP) and written arguments, with determinations on the following key topics:
  - i. The Cost of Service Allocation (COSA) studies included in the Application; and
  - ii. The revenue to cost (R:C) ratio, the margin to cost (M:C) ratio and the range of reasonableness;
- D. The streamlined review process on COSA, revenue to cost ratios and the range of reasonableness was held on September 12, 2017, with the Panel, staff and the following participants:
  - FortisBC Energy Inc. along with its consultant, EES Consulting Inc.
  - Commercial Energy Consumers Association of BC
  - BC Public Interest Advocacy Centre, representing British Columbia Old Age Pensioners' Organization *et al.*
  - Industrial Customer Group
  - BC Sustainable Energy Association and Sierra Club of BC
  - Catalyst Paper Corporation
  - Elenchus Research Associates Inc. (an independent consulting firm hired by the Commission);

- E. FEI and interveners filed final arguments on the key topics on September 18 and 25, 2017 respectively. FEI filed its reply argument on October 2, 2017; and
- F. The Panel has considered the submissions of the parties.

**NOW THEREFORE**, pursuant to sections 58 to 61 of the *Utilities Commission Act* and for the reasons attached as Appendix A to this order, the British Columbia Utilities Commission orders as follows:

1. FEI is directed to use an R:C ratio range of reasonableness of 95 percent to 105 percent to inform rate design and rebalancing proposals in the current Application.
2. FEI is directed to file updates to the Application in response to the findings and directives in this order with reasons, in accordance with a procedural order to be issued subsequent to this order. The electronic versions of the updates should include both a blacklined version and a clean version.
3. FEI is directed to determine a load factor for cost allocation which best reflects the cost to serve Fort Nelson Rate Schedule 25.
4. FEI is directed to file a comprehensive and updated COSA study for each of FEI and Fort Nelson for review by the Commission five years after the release of the final decision regarding this Application.
5. FEI is directed to present both the R:C and M:C ratios for each rate schedule in the next COSA study filing and rate design application.

**DATED** at the City of Vancouver, in the Province of British Columbia, this 9<sup>th</sup> day of January 2018.

BY ORDER

*Original signed by:*

K. A. Keilty  
Commissioner

Attachment

**FortisBC Energy Inc.**

**2016 Rate Design Application**

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**Reasons for Decision**

January 9, 2018

Before:

K. A. Keilty, Panel Chair  
W. M. Everett, QC, Commissioner  
D. J. Enns, Commissioner



FortisBC Energy Inc.  
2016 Rate Design Application

**REASONS FOR DECISION**

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## 1.0 Background and regulatory process

On December 19, 2016, FortisBC Energy Inc. (FEI) filed its 2016 Rate Design Application (RDA) with the British Columbia Utilities Commission (the Commission or BCUC) pursuant to sections 58 to 61 of the *Utilities Commission Act* (UCA). On February 2, 2017, FEI provided a supplemental filing which included a review of the rate design for its Fort Nelson service area (Fort Nelson). The 2016 RDA is a comprehensive review of the rate design for FEI and Fort Nelson (Application). FEI proposes a number of rate design changes for both FEI and Fort Nelson that are intended to rebalance rates based on updated cost of service allocation (COSA) studies and to realign rate design with accepted rate design principles. A separate COSA study and rate design was executed for Fort Nelson.

This decision addresses the following two key topics in the Application (Two Key Topics) that were identified by the Commission for early resolution through a Streamlined Review Process (SRP):

1. The Cost of Service Allocation (COSA) studies; and
2. Consideration of the use of the revenue to cost (R:C) ratio or margin to cost (M:C) ratio, or a combination of both, as a guide to rate design and the corresponding range of reasonableness of the selected ratio(s).

### 1.1 FEI's COSA and rate design history

FEI's current rate design was developed in a two-phase rate design process commencing with the 1991 Phase A Rate Design Application, followed by the 1993 Phase B Rate Design Application. Phase A addressed gas costs, and Phase B addressed the allocation of all other utility costs, other than gas supply costs, and rate design.<sup>1</sup> To support the Phase B Rate Design Application, FEI (then BC Gas) filed a COSA study on both a regional and a consolidated basis. BC Gas calculated the allocated cost of service of customer rate schedules and the R:C ratios and proposed that a R:C ratio with a range of reasonableness of 90% to 110% be used as a guideline for setting rates.<sup>2</sup> The Commission addressed the Phase A and Phase B applications through Commission Order G-92-91, dated September 23, 1991 and Order G-68-93, dated August 13, 1993, respectively.

FEI notes that there have been two significant rate design proceedings since the 1993 Phase B rate design proceeding, which occurred in 1996 and 2001 and built on the methodologies established in 1991 and 1993.

In 1996, BC Gas filed a rate design application which included a COSA study and a Minimum System study. BC Gas maintained that a reasonable guide for rate setting between customer classes was a range for R:C ratios between 90% and 110%. A negotiated settlement process (NSP) was undertaken and the resulting negotiated settlement agreement (NSA) was approved by the Commission through Order G-98-96.<sup>3</sup>

In 2001, BC Gas filed a rate design application which included a COSA study. The Commission retained an independent rate design consultant, EES Consulting, to review the 2001 COSA study. The EES Consulting report was circulated to proceeding participants, which was followed by two rounds of information requests, a workshop and then a NSP. The resulting negotiated settlement document was approved through Commission Order G-116-01.<sup>4</sup>

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<sup>1</sup> Exhibit B-1, p. 3-10.

<sup>2</sup> Ibid.

<sup>3</sup> Exhibit B-1, pp. 3-11 – 3-12.

<sup>4</sup> Exhibit B-1, p. 3-13.

In 2012, the FortisBC Energy Utilities (composed of FortisBC Energy Inc., FortisBC Energy (Vancouver Island) Inc., and FortisBC (Whistler) Inc.) submitted the 2012 Common Rates, Amalgamation and Rate Design Application to the Commission for the approvals necessary to amalgamate with one another and with Terasen Gas Holdings Inc., and to implement common or “postage stamp” rates throughout the amalgamated entity’s combined service area.<sup>5</sup> In support of the 2012 Common Rates, Amalgamation and Rate Design Application, FEI conducted a COSA study that combined each of FEI’s utilities into an amalgamated entity and produced postage-stamp delivery, midstream, and commodity rates. Following a Commission denial of the application, a Phase II Reconsideration process was established and new evidence was accepted. Through Commission Order G-21-14, the Commission approved FEI’s Reconsideration and Variance application with conditions. The Commission determined that FEI could adopt common rates for the amalgamated entity, subject to the Lieutenant Governor in Council’s consent (which was approved by Order in Council (OIC) No. 300 dated May 23, 2014) and subject to confirmation that the amalgamation had been effected. The Commission directed FEI to file a comprehensive rate design application for the amalgamated entity no later than two years after the effective date of amalgamation. FEI filed this Application pursuant to that directive.<sup>6</sup>

## 1.2 Regulatory process

FEI filed its 2016 RDA on December 19, 2016, and on February 2, 2017, FEI provided a supplemental filing which included the COSA and rate design for Fort Nelson.

The following parties registered to participate as interveners in the proceeding:

- British Columbia Hydro and Power Authority (BC Hydro)
- Access Gas Services Inc. (Access Gas)
- BC Public Interest Advocacy Centre, representing British Columbia Old Age Pensioners’ Organization *et al.* (BCOAPO)
- Catalyst Paper Corporation (Catalyst Paper)
- Shell Energy North America (Canada) Inc. (Shell)
- Commercial Energy Consumers Association of British Columbia (CEC)
- Direct Energy Marketing Ltd. (Direct Energy)
- B.C. Sustainable Energy Association and Sierra Club of B.C. (BCSEA)
- Industrial Customer Group (ICG)
- Fort Nelson & District Chamber of Commerce (FNDCC)
- Nicholas Marty
- Absolute Energy Inc. (Absolute)
- Cascadia Energy Ltd. (Cascadia)

On February 21, 2017, the Commission issued a letter (Exhibit A-4) explaining that Commission staff retained an independent consultant, Elenchus Research Associates Inc. (Elenchus), to produce two independent reports, a Cost of Service Allocation (COSA) Report and a Rate Design Report, which would form part of the evidentiary record and be subject to information requests. Elenchus filed its COSA Report on April 26, 2017<sup>7</sup> and its Rate Design Report on June 23, 2017.<sup>8</sup>

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<sup>5</sup> In the matter of FortisBC Energy Utilities 2012 Common Rates, Amalgamation and Rate Design Application, Order G-26-13 and Decision dated February 20, 2013, p. 1.

<sup>6</sup> Exhibit B-1, pp. 3-15 – 3-16.

<sup>7</sup> Exhibit A2-2.

<sup>8</sup> Exhibit A2-10.

On March 2, 2017, the Commission issued Order G-30-17, which established a regulatory process for the proceeding and included, among other things, a procedural conference on Elenchus' Rate Design Report key topics, delivery of the COSA Report and the Rate Design Report, and one round of information requests to each of FEI and Elenchus.

On Wednesday, July 5, 2017, a second procedural conference was held to seek input from FEI and interveners on further regulatory process regarding:

- a. an early decision on key topics;
- a. the review of FEI's Transportation Service Review (Chapter 10 in the Application); and
- b. the review of all remaining issues.

On July 18, 2017, the Commission issued Order G-109-17, which among other things, directed that there would be an SRP followed by written arguments from FEI and interveners, a reply argument from FEI and an early decision with determinations on the Two Key Topics addressed in this decision. FEI submitted its written reply argument on October 2, 2017.

## 2.0 Regulatory framework

The Panel's review of FEI's proposed rate design changes, including rebalancing rates based on an updated COSA study, considers sections 58 to 61 of the UCA as well as accepted rate design principles.

Section 59(1) of the UCA states:

**59 (1)** A public utility must not make, demand or receive

- (a) an unjust, unreasonable, unduly discriminatory or unduly preferential rate for a service provided by it in British Columbia, or
- (b) a rate that otherwise contravenes this Act, the regulations, orders of the commission or any other law.

The Panel is guided by the rate design principles identified by Dr. James C. Bonbright<sup>9</sup> and discussed by FEI on page 5-2 of the Application and by Elenchus on pages 6 to 8 of its COSA Report. The Panel notes there is generally no hierarchy for the Bonbright principles as the relevance and weight given to principles vary with the circumstance and context of a regulatory application. The Panel considers it appropriate that the principles surrounding fairness and the avoidance of undue discrimination are given weight when reviewing the Two Key Topics in this Decision.

## 3.0 Approvals sought

On pages 2-3 to 2-5 of the Application, FEI lists the approvals sought for the 2016 RDA, a majority of which are not within the scope of this decision. In this first component of FEI's 2016 RDA proceeding, FEI requests that the Commission, in this decision, approve:

- a) FEI's COSA studies for FEI and Fort Nelson, and

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<sup>9</sup> *The Principles of Public Utility Rates*, James C. Bonbright, Albert L. Danielsen, David R. Kamerschen (Second Edition, 1988) Public Utilities Reports, pp 383-384.

- b) the use of a revenue to cost (R:C) ratio with a range of reasonableness of 90 to 110 percent to guide rate design.<sup>10</sup>

By seeking this approval, FEI is requesting that the Commission determine that the methodologies used by FEI in its COSA studies and its proposed range of reasonableness are reasonable and appropriate for the purposes of FEI's rate design and setting rates for the utility.<sup>11</sup>

## 4.0 FEI COSA study

### 4.1 Purpose of the COSA study

FEI states that a COSA study is a fundamental component in the preparation of a utility rate design and provides information for assessing the rate design's effectiveness in recovering the cost of service, providing a fair apportionment of costs among customers, avoiding undue discrimination and providing revenue stability.<sup>12</sup>

Elenchus also outlines the importance of COSA studies and makes the following comments:

- It is standard practice in Canada and in many jurisdictions internationally to rely on COSA studies to apportion utility costs to each of the utility's customer classes.
- Utility costs include the utility's assets which form the utility's rate base and the expenses as identified in the utility's revenue requirement. As these costs are mostly incurred in respect of multiple customer classes, COSA studies apportion the costs among customer classes on a fair and equitable basis as guided by the principle of cost causality.
- Cost causality refers to the principle of identifying the customer classes that "cause" particular costs to be incurred by the utility.<sup>13</sup>

### 4.2 Overview of FEI's COSA study

FEI utilized the approved 2016 test year revenue requirements from its Annual Review for 2016 Delivery Rates proceeding for allocation within the COSA model. FEI states that these costs reflect current operating conditions, the amalgamation of FEI, FEVI and FEW,<sup>14</sup> and were the most recently available approved costs at the time the COSA study was prepared. FEI's approved revenue requirement for 2016 was \$1,237.5 million.<sup>15</sup>

In addition to costs from FEI's approved 2016 test year, FEI's COSA model also includes known and measurable changes for projects expected to be in-service by or soon after January 1, 2018. FEI lists three projects: Lower Mainland Intermediate Pressure System Upgrade (LMIPSU)<sup>16</sup>; Coastal Transmission System Project (CTS); and Tilbury Expansion Project.<sup>17</sup> For each of these projects, FEI included the mid-year rate base and an annual cost of service figure in the COSA model.<sup>18</sup>

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<sup>10</sup> FEI Final Argument, p. 1.

<sup>11</sup> Ibid.

<sup>12</sup> Exhibit B-1, p. 6-1.

<sup>13</sup> Exhibit A2-2, p. 3.

<sup>14</sup> FortisBC Energy Inc. (FEI), FortisBC Energy (Vancouver Island) Inc. (FEVI), and FortisBC Energy (Whistler) Inc. (FEW).

<sup>15</sup> Exhibit B-1, p. 6-6.

<sup>16</sup> Approved through C-11-15.

<sup>17</sup> CTS and Tilbury Expansion project were authorized by Direction No. 5 to the Commission, OIC No. 557 (B.C. REG. 245/2013), as amended through OIC No. 749 (B.C. REG. 265/2014).

<sup>18</sup> Exhibit B-1, p. 6-10.

Revenues associated with rate schedule (RS) 22A, RS 22B, bypass customers and large industrial contract customers (Contract Customers) have been treated as a credit to the cost of service and allocated to all other rate schedules in the COSA model. As a result, these rate schedules are not allocated any costs in FEI's COSA model.<sup>19</sup>

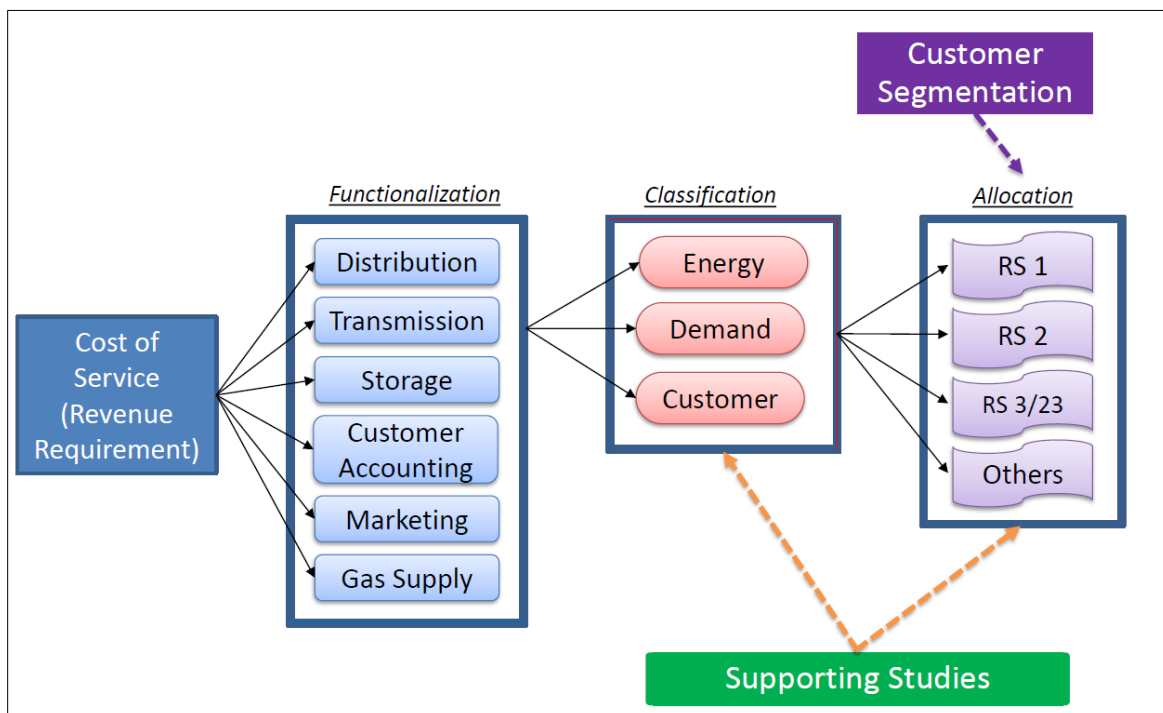
FEI notes that RS 46 – LNG Sales, Dispensing and Transportation Service; and RS 50 – Large Industrial Transportation Service Rate Schedule, were established by Direction No. 5 to the Commission and are therefore not subject to change in this Application.<sup>20</sup> FEI states that both costs and revenues for RS 46 are directly allocated to RS 46 with the net difference between the two being treated as a credit to the cost of service and allocated to all non-bypass customers.<sup>21</sup>

In this Application, FEI's revenue requirement is allocated into two categories: delivery costs and gas costs. FEI's delivery costs are defined as FEI's revenue requirement excluding gas costs and are allocated to rate schedules through a delivery margin COSA model. FEI's gas costs, which is comprised of commodity costs and midstream (storage and transport) costs, are allocated to rate schedules through a gas cost allocation model.<sup>22</sup> FEI's COSA study financial schedules are included in Appendix 6-4 of the Application.

### Delivery costs

To allocate delivery costs to customers, FEI uses three standard steps: (1) Functionalization; (2) Classification; and (3) Allocation. Each step is described below.

**Figure 1: Cost of Service Allocation (COSA)<sup>23</sup>**



<sup>19</sup> Exhibit B-1, p. 6-13 and 6-21.

<sup>20</sup> Exhibit B-1, p. 2-1 and 5-5; OIC No. 557 (B.C. REG. 245/2013), as amended through OIC No. 749 (B.C. REG. 265/2014).

<sup>21</sup> Exhibit B-1, p. 6-12 and 6-21.

<sup>22</sup> Exhibit B-1, p. 6-2.

<sup>23</sup> Exhibit B-2, p. 76.

### 1. Functionalization

The functionalization step involves separating the test year revenue requirement into the major categories, or functions, that reflect the utility's plant investment code of accounts and different services provided to customers. For FEI, the following functions were used:

- i. Gas Supply Operations
- ii. Transmission
- iii. Distribution
- iv. Tilbury LNG Storage
- v. Mt. Hayes LNG Storage
- vi. Marketing
- vii. Customer Accounting

### 2. Classification

The second step in the COSA study is to classify the functionalized costs into cost-causation categories. These classification categories relate to the reason the costs were incurred by FEI. FEI uses the three following classification categories:

- i. Demand – Demand-related costs which are incurred to meet maximum daily gas flow requirements;
- ii. Energy – Energy-related costs which vary with the volume of gas delivered to customers; and
- iii. Customer – Customer-related costs which are incurred as a result of having a customer attached to the distribution system.

FEI utilizes a Minimum System Study (MSS) to split the costs of distribution mains between demand and customer related components. FEI states that this approach considers that the distribution system is in place in part because there are customers connected to the system and in part because those customers have a peak demand on the system. FEI states that any costs associated with a system larger than this minimum system size are due to the customer's demand, and so are treated as demand related.<sup>24</sup>

FEI also utilizes a Peak Load Carrying Capacity Adjustment (PLCC). In theory, a minimum system exists only to connect customers and not to deliver gas. However, due to the minimum size main used in the study the minimum system has load carrying capacity.<sup>25</sup> FEI's PLCC adjustment is used to more closely match the theoretical customer-related component of the distribution system.<sup>26</sup>

### 3. Allocation

The third step of the COSA study involves the allocation of the costs to each rate schedule based on appropriate allocators. FEI allocates the costs in the COSA model as follows<sup>27</sup>:

- i. Demand – allocated using the coincident peak (CP) approach relying on peak day demand, load factors and regression models;
- ii. Energy – allocated using annual demand by rate schedule; and

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<sup>24</sup> Exhibit B-1, p. 6-18.

<sup>25</sup> FEI uses 60 mm as the minimum mains size. Exhibit B-1, Appendix 6-5.

<sup>26</sup> Exhibit B-1, p. 6-19.

<sup>27</sup> Exhibit B-1, p. 6-21; p. 6-24; p. 6-26.

- iii. Customer – allocated using average customers or allocated using average customer with a weighting factor applied.

The final delivery cost of service allocations for FEI is shown below, as presented in Table 6-16 of Exhibit B-1.

**Table 1: FEI delivery cost of service allocation results<sup>28</sup>**

Rate Schedule	(\$000s)	Percentage of total
1	510,654	65.2%
2	129,861	16.6%
3/23	95,247	12.2%
4	51	0.0%
5/25	35,111	4.5%
6	151	0.0%
7/27	1,540	0.2%
22	806	0.1%
22A	6,824	0.9%
22B	2,602	0.3%
<b>Total</b>	<b>782,847</b>	<b>100.0%</b>

### Gas costs

FEI's gas costs, which is comprised of commodity costs and storage and transport costs, are allocated to sales customers and not transportation customers. Sales customers purchase their gas commodity from either FEI directly or from marketers under the Customer Choice Program while Transportation customers source their own gas. Transportation customers do not pay commodity or storage and transport charges to FEI. FEI allocates gas costs as follows:

1. Commodity costs – classified as energy-related and allocated to sales customers based on throughput; and
2. Storage and transport costs – classified as demand-related and allocated to sales customers based on a load factor adjusted volumetric basis.<sup>29</sup>

### EES Consulting

FEI retained EES Consulting Inc. (EES Consulting), a third party expert in public utility rate design matters, to review and assist in developing the COSA study and rate design for FEI. EES Consulting assessed the appropriateness of the COSA methodology and rate design, made recommendations for changes it felt were warranted, and reviewed the COSA model created by FEI staff.<sup>30</sup> EES Consulting also prepared a report, which is included in Appendix 6-1 of the Application. EES Consulting concluded that the COSA study in this Application follows standard utility practice and is generally consistent with past practice for the utility and that the results are acceptable for purposes of setting just and reasonable rates for FEI.<sup>31</sup>

<sup>28</sup> Exhibit B-1, Table 6-16, p. 6-27.

<sup>29</sup> Exhibit B-1, p. 6-29.

<sup>30</sup> Exhibit B-1, p. 1-3.

<sup>31</sup> Exhibit B-1, p. 1-2.



### *Elenchus review of FEI's COSA study*

Elenchus reviewed FEI's COSA study for the reasonableness and appropriateness of the topics outlined in Exhibit A-4 and filed its COSA Report on April 26, 2017. Elenchus considered that the functions used by FEI were appropriate and reflected the various activities that FEI is involved in during the delivery of natural gas to its customers.<sup>32</sup>

Elenchus stated that demand, energy and customer are the standard classifications used in COSA studies and that Elenchus is not aware of any other classification method used in cost of service allocation studies. Elenchus further stated that the use of the MSS method with a PLCC adjustment has been accepted as a classification methodology for distribution related assets and costs based on Elenchus' experience. Elenchus noted that the MSS method was applied more often by utilities than the zero intercept method, an alternative FEI considered.<sup>33</sup>

Elenchus agreed with the allocators used by FEI in the COSA study stating that they are the standard allocators used by utilities in COSA studies. Elenchus noted that non-coincident peak (NCP) is used to allocate distribution demand related assets and expenses by electric utilities, whereas FEI opted for the CP approach. FEI had explained that its CP is derived from the sum of the various customer class loads under a design day event, which is similar to the standard approach to developing a NCP based on a measurement of historic system peak day loads. FEI then stated that there was very little difference between the FEI's CP demand and the NCP demand. Elenchus accepted FEI's explanation of the reasons for using CP as an allocator instead of NCP.<sup>34</sup>

Elenchus agreed with FEI's gas cost allocation methodology stating that energy is the allocator that reflects cost causality for commodity gas costs and that the midstream cost allocation methodology is consistent with methodologies used by other Canadian natural gas utilities.<sup>35</sup>

Elenchus also addressed FEI's assumptions and adjustments to the COSA model, including but not limited to the treatment of revenues from bypass and Contract Customers and FEI's treatment of known and measurable changes. Elenchus supported the assumptions and adjustments made by FEI, except FEI's treatment of the costs and revenues associated with the Tilbury Expansion project.<sup>36</sup> Elenchus stated that the 10 year horizon used by FEI in its COSA study to reflect the impact of the Tilbury Expansion project is not consistent with standard practice. This issue, as well as Elenchus' explanation, is further discussed in Section 4.3.1.

### *FEI final argument*

FEI requests that the Commission find that the methodologies of the COSA studies are reasonable, and appropriate for the purposes of FEI's rate design and setting rates for the utility. FEI submits:

- the COSA studies are prepared in accordance with standard utility practice and with stakeholder consultation;
- EES Consulting found the studies to be consistent with standard utility practice, generally consistent with past practice for the utility, and acceptable for purposes of setting just and reasonable rates for the utility; and

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<sup>32</sup> Exhibit A2-2, p. 11.

<sup>33</sup> Exhibit A2-2, p. 15; Exhibit B-1, Appendix 4-2, COSA Workshop July 11, 2016, p. 12.

<sup>34</sup> Exhibit A2-2, pp. 17-18; Appendix A, p. 2.

<sup>35</sup> Exhibit A2-2, pp. 18-19.

<sup>36</sup> Exhibit A2-2, p. 22.

- Elenchus' conclusions also support the validity of FEI's COSA study, except for the 10-year levelized treatment of the Tilbury Expansion Project costs and revenues.<sup>37</sup>

### *Intervener arguments*

Interveners generally agreed with FEI's approach to the COSA studies except for the following issues:

1. CEC and BCOAPO argue for a standard approach to the treatment of costs associated with the Tilbury Expansion Project;<sup>38</sup> and
2. Catalyst Paper takes issue with FEI's proposed final COSA and associated R:C ratio as it pertains to the proposed RS 22 and the Vancouver Island Gas Joint Venture (VIGJV).

### *Commission determination*

**Subject to the determinations on issues addressed in Section 4.3, the Panel finds FEI's COSA methodology generally follows standard practice, which both EES Consulting and Elenchus view as being reasonable and acceptable for setting just and reasonable rates.** The Panel notes that with the exception of the treatment of Tilbury Expansion costs and the VIGJV treatment, none of the interveners oppose the acceptance of FEI's COSA methodology.

In addition to the foregoing issues raised by interveners regarding treatment of the Tilbury Expansion costs and the VIGJV treatment, the Panel also considers, in section 4.3, the following additional issues that were explored during the proceeding:

1. Mt. Hayes LNG storage facility treatment;
2. Rate Schedule 5 load factor treatment;
3. Minimum System Study; and
4. Customer weighting factors.

## **4.3 FEI COSA study issues**

### **4.3.1 Tilbury Expansion project treatment**

The Tilbury Expansion Project is an expansion to FEI's existing LNG facility located in Delta and was expected to be in service in mid-2017. The Project includes additional liquefaction of 35 TJ/Day and a 1 BCF LNG storage tank to serve LNG demand for RS 46.<sup>39</sup> FEI expects that the volume of LNG sales from the Tilbury Expansion Project will grow over time to the full capacity of 35 TJ/day of liquefaction and will provide a net benefit to FEI customers over its useful life. The cost recovery of expenditures associated with the Tilbury Expansion Project was authorized by Direction No. 5 to the Commission as amended (OIC No. 27 557/2013 and OIC No. 749/2014).<sup>40</sup> FEI's forecast demand, costs and revenues for the Tilbury Expansion Project are shown in Table 2: Tilbury Expansion Project Forecast below.

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<sup>37</sup> FEI Final Argument, pp. 2-3.

<sup>38</sup> CEC Final Argument, pp. 3-4; BCOAPO Final Argument, pp.9-12.

<sup>39</sup> TJ/Day is Terajoules per day; BCF is 1 billion cubic feet.

<sup>40</sup> Exhibit B-1, pp. 6-11 to 6-1.2

**Table 2: Tilbury Expansion Project Forecast<sup>41</sup>**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
RS 46 Demand Forecast (TJ/year) <sup>(1)</sup>	2,956	5,545	6,021	7,998	8,496	12,242	12,242	12,242	12,242	12,242
RS 46 Delivery Revenue <sup>(2)</sup> (\$000)	11,220	21,463	23,770	32,204	34,893	51,278	52,300	53,343	54,406	55,490
Total Cost of Service <sup>(2)</sup> (\$000)	46,984	46,963	47,241	47,241	47,793	48,727	47,311	46,112	44,716	43,474

FEI's general approach for known and measurable changes has been to include in its COSA model the annual cost of service for 2018 for the CTS projects and the annual cost of service for the first year of operations for LMIPSU.<sup>42</sup> However, FEI adopted a different approach for the Tilbury Project. FEI has included the 10-year levelized cost of service and revenues for the Tilbury Expansion Project in the COSA model stating that this better reflects the medium term impact that the Tilbury Expansion Project will have on FEI's customers.<sup>43</sup>

FEI's rationale is that the Tilbury Expansion Project, which has both incremental costs and incremental revenues associated with volumes, is unlike the LMIPSU and the CTS projects, which have costs but do not have incremental volumes associated with them. FEI further states that for the Tilbury Expansion Project, the incremental volumes are not all realized at the time that the full costs of the Tilbury Expansion Project are included in rate base. Reflecting only the first year of incremental revenues would not therefore be representative of the longer term impact that the Tilbury Expansion Project will have on the revenue requirement.<sup>44</sup>

### *Elenchus review of FEI's COSA study*

Elenchus did not support FEI's treatment of the costs and revenues associated with the Tilbury Expansion project. It states that the 10 year horizon used by FEI in its COSA study to reflect the impact of the Tilbury Expansion project is not consistent with standard practice. Elenchus further states that:

Utilities undertake new investments on an ongoing basis and as a result the revenue requirement in any year includes costs for older assets that have a diminished impact on the total revenue requirement as well as new assets that have a high initial impact. Except in extraordinary cases, it would be inconsistent to levelize the costs of a single project while not levelizing the costs associated with other investments. Elenchus is not aware of any unique aspects of the Tilbury Expansion Project that make its impact on customers generally, or any class of customers, that justify exceptional treatment of this project in the form of levelizing its costs for purposes of the COSA.<sup>45</sup>

Elenchus later states that FEI should use the standard rolled-in methodology for the Tilbury Expansion Project.<sup>46</sup> In standard rolled-in methodology the utility uses the annual costs and revenues for one year, 2018 only, in the COSA model.

### *Intervener arguments*

CEC submits that that levelized costs should not be utilized and that FEI should use the standard approach for the Tilbury Expansion project. CEC states that it does not consider it appropriate for FEI to manipulate the

<sup>41</sup> Exhibit B-1, Table 6-6, p. 6-12; Exhibit B-5, BCUC IR 9.2, p. 36

<sup>42</sup> See page 4 for definitions of CTS and LMIPSU.

<sup>43</sup> Exhibit B-1, p. 6-11.

<sup>44</sup> Ibid.

<sup>45</sup> Exhibit A2-2, p. 22.

<sup>46</sup> Exhibit A2-8, CEC IR 16.1.1.

modelling of its costs for a COSA in a manner to achieve a particular outcome down the road. CEC further submits that managing stability is a matter of rate design and should not factor into the COSA study inputs prior to the Commission's balancing of the appropriate principles.<sup>47</sup> CEC notes that the use of only the first year of operations changes the allocations marginally.

BCOAPO submits that the Tilbury Expansion Project should be included on the standard rolled in methodology and that the Commission should revisit the issue of inclusion of the Tilbury Expansion Project when it is fully or substantially completed.<sup>48</sup> BCOAPO argues that there is some risk that both the cost and revenue forecasts of FEI will vary significantly and further submits that because both the costs and revenues are untested at this time that it would be imprudent to use the FEI leveled approach.<sup>49</sup>

### *FEI reply argument*

FEI submits that although the costs and revenues associated with the Tilbury Expansion Project will be different than forecast in the Application, using the 10-year leveled approach will be more representative of the impact on customers than the traditional approach. Using 2018 revenues will represent the Tilbury Expansion Project when incremental revenues will be at their lowest and will understate the revenues for all future years.<sup>50</sup>

FEI argues that the impact of the traditional approach would become more inaccurate each year as incremental revenues associated with the project are achieved. FEI states that the 10-year leveled approach leads to COSA results that are more relevant and reflective of the expected circumstances over the next 4 to 6 years. FEI recognizes that its approach is not traditional and points out that the traditional approach is not the only "correct approach."<sup>51</sup> FEI submits that in this case, the unique attributes of the Tilbury Expansion Project make a 10-year leveled approach preferable.<sup>52</sup>

### *Commission determination*

**The Panel finds that FEI's proposed treatment of the costs and revenues associated with the Tilbury Expansion Project is acceptable given the unique circumstances associated with the project.** The Panel agrees with FEI that a standard approach would not appropriately reflect the forecast revenue increase associated with the Tilbury Expansion project following its ramp up period and this would lead to costs that are forecast to be higher than actual during the expected period until the next rate design proceeding. The Panel considers that the significantly increasing forecast revenues warrant a tailored approach to calculating this known and measureable change rather than using an approach based on the annual costs and revenues for only one year.

The Panel notes that the use of the standard rolled-in approach results in a \$15,383 thousand, or 2 percent, increase in the total delivery cost of service used in the COSA model and has only a minor impact on the resulting R:C ratios.<sup>53</sup>

The Panel acknowledges BCOAPO's identified risk that there could be significant variance between the forecast and actual cost and revenues. However, in the Panel's view, this risk does not justify the standard treatment of the project.

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<sup>47</sup> CEC Final Argument, p. 3.

<sup>48</sup> BCOAPO Final Argument, p. 12.

<sup>49</sup> BCOAPO Final Argument, pp. 11-12.

<sup>50</sup> FEI Reply Argument, p. 3.

<sup>51</sup> FEI Reply Argument, p. 4.

<sup>52</sup> Ibid.

<sup>53</sup> Exhibit B-1, Table 6-16, p. 6-27; Table 12-2, p. 12-5; Exhibit B-5, BCUC IR 9.3.1, pp. 38-40.

The Panel considers this approach could be explored further in the next COSA study filed with the Commission. By then, FEI will have obtained actual cost and revenue data and will have the opportunity to update its expectations to reflect actual results. The timing of the next COSA study is discussed in section 6.0 of this decision.

#### 4.3.2 Vancouver Island Gas Joint Venture treatment

Large industrial contract customers (Contract Customers) are customers that have historically negotiated their rates with FEI. Contract customers' rates are fixed in their respective transportation service agreements. Contract Customers served from the Vancouver Island transmission system include the VIGJV and the BC Hydro Island Generation (BC Hydro IG).<sup>54</sup>

Prior to any rate design proposals in the Application, FEI's COSA model treats Contract Customer revenues as credits to the cost of service and allocates that credit to each sales and non-contract transportation service rate schedule. The COSA results after FEI's rate design proposals included in Table 12-2 of the Exhibit B-1, do not treat BC Hydro IG and VIGJV as credits to the cost of service. Instead, these customers are grouped together with RS 22 customers and are allocated costs based on their firm demand.<sup>55</sup>

RS 22 customers are located primarily in the Lower Mainland and represent industries varying from refineries, manufacturing, cement, forestry, healthcare, education, food/beverage and greenhouses. These customers generally use natural gas to fuel boilers, kilns and dryers. All RS 22 customers are receiving interruptible transportation service, with the exception of one (Creative Energy<sup>56</sup>) that uses 2,000 GJ/day of firm transportation service and additional volumes on an interruptible basis.<sup>57</sup>

The VIGJV provides for the natural gas needs of five pulp mills and has a service contract for a firm demand of 13,000 GJ per day which expired on December 31, 2017. FEI anticipates, as an interim measure, extending the existing VIGJV contract until the Commission approved Rate Design becomes effective for RS 22.<sup>58</sup>

FEI submits the treatment of industrial customers is appropriate and that any change regarding the proposed RS 22, is a rate design issue that is not within the scope of the COSA component of this proceeding.<sup>59</sup>

#### *Intervener arguments*

Catalyst Paper is the only intervener to address this topic in its final argument. Catalyst Paper is part of the VIGJV, which has been a Contract Customer since 1991. Catalyst Paper submits the Commission should "not accept FEI's proposed final COSA and associated R:C ratio as it pertains to the proposed RS22 and the VIGJV."<sup>60</sup> In particular, Catalyst Paper submits that:

- FEI has included distribution costs for the VIGJV while excluding the same distribution costs from similar industrial customers in RS22A and RS22B. Catalyst Paper elaborates that distribution costs have historically been excluded from the COSA for the VIGJV, RS22A, and RS22B, but now FEI is proposing to include distribution costs for the VIGJV and BCH only, and

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<sup>54</sup> Exhibit B-1, p. 6-9.

<sup>55</sup> Exhibit B-1, p. 12-5.

<sup>56</sup> Exhibit B-1, p. 9-41.

<sup>57</sup> Exhibit B-1, p. 9-37.

<sup>58</sup> Exhibit B-1, p. 9-39.

<sup>59</sup> FEI Final Argument, p. 12; pp. 14-15; FEI Reply Argument, pp. 7-8.

<sup>60</sup> Catalyst Paper Final Argument, p. 11.

- FEI has omitted VIGJV's interruptible demand and revenue and that this impacts the acceptability of the COSA study from Catalyst's point of view.<sup>61</sup>

### *Commission determination*

**The Panel finds the issues raised by Catalyst Paper are not within the limited scope of this decision.** Catalyst Paper's issues stem from FEI's industrial rate design proposals for RS 22 and its Contract Customers. The Panel notes that when making its foregoing submissions, Catalyst Paper refers to the "cost allocation in FEI's Final COSA results and R:C ratios."<sup>62</sup> The Application contains two sets of COSA financial schedules: Initial COSA Financial Schedules and Final COSA Financial Schedules. The scope of this Decision is the initial COSA studies and revenue to cost ratios before rate design proposals and rate rebalancing proposals. Both Catalyst Paper and FEI will have an opportunity to address the issues raised by Catalyst Paper in their arguments for the rate design phase of this proceeding.

#### **4.3.3 Mt. Hayes LNG storage facility treatment**

The Mt. Hayes LNG facility went into service in 2011. FEI states that the Mt. Hayes LNG facility has a dual purpose of serving as a gas supply storage facility and a transmission facility which provides additional transmission system capacity to serve customers in the same fashion that pipeline looping and compression provide such capacity.<sup>63</sup>

The estimated avoided cost of third-party storage and transportation due to the Mt. Hayes LNG facility, is calculated to be \$18 million, credited to Other Revenue and reclassified to FEI's midstream costs. In the COSA model, the annual cost of the Mt. Hayes LNG facility (net of the midstream value of approximately \$18 million) is then allocated to all sales and transportation customers on a peak day demand basis.<sup>64</sup>

FEI presents the following options for the allocation of the costs for the Mt. Hayes LNG storage facility within the COSA model.<sup>65</sup>

1. Option A is to continue to separate Mt. Hayes into its storage and transmission components, which is the current method used by FEI.
2. Option B is to treat Mt. Hayes cost allocation in the same manner as the Tilbury storage cost allocation, whereby all Mt. Hayes costs would be allocated to the delivery margin only. FEI notes that Option B has the benefit of being more straightforward and would recognize that the system capacity and reliability benefits all customers as a result of Mt. Hayes being part of the integrated transmission system.

FEI proposes to continue to use Option A, stating that Option A most closely represents how FEI utilizes Mt. Hayes as both a storage and transmission resource.<sup>66</sup>

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<sup>61</sup> Catalyst Paper Final Argument, p. 11.

<sup>62</sup> Ibid.

<sup>63</sup> Exhibit B-1, p. 6-14.

<sup>64</sup> Exhibit B-1, pp. 6-14 – 6-15.

<sup>65</sup> Exhibit B-1, pp. 6-15 – 6-16.

<sup>66</sup> Exhibit B-1, p. 6-16.

### *Elenchus review of FEI's COSA study*

Elenchus states that while FEI's proposed treatment of the costs using Option A is unusual, it understands that the "unique treatment reflects the unique role that Mt. Hayes LNG Storage serves in the FEI system."<sup>67</sup> Elenchus also points out that for other utilities, on-system storage facilities are functionalized based on the purpose of each facility but noted that Mt. Hayes is a single facility that serves multiple purposes.<sup>68</sup> Elenchus acknowledged that FEI's treatment of Mt. Hayes costs is appropriate.<sup>69</sup>

### *Intervener arguments*

CEC accepts FEI's treatment as being appropriate and BCOAPO states that it has no objection to FEI's proposals regarding Mt. Hayes LNG storage.<sup>70</sup>

### *Commission determination*

**The Panel approves FEI's proposal regarding the treatment of the cost allocation for the Mt. Hayes LNG facility.** FEI's proposal regarding the treatment of the cost allocation for the Mt. Hayes LNG facility is appropriate and reasonable since it reflects how FEI uses the facility in a dual-manner and the treatment is in alignment with cost causation principles. The Panel notes none of the interveners oppose FEI's treatment of costs associated with the Mt. Hayes LNG facility.

#### **4.3.4 Rate Schedule 5 load factor treatment**

FEI currently allocates midstream costs to RS 5 – General Firm Sales Service by using a deemed 50 percent load factor, whereas for RS 1, RS 2 and RS 3 FEI uses a three-year rolling average load factor. This deemed 50 percent load factor value was established as part of the 1996 Rate Design Application Negotiated Settlement Agreement.<sup>71</sup> FEI contracts for its midstream resources based on a peak day demand that is derived using a calculated load factor for RS 5, not a deemed load factor. FEI states that the cost of the resources being contracted for is not being allocated to RS 5 in the same way in which they were caused.

FEI is proposing a change in methodology, which would result in FEI utilizing the same approach for allocating midstream costs to RS 5 as it does for RS 1, RS 2 and RS 3, by using a three-year rolling average load factor. Under the proposed methodology, FEI has calculated the current load factor used to allocate midstream costs to RS 5 to be approximately 45 percent. The load factor that would be used to allocate midstream costs to RS 5 would be recalculated annually along with the load factors used to allocate midstream costs to RS 1, RS 2 and RS 3.<sup>72</sup>

FEI presented evidence which shows that the three year rolling average load factor for RS 5 has decreased from 48.2 percent for the three years spanning 2005–2007 to 45.1 percent for the three years spanning 2013–2015.<sup>73</sup> FEI's proposed change would increase an average RS 5 customer's annual bill by 1.0 percent, RS 4 by 1.3 percent and RS 7 by 1.5 percent. RS 1, RS 2 and RS 3 would experience small decreases to their storage and transport charges.<sup>74</sup>

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<sup>67</sup> Exhibit A2-2, p. 10.

<sup>68</sup> Exhibit A2-5, BCUC IR 3.1.

<sup>69</sup> FEI SRP Transcript Vol 5 – Sep 12, p. 430.

<sup>70</sup> CEC Final Argument, p. 6; BCOAPO Final Argument, p. 5.

<sup>71</sup> Exhibit B-1, pp. 6-29 – 6-30.

<sup>72</sup> Exhibit B-1, p. 6-30.

<sup>73</sup> Exhibit B-11, CEC IR 18.2, p. 43.

<sup>74</sup> Exhibit B-1, p. 6-31.



FEI submits that its proposed load factor adjustment to RS 5 customers is based upon “the rate design principles to fairly apportion costs among customers and set price signals that encourage efficient use.”<sup>75</sup>

#### *Elenchus review of FEI’s COSA study*

Elenchus had no issues with FEI’s proposed load factor adjustment to RS 5 customers. In response to an information request regarding the number of years used for the average, Elenchus stated that “Where there is past volatility in the load factor that is expected to continue, averaging several years is a method that can be used to provide greater stability and a better forecast for the test year than relying on a single historic year. A five-year average, or an average of some other number of years, cannot be assumed to provide a better or worse forecast than the three-year average unless there is evidence that the additional years are either more or less representative of the test year.”<sup>76</sup>

#### *Intervener arguments*

CEC supports FEI’s proposed load factor adjustments to RS 5 customers. CEC notes that the historical evidence shows that load factors have been generally declining.<sup>77</sup>

BCOAPO submits that FEI’s proposed approach appears reasonable and also noted that “it is worth investigating the use of longer period averages to eliminate short term weather variations.”<sup>78</sup>

#### *Commission determination*

**The Panel approves FEI’s proposed use of a three year rolling average load factor for RS 5.** In the Panel’s view this methodology is in alignment with the cost causation principle, consistent with FEI’s methodology for RS 1, RS 2 and RS 3, and is more transparent than the use of a deemed load factor determined through a NSA. The evidence shows that the three-year rolling average load factor for RS 5 has declined over time. Although BCOAPO suggests investigating the use of longer periods to calculate the average, the Panel notes that no intervener opposed FEI’s proposal.

### **4.3.5 Minimum System Study**

As outlined above, a Minimum System Study (MSS) is used to split the costs of distribution mains between demand and customer related components. This topic was the subject of several information requests which looked at the issue of whether 42 mm pipe or 60 mm pipe best represents FEI’s minimum system infrastructure.

FEI submits:

Using 60 mm pipe is the appropriate approach in this case as it is FEI’s minimum standard. Since 2008, FEI’s standard has been to connect customers to a new main that is at minimum a 60 mm size pipe, and it is by exception only that a smaller main would be used. As 60 mm pipe is installed more frequently, the costing data for the installation of 60 mm pipe is very good, which results in better estimates for the MSS.<sup>79</sup>

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<sup>75</sup> FEI Final Argument, pp. 15-16.

<sup>76</sup> Exhibit A2-8, CEC IR to Elenchus, IR 15.1.

<sup>77</sup> CEC Final Argument, pp. 9-10.

<sup>78</sup> BCOAPO Final Argument, p. 13.

<sup>79</sup> FEI Final Argument, p. 9.



FEI also noted that EES Consulting and Elenchus both support FEI's MSS with the PLCC adjustment.<sup>80</sup> FEI requests that the Commission find that the results of its MSS and PLCC are reasonable for use in the COSA studies.<sup>81</sup>

CEC submits that the Commission should find the results of the MSS and PLCC as reasonable.<sup>82</sup> BCOAPO states that FEI's approach passes both a relevance and consistency test.<sup>83</sup>

### **Commission determination**

The Panel notes the acceptance of the parties and on its own review, **the Panel finds FEI's approach of using the MSS to split the costs of distribution mains between demand and customer related costs is reasonable for use in the COSA studies.**

#### **4.3.6 Customer weighting factors**

FEI used two types of weighting factors to allocate customer-related costs in the COSA study: (i) a weighting factor for Meters and Services; and (ii) a weighting factor for Administration and Billing. FEI states that these weighting factors are used to allocate costs based on the concept that larger volume customers require more expensive meter sets, and require a greater level of administrative effort and customer service. FEI states that these factors were developed based on discussions with FEI's customer service managers using their insight and experience, and input from EES Consulting. In developing the weighting factors, FEI's staff considered the frequency of meter reading, the use of remote meter reading via cellular or other communications infrastructure, the method of collecting and retaining load data, the amount of time spent by customer service responding to inquiries, marketing programs and costs for different customer groups, the existence of dedicated account managers for commercial and industrial customers and the number of resources dedicated to each customer class for billing, measurement and marketing. FEI submits that its customer weighting factors are reasonable and appropriate.<sup>84</sup>

CEC notes that both EES Consulting and Elenchus support FEI's customer weighting factors and recommends that the Commission accept FEI's customer weighting factors as being appropriate for use in the COSA. BCOAPO submits that the method for determining customer weights for Administration and Billing is one of the least rigorous parts of its COSA and that the Commission should order FEI to conduct a review of best practice in this area and report or apply its findings in its next COSA.<sup>85</sup>

### **Commission determination**

**The Panel finds FEI's customer weighting factors to be reasonable for use in the COSA studies.** With respect to BCOAPO's request that FEI conduct a review of best practice for the next COSA, the Panel is not persuaded this is necessary since BCOAPO does not cite any evidence that suggests a review of best practice is warranted whereas both EES Consulting and Elenchus support FEI's approach.

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<sup>80</sup> FEI Final Argument, p. 10.

<sup>81</sup> FEI Final Argument, p. 11.

<sup>82</sup> CEC Final Argument, p. 7.

<sup>83</sup> BCOAPO Final Argument, pp. 5-6.

<sup>84</sup> FEI Final Argument, pp. 11-12.

<sup>85</sup> CEC Final Argument, pp. 7-8; BCOAPO Final Argument, pp. 6-8.

## 5.0 Fort Nelson COSA study

### 5.1 Overview

Although not a separate legal entity, Fort Nelson has its own rate base and revenue requirements for the purposes of determining rates. The Fort Nelson COSA study model utilizes the approved 2018 test year from Fort Nelson's Revenue Requirements Application. Fort Nelson has an approved 2018 revenue requirement of \$3.162 million.<sup>86</sup> In addition to costs from Fort Nelson's approved 2018 test year, the Fort Nelson COSA model also includes one adjustment to account for one of the RS 25 – General Firm Transportation customers that moved to Rate 2.1 (General Service – Small Commercial Service).<sup>87</sup>

The COSA methodology used for Fort Nelson is generally the same as that used for FEI. FEI's COSA methodology was described above in Section 4.2 – Overview of FEI's COSA study. The Fort Nelson COSA, like FEI, includes the three steps of functionalization, classification and allocation. In addition to the three steps, the cost for the industrial customer meter stations has been directly assigned to RS 25 – General Firm Transportation.

The functionalization categories used for Fort Nelson in this Application are consistent with those used for FEI with the exception of the LNG Storage function since Fort Nelson does not have LNG or other storage facilities.<sup>88</sup> The classification categories for Fort Nelson remain the same as that of FEI: Demand, Energy and Customer. An MSS and PLCC adjustment were also utilized. In the Application, the Fort Nelson PLCC adjustment was set to be equal to FEI's PLCC adjustment of 0.205 gigajoules per day per customer. During the proceeding a question was raised on whether there should be a different PLCC value used for Fort Nelson as a separate entity.<sup>89</sup> After consulting with EES Consulting, FEI filed an evidentiary update (Exhibit B-1-1-1) based on a PLCC adjustment calculated exclusively for Fort Nelson. FEI concluded that this would be more appropriate as Fort Nelson has its own MSS and because Fort Nelson is a separate region for rate making purposes.<sup>90</sup> The final delivery cost of service allocations for Fort Nelson is shown below.

**Table 3: Fort Nelson Delivery Cost of Service Allocation Results<sup>91</sup>**

Rate	(\$000s)	% of total
1	\$1,247	50.1%
2.1	\$914	36.7%
2.2	\$194	7.8%
RS 25	\$134	5.4%
<b>Total</b>	<b>\$2,489</b>	<b>100.0%</b>

FEI proposes a new gas cost allocation methodology for Fort Nelson. Fort Nelson's current gas cost allocation methodology allocates gas costs (both commodity and midstream) to sales customers using forecast annual consumption. FEI's proposed gas cost allocation methodology for Fort Nelson classifies the commodity costs as energy-related and allocates those costs to sales customers based on their forecast consumption. The

<sup>86</sup> Exhibit B-1-1, p. 13-13.

<sup>87</sup> Exhibit B-1-1, pp. 13-13 and 13-15.

<sup>88</sup> Exhibit B-1-1, p. 13-16.

<sup>89</sup> March 9, 2017 Workshop #2 Transcript, p. 196.

<sup>90</sup> Exhibit B-1-1-1, Cover Letter.

<sup>91</sup> Exhibit B-1-1-1, Table 13-10, p. 13-17.

midstream costs are proposed to be classified as demand-related and allocated to all sales customers based on their load factor adjusted volume. This is the same approach as used to allocate midstream costs for FEI.<sup>92</sup>

Elenchus reviewed the Fort Nelson COSA study and states that it is appropriate and consistent with the FEI COSA study. Elenchus also supports the adjustments made to reflect how Fort Nelson is expected to operate in 2018.

### *Intervener arguments*

There were no issues raised by interveners regarding the COSA study for Fort Nelson. Both CEC and BCOAPO support FEI's update to the PLCC used in the Fort Nelson COSA study and CEC is satisfied with the Fort Nelson COSA study.<sup>93</sup>

### *Commission determination*

**Subject to the determinations on issues addressed in Section 5.2, the Panel finds the Fort Nelson COSA methodology generally follows standard practice which both EES Consulting and Elenchus view as being reasonable and acceptable for setting just and reasonable rates.** The Panel identified one issue that was not raised by interveners related to the cost allocation for Fort Nelson RS 25 – General Firm Transportation, which is discussed below.

## **5.2 Cost allocation for Fort Nelson RS 25**

RS 25 is the only transportation service rate schedule for Fort Nelson. Currently, there is one customer that is taking service in Fort Nelson under RS 25 and that customer has a three year average load factor (LF) of 27 percent. This low LF is a result of the customer scaling back on its operations and only using gas for space heating purposes since 2008.<sup>94</sup> FEI states that Fort Nelson's RS 25 is intended to serve process load customers that have higher annual throughput and are less heat sensitive than large commercial customers. FEI has used a LF of 40 percent to allocate costs to RS 25 in accordance with the intended use of RS 25, as opposed to the 27 percent LF.<sup>95</sup>

FEI stated that the single remaining RS 25 customer has permanently closed plant operations. The customer has informed FEI that it will only be using gas for space heating for a few years to preserve its assets but will eventually no longer require gas.<sup>96</sup>

FEI also noted that the customer's other site in Fort Nelson, which was formerly served under RS 25, also closed permanently in 2008 and has already gone to zero gas consumption as of December 2015, and has subsequently switched to Fort Nelson Rate 2.1.<sup>97</sup>

The following table was created using information from FEI's response to an information request and shows this RS 25 customer's load factor since operations ceased in 2008 and it only used gas for space heating.<sup>98</sup>

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<sup>92</sup> Exhibit B-1-1, p. 13-18 – 13-19.

<sup>93</sup> CEC Final Argument, p. ; BCOAPO Final Argument, p. 6.

<sup>94</sup> Exhibit B-1-1, p. 13-15; Exhibit B-5, BCUC IR 45.2, p. 212.

<sup>95</sup> Exhibit B-1-1, p. 13-15.

<sup>96</sup> Exhibit B-5, BCUC IR 45.1, p. 211.

<sup>97</sup> Ibid.

<sup>98</sup> Exhibit B-5, BCUC IR 45.2.1, pp. 212-213.

**Table 4: Fort Nelson RS 25 Customer Load Factor Since Ceasing Operations in 2008**

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016
Load Factor	27%	25%	20%	20%	20%	22%	25%	28%	26%

FEI's use of a load factor of 40 percent for RS 25 results in the allocation of \$134 thousand of costs to RS 25, which represents 5.4 percent of the total delivery cost of service for Fort Nelson. By using the lower load factor of 27 percent for RS 25, a larger peak day demand is calculated and subsequently an incremental \$29 thousand of costs are allocated to RS 25. RS 25 allocated costs total \$163 thousand, based on the 27 percent LF, and this reduces RS 25 R:C and M:C ratios before rate design proposals and rebalancing from 112.1 percent to 92.4 percent.<sup>99</sup>

FEI submits that utilizing a customer with a heat sensitive load profile to design a rate intended for a process load would result in a rate structure that would not be appropriate for any future customers. FEI states that it wants to maintain the Fort Nelson RS 25 option for future customers and to maintain a rate structure for Fort Nelson that would support local economic development for a process load customer setting up business in the Fort Nelson community.<sup>100</sup>

In response to an information request Elenchus stated that it "would not consider it to be equally valid to use a counter-factual forecast load factor rather than the expected load factor based on the best available evidence."<sup>101</sup>

No intervener addressed this topic in their final argument. Similarly, FEI did not address this topic in its final or reply arguments.

### **Commission determination**

**The Panel directs FEI to update this Application using a load factor, calculated in a manner similar to the method used for RS 5 in FEI's COSA, that best reflects the cost to serve Fort Nelson RS 25.** While FEI's reason for using the 40 percent load factor to allocate gas costs for RS 25 is a valid concern, FEI has not presented evidence of expected new RS 25 customers. The evidence shows that as the costs being allocated to Fort Nelson RS 25 are not representative of the costs to serve the existing RS 25 customer, this impacts the R:C and M:C ratios. Based on the evidence presented, this would continue to occur until there is a new RS 25 customer with a load factor of 40 percent or higher.

The Panel also notes that in the FEI COSA, FEI proposes to use a three-year rolling average load factor in the allocation of midstream costs for RS 5, as opposed to a deemed 50 percent load factor. The Panel considers that the approaches should be consistent. The COSA study is meant to identify the costs to serve each rate class under the principle of cost causation. FEI's use of a 40 percent load factor does not accurately reflect the cost to serve the single RS 25 customer.

## **6.0 Frequency of COSA studies**

Elenchus states that the frequency with which COSA studies are updated varies across jurisdictions and that updates "are typically expected at least every five years."<sup>102</sup> It further states the benefit of performing a COSA

<sup>99</sup> Exhibit B-1-1-1, p. 13-17 and p. 13-20; Exhibit B-5, BCUC IR 45.3, pp. 213-214.

<sup>100</sup> Exhibit B-5, BCUC IR 45.1, p. 211.

<sup>101</sup> Exhibit A2-8, CEC IR 17.2.

study every five years is that if circumstances change, the change can be reflected in the COSA study sooner rather than later and customer rates can be set based on costs causality principles which reflect current circumstances. Elenchus elaborated that this would reduce the probability that some customer classes may be subsidizing other customer classes.<sup>103</sup> Elenchus provided some examples of changes in circumstances as follows:

- customer class load profiles change resulting from demand management initiatives;
- loss/addition of customers reflecting economic activity change;
- utility standards on assets used to provide services to customers; and
- utility expenditure priorities.

Elenchus also notes that the disadvantage of performing a COSA study every five years as opposed to less frequently is that it is a resource intensive exercise.<sup>104</sup>

FEI discussed the advantages and disadvantages of performing a COSA study every five years and every 10 years.<sup>105</sup> FEI concluded:

FEI is of the opinion that a COSA study that is completed every 4 to 6 years is a reasonable time period to consider if there are issues that need to be raised in a regulatory proceeding, but that significant changes in FEI's business may require more frequent examination of specific limited scope issues. These issues could be raised by FEI, by the Commission or by interveners.<sup>106</sup>

In order to prepare the COSA studies for the Application, FEI estimates that 2,000 labour hours and 900 labour hours were used for FEI and Fort Nelson respectively and states that the "internal fully-loaded labour cost is estimated in the range of \$275 thousand."<sup>107</sup> FEI noted that Fort Nelson will receive 0.00244 percent of FEI's labour costs through the shared services allocation. In addition to internal labour, FEI states that it has incurred \$100 thousand of external consultant costs associated with the COSA and supporting studies for FEI and \$5 thousand for Fort Nelson to date.<sup>108</sup> In its Final Argument, FEI restates its expectation that it will conduct a COSA study every 4 to 6 years.<sup>109</sup>

No intervenor took a position on how often FEI should perform COSA studies. However, when discussing rate rebalancing CEC noted that there is a risk that a COSA study may not be undertaken for some time.<sup>110</sup>

### *Commission determination*

**The Panel directs FEI to file a comprehensive and updated COSA study for each of FEI and Fort Nelson for review by the Commission five years after the release of the final decision on FEI's 2016 RDA.** Prior to this Application, FEI completed a COSA study in 1993, 1996, 2001 and 2012.<sup>111</sup> The interval between each COSA study grew from 3 years between 1993 and 1996 to 11 years between 2001 and 2012. The Panel notes the 2016 Rate Design Application and supporting COSA studies stemmed from a Commission directive in the Phase II reconsideration decision regarding FEI's 2012 Common Rates, Amalgamation and Rate Design Application. The

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<sup>102</sup> Exhibit A2-2, Elenchus COSA Report, p. 5.

<sup>103</sup> Exhibit A2-5, BCUC IR 1.1.

<sup>104</sup> Ibid.

<sup>105</sup> Exhibit B-5, BCUC IR 12.3, p. 52.

<sup>106</sup> Ibid.

<sup>107</sup> Exhibit B-5, BCUC IR 12.2, pp. 51–52.

<sup>108</sup> Ibid.

<sup>109</sup> FEI Final Argument, p. 8.

<sup>110</sup> CEC Final Argument, p. 22.

<sup>111</sup> Exhibit B-1, pp. 3-9 – 3-16.

Panel considers that the advantages of performing a COSA study every five years outweigh the potential disadvantages. Any supporting studies that inform the COSA should be updated and filed along with the COSA studies. If there are significant changes in circumstances or FEI's business, the Panel expects FEI to file its updated COSA studies earlier than five years in order to reflect these changes.

## 7.0 Revenue to cost ratios and the corresponding range of reasonableness

FEI states once the COSA study is complete, the allocated costs by rate schedule are compared to the revenue collected by rate schedule to calculate the revenue to cost ratio for each rate schedule. The revenue to cost ratio shows whether the rates charged to each rate schedule adequately recover the allocated cost of service for each rate schedule. For most rate schedules, FEI assesses the revenue to cost ratios based on whether or not they fall within an established range of reasonableness and this informs FEI's rate design and rate rebalancing proposals.<sup>112</sup> FEI notes that RS 4, RS 22 and RS 7/27 do not drive system capacity additions and are not allocated any demand-related costs. RS 4 is for seasonal service (firm in the summer, interruptible in the winter), RS 22 is predominantly interruptible and RS 7/ RS 27 is fully interruptible. The rates for these rate schedules are not set using their allocated costs from the COSA model. However, FEI provides their revenue to cost ratios in tables throughout the proceeding.<sup>113</sup>

### 7.1 Use of R:C or M:C ratios

FEI provides the following types of revenue to cost ratios:

1. Margin to cost (M:C) ratio – Calculated by dividing the delivery margin revenue by the allocated delivery cost of service.
2. Revenue to cost (R:C) ratio – Calculated by dividing the sum of the delivery margin revenue and the gas cost recovery revenue by the sum of the allocated delivery cost of service and the allocated gas costs.

For sales customers, gas costs are a flow-through to the gas cost recovery revenue. Since transportation customers do not incur gas costs, FEI estimates gas costs in order to determine their R:C ratios. For FEI's transportation rate schedules that have companion sales rate schedules (RS 23, RS 25 and RS 27) FEI imputes a cost of gas using the companion sales rate schedules (RS 3, RS 5, RS 7) so that when the R:C ratios are calculated the final R:C ratio is on the same basis (delivery margin plus cost of gas) as for the sales rate schedules. For transportation rate schedules that do not have a companion rate class (RS 22A and RS 22B), FEI states that the cost of gas for RS 22A and RS 22B is equal to these rate schedules allocation of unaccounted for (UAF) gas from FEI's test year revenue requirement. FEI notes that the UAF gas cost is small so the R:C ratios are nearly equal to the M:C ratios for RS 22A and RS 22B.<sup>114</sup>

FEI pointed out that since the same cost of gas amount is added to both the numerator and denominator in the R:C ratio for each rate schedule it is a mathematical certainty that the M:C ratio would be less than the calculated R:C ratio for the same rate schedule if the R:C ratio is less than 1.00 and the M:C ratio would be greater than the calculated R:C ratio for the same rate schedule if the R:C ratio is greater than 1.00.<sup>115</sup>

FEI notes that either an R:C ratio or M:C ratio needs to be used as a primary guide for rate design and rate rebalancing and points out that one ratio must be chosen so that rates can be balanced together to approach

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<sup>112</sup> Exhibit B-1, p. 6-32.

<sup>113</sup> Exhibit B-1, p. 6-35.

<sup>114</sup> Exhibit B-1, p. 6-31; p. 6-34.

<sup>115</sup> Exhibit B-5, BCUC IR 15.3, pp. 62-63; Exhibit A2-2, p. 28.

1.00.<sup>116</sup> FEI submits that it is preferable to be consistent with past practice and continue to use the R:C ratio and that using the M:C Ratio instead of the R:C ratio could potentially result in rate instability over time for customers. FEI submits that the R:C ratio should be used to guide rate design and rebalancing stating that there is no compelling reason to depart from the existing practice.<sup>117</sup>

### *Elenchus review of FEI's COSA study*

Elenchus stated that one measure should be considered to be the primary basis for determining when rate rebalancing is to be considered and the second measure, if used, would be considered to be for informational purposes only.<sup>118</sup> Elenchus notes that since there is a consistent relationship between R:C and M:C ratios there is essentially no difference in using either of the ratios as the benchmark.<sup>119</sup> Elenchus elaborated that for the range of reasonableness of the R:C ratio to be applied in a manner equivalent to a range of reasonableness for the M:C ratio, the R:C ratio range would have to be narrower than the equivalent M:C ratio range.<sup>120</sup>

Elenchus performed a review of the use of R:C and M:C ratios in other jurisdictions.<sup>121</sup> Elenchus' review revealed that:

- Union, Enbridge and Centra Gas include commodity, storage and transport costs in their COSA model and their revenue to cost ratios would be calculated in the same manner as FEI's R:C ratio.
- AltaGas and ATCO do not include commodity, storage and transport costs in their COSA model and would have a revenue to cost ratio calculated in the same manner as FEI's M:C ratio.
- SaskEnergy excludes commodity costs but includes storage and transport costs in its delivery service rate application. This has less costs than FEI's R:C ratio but more costs than FEI's M:C ratio.

Within Canada, Elenchus also pointed out that Gaz Metro and Gazifere in Quebec were not included in the review because documents related to these two utilities were only available in French.<sup>122</sup>

Elenchus states that the most important consideration in choosing an approach is consistency and elaborates that the same ratio and the same range should be used as the primary reference point on an on-going basis. Elenchus concludes that M:C ratio has merit as a primary reference since it excludes flow-through costs and further point out that it is used in other jurisdictions.<sup>123</sup>

### *Intervener arguments*

CEC agrees with FEI's position that the R:C ratio is the appropriate method to determine COSA study results.<sup>124</sup>

BCSEA states their preference is for adopting the M:C ratio, elaborating that the M:C ratio conveys the revenue to cost concept more directly. However, BCSEA acknowledges that the two measures are equivalent, except in terms of the size of the range of reasonableness.<sup>125</sup>

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<sup>116</sup> FEI Final Argument, p. 28.

<sup>117</sup> FEI Final Argument, p. 28.

<sup>118</sup> Exhibit A2-5, BCUC IR 9.2.

<sup>119</sup> Exhibit A2-2, p. 28.

<sup>120</sup> Exhibit A2-5, BCUC IR 9.1.

<sup>121</sup> Exhibit A2-10, p. 33; Exhibit A2-11. BCUC IR 17.1.

<sup>122</sup> Exhibit A2-10, p. 1.

<sup>123</sup> Exhibit A2-10, p. 35.

<sup>124</sup> CEC Final Argument, p. 3; p. 10.

<sup>125</sup> BCSEA Final Argument, p. 1.



BCOAPO supports the use of the R:C ratio. BCOAPO submit that while there might be some arguable merit in using an M:C ratio because it eliminates flow-through costs, the end results for either measure is the same and the only difference is the range of reasonableness that is attached to either ratio.<sup>126</sup>

ICG supports the use of the M:C ratio. ICG submits that flow-through cost items should be excluded since they do not reflect the cost of serving a customer.<sup>127</sup> ICG also makes reference to Elenchus' position that the M:C ratio has merit as a primary reference and cites Elenchus statement that "The advantage of that, as pointed out in the report, is one, the margin – the pass-throughs vary across different classes. So using an M:C ratio for all the classes as the primary measure, in a sense, makes more sense when you're comparing classes."<sup>128</sup>

### *FEI reply*

FEI reiterates its position that the R:C ratio is reasonable and appropriate and its use should be continued. FEI points out that the evidence shows that the use of the R:C ratio is an acceptable practice in the industry.

### *Commission determination*

**The Panel finds that the R:C ratio should be used to inform rate design and rate rebalancing proposals.**

The Panel acknowledges that either of the two ratios could be used as the benchmark to guide rate design. The R:C ratio can be applied in a manner equivalent to the M:C ratio, once the appropriate range of reasonableness is used. The four interveners weighing in on this topic are divided equally: two interveners prefer the R:C ratio and two prefer the M:C ratio. In addition, three of the six Canadian natural gas utilities in Elenchus' jurisdictional review use an R:C ratio, whereas the other three use a ratio similar to or equal to FEI's M:C ratio.

The Panel notes that FEI has already been using a range of reasonableness for its R:C ratio, but an equivalent range has not been determined for the M:C ratio. Since the M:C ratio would be applied in an equivalent manner once an appropriate range of reasonableness has been calculated, the Panel considers that consistency with past practice is appropriate. The Panel places weight on Elenchus' view that the most important consideration in choosing an approach is consistency and that the same ratio and the same range should be used as the primary reference point on an on-going basis. While consistency is an important factor in the Panel's decision, it does not preclude the Commission from considering alternatives to the R:C ratio in future applications.

**The Panel directs FEI to present both the R:C and M:C ratios for each rate schedule in the next COSA study filing and rate design application.** While the R:C ratios will inform rate design and rate rebalancing, the M:C ratios will provide useful context for stakeholders.

## **7.2 The appropriate range of reasonableness**

FEI assesses the R:C ratios of each of the rate schedules based on whether or not they fall within an established range of reasonableness. The range of reasonableness is used to consider whether a rate schedule requires rebalancing. A rate schedule with an R:C ratio that falls within the range of reasonableness is deemed to be recovering its fair cost and indicates that no rebalancing may be required. If a rate schedule falls outside the range of reasonableness, it indicates that revenues are either insufficient in recovering the cost of service or exceed the cost of service for that rate schedule and that rebalancing may be required.<sup>129</sup>

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<sup>126</sup> BCOAPO Final Argument, pp. 14-15.

<sup>127</sup> ICG Final Argument, p. 8.

<sup>128</sup> ICG Final Argument, p. 8; FEI SRP Transcript Vol 5, p. 436.

<sup>129</sup> Exhibit B-1, p. 6-32.



FEI states that “[i]n theory, the R:C ratio should equal 100% for each rate schedule, indicating that the revenues recovered from each rate schedule would equal the indicated cost to serve them.”<sup>130</sup> FEI states that achieving unity, an R:C ratio of 100 percent, implies a level of precision that does not exist with any COSA study due to the necessary assumptions, estimates, simplifications, judgements and generalizations involved. As a result, a range of reasonableness is warranted and accepted when evaluating the appropriateness of the R:C ratios.<sup>131</sup>

FEI submits that the appropriate range of reasonableness for evaluating its R:C ratios is 90 percent to 110 percent. This range was first established for FEI in the BC Gas 1993 Phase B Rate Design proceeding and has been utilized by FEI in all subsequent applications since then.<sup>132</sup> FEI considers that the Commission’s acceptance of a 90 percent to 110 percent range of reasonableness for R:C ratios in the Phase B Rate Design proceeding relied on previous precedent and represented an established practice for the Commission at the time.<sup>133</sup>

FEI submits that the precedent for a range of reasonableness of 95 percent to 105 percent in the case of BC electric utilities is not appropriate for natural gas utilities and discusses the difference in certainty in load research analysis between natural gas and electric utilities.<sup>134</sup>

FEI’s expert consultants, EES Consulting, did not do a jurisdictional review of the range of reasonableness. In EES Consulting’s experience the range typically is either 95 percent to 105 percent or 90 percent to 110 percent and the range of reasonableness generally reflects specific circumstances for the utility and jurisdiction.<sup>135</sup>

FEI presents the R:C and M:C ratios after the COSA study and before rate design proposals and rebalancing in the following two tables. FEI notes that all the R:C ratios are within a range of 95% to 105%, except for RS 6 and RS 22A.

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<sup>130</sup> Exhibit B-1, p. 6-32.

<sup>131</sup> Exhibit B-1, p. 6-32.

<sup>132</sup> Exhibit B-1, p. 6-34.

<sup>133</sup> Exhibit B-5, BCUC IR 14.1, p. 55.

<sup>134</sup> Exhibit B-1, p. 6-33.

<sup>135</sup> Exhibit B-11, CEC IR 6.1, pp. 17-18.

**Table 5: FEI R:C and M:C Ratio Results Before Rate Design Proposals or Rebalancing<sup>136</sup>**

Rate Schedule	R:C	M:C
<b>Rate Schedule 1</b> <i>Residential Service</i>	95.6%	93.1%
<b>Rate Schedule 2</b> <i>Small Commercial Service</i>	101.3%	102.5%
<b>Rate Schedule 3/23</b> <i>Large Commercial Sales and Transportation Service</i>	101.6%	103.3%
<b>Rate Schedule 5/25</b> <i>General Firm Sales and Transportation Service</i>	104.9%	112.2%
<b>Rate Schedule 6</b> <i>Natural Gas Vehicle Service</i>	131.2%	159.1%
<b>Rate Schedule 22A</b> <i>Transportation Service (Closed) Inland Service Area</i>	109.5%	109.8%
<b>Rate Schedule 22B</b> <i>Transportation Service (Closed) Columbia Service Area</i>	99.7%	99.7%

As stated in Section 7.0, FEI excluded RS 4, RS 22 and RS 7/RS 27 from the table above because the charges within these rate schedules are not set using their allocated costs from the COSA study. The R:C and M:C ratios for these rate schedules are shown separately in the table below.

**Table 6: FEI R:C and M:C Ratio Results for Rate Schedules Not Set Using COSA Allocations<sup>137</sup>**

Rate Schedule	R:C	M:C
<b>Rate Schedule 4</b> <i>Seasonal Firm Gas Service</i>	147.4%	550.9%
<b>Rate Schedule 7/27</b> <i>General Interruptible Sales and Transportation Service</i>	139.6%	712.3%
<b>Rate Schedule 22</b> <i>Large Volume Transportation Service</i>	1425.5%	1864.4%

FEI also utilizes the 90 percent to 110 percent range of reasonableness for the Fort Nelson service area. The following table shows the R:C and M:C ratios for Fort Nelson before rate design proposals and rebalancing.

**Table 7: Fort Nelson R:C and M:C Ratios Before Rate Design Proposals or Rebalancing<sup>138</sup>**

Rate	R:C	M:C
<b>Rate 1</b> Domestic (Residential) Service	90.5%	88.0%
<b>Rate 2.1</b> General (Small Commercial) Service	108.3%	110.7%
<b>Rate 2.2</b> General (Large Commercial) Service	113.2%	118.2%
<b>Rate Schedule 25</b> General Firm Transportation Service	112.1%	112.1%

FEI notes that Rate 2.2 and RS 25 in Fort Nelson are above but near the upper boundary of the range and that rebalancing may be necessary.

<sup>136</sup> Exhibit B-1, Table 6-18, p. 6-35.

<sup>137</sup> Exhibit B-1, Table 6-19, p. 6-36.

<sup>138</sup> Exhibit B-1-1-1, Table 13-12, p. 13-20.

### *Quality of load and costing data*

FEI discussed the quality of its customer data, load data and costing data since the 1993 Phase B Rate Design Application. FEI stated that customer data has improved since the Phase B Rate Design, in particular, for RS 5 and RS 25, but submits that customer data has not sufficiently improved for Residential and Commercial customers which account for approximately 57 percent (121,480 TJ) of the total forecast (214, 640 TJ) to warrant changing the range of reasonableness.<sup>139</sup>

FEI also stated that the meters for customers served under RS 1, RS 2, RS 3, RS 4 and RS 6 are manually read monthly and that this is an improvement from 1993 when residential and commercial customer meters were typically read every second month. FEI pointed out that, even with these improvements the necessary data to know what actual customer consumption is during peak conditions is not available and so the load factors of individual customers, and even the residential and commercial classes as a whole, continue to be estimates. FEI elaborated that this means that there is still uncertainty in the demand allocators in the COSA.<sup>140</sup>

FEI stated all RS 5 – General Firm Service customer volumes are now being read on a daily basis, as opposed to monthly meter reads in 2001, and states that this is an improvement on the customer load data which allows for considering alternate methods of determining daily demand.<sup>141</sup>

From 1996 to 2016 total peak demand on FEI's system in gigajoules decreased by 13 percent while:

- the percentage of industrial customers (RS 5 and RS 25) with demand meters increased from 60 percent to 100 percent indicating that all RS 5 and RS 25 customers have demand meters; and
- the percentage of large commercial customers (RS 3 and RS 23) with demand meters increased from 1.5 percent to 25 percent.<sup>142</sup>

FEI stated that demand meters include telemetry or automated meter readers (AMR) devices and that these provide daily measurement data. FEI further stated that customers served under RS 5, RS 7, RS 23, RS 25, RS 26, RS 27 and RS 22/22A/22B as well as Contract Customers have AMR devices. Some customers served under RS 3 also have demand meters. The total peak demand of RS 5, RS 25, RS 3 and RS 23 customers with demand meters represents 12 percent of FEI's 2016 total peak demand and the total peak demand of all customers with demand meters represents a higher percentage.<sup>143</sup>

FEI made investments in tracking cost data when it switched its accounting and management systems to SAP, several years after the 1993 Phase B Rate Design. FEI stated that this system tracks costs on an activity basis and these activities cover an array of capital and operating activities.<sup>144</sup>

### *Impact on FEI of using 95 percent to 105 percent R:C ratio range of reasonableness*

The impact of using a 95 to 105 percent R:C ratio range of reasonableness, instead of 90 to 110 percent, was explored for both FEI and Fort Nelson during the proceeding. Use of a 95 to 105 percent R:C ratio range has no impact to FEI's rate design proposals and only impacts FEI's rebalancing proposals. Rebalancing to a 95 to 105 percent R:C ratio range would:

<sup>139</sup> Exhibit B-5, BCUC IR 14.2, p. 59.

<sup>140</sup> Exhibit B-5, BCUC IR 14.2, p. 59; Exhibit B-8 BCOAPO IR 3.1, p. 7.

<sup>141</sup> Exhibit B-5, BCUC IR 14.2, p. 59.

<sup>142</sup> Exhibit B-15, BCUC Technical IR 5.1, pp. 10–11.

<sup>143</sup> Exhibit B-5, BCUC IR 14.2, p. 59; Exhibit B-8 BCOAPO IR 3.1, p. 7; Exhibit B-15, BCUC Technical IR 5.1, pp. 10-11.

<sup>144</sup> Exhibit B-1, BCUC IR 14.2, p. 59.

- result in an increase to RS 1 delivery rates;
- result in a decrease in delivery rates for RS 6/6P, RS 5/25, RS 7/27 and RS 4; and
- not have an impact to RS 2 or RS 3/23.<sup>145</sup>

FEI stated this rebalancing would result in a \$1.743 million shift in revenue to RS 1 and in an annual bill increase of approximately 0.2 percent to a RS 1 customer. RS 5/25 customers would experience a reduction of 1.2 percent in their annual bill, RS 6 a reduction of 20.3 percent, RS 7/27 a reduction of 1.6 percent and RS 4 a reduction of 1.3 percent.<sup>146</sup> The delivery rates for RS 7/27 and RS 4 are not cost-based, but are derived from the rates for RS 5/25 and so would decrease due to the decrease in RS 5/25.

### *Impact on Fort Nelson of using 95 percent to 105 percent R:C ratio range of reasonableness*

In the Application where FEI uses a 90 percent to 110 percent R:C ratio range of reasonableness, FEI does not propose to rebalance Fort Nelson RS 25 down from 111 percent to the R:C ratio range limit of 110 percent.<sup>147</sup> Use of a 95 to 105 percent R:C ratio range has no impact to Fort Nelson's rate design proposals and only impacts the rebalancing proposals. Rebalancing to a 95 to 105 percent R:C ratio range would result in:

- an increase for RS 1 customers; and
- a decrease for RS 2.1, RS 2.2 and RS 25 customers.<sup>148</sup>

FEI states that rebalancing RS 2.1, RS 2.2 and RS 25 to 105 percent would shift \$24 thousand, \$33 thousand and \$8 thousand, respectively, from those rate schedules to RS 1 for a total RS 1 rebalance amount of \$65 thousand. This would result in an R:C ratio of 95 percent for RS 1. Rebalancing and the shifting revenue responsibility would equate to an average annual bill:

- increase for RS 1 of 5.3 percent;
- decrease for RS 2.1 of 1.3 percent;
- decrease for RS 2.2 of 7.6 percent; and
- decrease for RS 25 of 3.3 percent.

FEI states that "When considering the revenue requirement rate change of nearly 7 percent for 2018, Rate 1 Fort Nelson customers would experience an approximate 12 percent rate change in 2018."<sup>149</sup>

### *Elenchus review of FEI's COSA study*

Elenchus states that:

...revenue to cost ratios that are within a range of acceptable values are considered to indicate that the customer class is paying its fair share of costs and that there is no need to realign cost responsibility. The usual revenue to cost range of acceptable ratios that Elenchus has observed is between 0.90 and 1.10 or a narrower range of 0.95 to 1.05. A narrower range of 0.95 to 1.05 is usually used by regulators and utilities in instances when there is good load and costing data

<sup>145</sup> Exhibit B-15, BCUC Technical IR 7.2, pp. 18-21.

<sup>146</sup> Exhibit B-15, BCUC Technical IR 7.2, pp. 18-21.

<sup>147</sup> Exhibit B-1-1-1, pp. 13-50 – 13-51.

<sup>148</sup> Exhibit B-15, BCUC Technical IR 12.1, p 28.

<sup>149</sup> Exhibit B-11, CEC IR 67.1, p. 154.

available to be used in a COSA study and the utility and regulator have had experience and history in using COSA studies in order to set rates.<sup>150</sup>

Elenchus performed a review of the use of R:C and M:C ratios in other jurisdictions. Elenchus' review revealed that Union, Enbridge and Centra Gas use an R:C ratio and target of unity or have a range of reasonableness smaller than 95 percent to 105 percent. AltaGas, ATCO and SaskEnergy use a M:C range of reasonableness of 95 percent to 105 percent.<sup>151</sup>

**Table 8: Elenchus' Jurisdictional Review of R:C and M:C Ratio Range of Reasonableness**

Utility	Range of Reasonableness
AltaGas <sup>61</sup>	95% to 105%
ATCO <sup>62</sup>	95% to 105%
Union Gas <sup>63</sup>	Close to unity <sup>64</sup>
Enbridge <sup>65</sup>	Close to unity
Centra Gas <sup>66</sup>	100%
SaskEnergy <sup>67</sup>	95% to 105%

Elenchus expects that FEI's data quality is similar to the data quality of other utilities. Elenchus elaborated that "FEI has been operating in a regulated environment for many years, its evidence has been subject to review by the Regulator, Stakeholders have had opportunities to review FEI's data and FEI's data has been accepted for Cost Allocation and Rate Design purposes."<sup>152</sup>

Elenchus "believes appropriate load and costing data has been used by FEI and is not aware of any better data that is available to FEI that could be used to improve the COSA significantly."<sup>153</sup> Regarding FEI's experience and history, Elenchus stated "[i]t is Elenchus understanding that FEI is familiar and has used COSA studies in the past and that the COSA studies have been used to set rates. In addition, Elenchus has reviewed the work of EES Consulting, FEI's consultant for this work, and has found the [company] to be consistently competent and professional."<sup>154</sup>

### *FEI final argument*

FEI requests that the Commission approve a range of reasonableness of 90 to 110 percent for the R:C ratio as the appropriate guideline for rebalancing in FEI's rate design. FEI states that the range of reasonableness is a guideline, in that the Commission may determine that rebalancing is not required even if an R:C ratio is outside the range of reasonableness. FEI further states that if rebalancing is determined to be appropriate, rebalancing should be to the nearest boundary of the range of reasonableness only, as the COSA results provide no evidence to justify further rebalancing.<sup>155</sup>

FEI argues that a range of reasonableness is required because the numerous assumptions, estimations, simplifications, judgements and generalizations in the COSA study make the results uncertain. As a result there is no true cost allocation result but a range of values that could be considered the true value.<sup>156</sup>

<sup>150</sup> Exhibit A2-2, p. 29.

<sup>151</sup> Exhibit A2-10, p. 33; Exhibit A2-11. BCUC IR 17.1.

<sup>152</sup> Exhibit A2-5, BCUC IR 9.4.

<sup>153</sup> Exhibit A2-8, CEC IR 18.1.

<sup>154</sup> Exhibit A2-8, CEC IR 18.2.

<sup>155</sup> FEI Final Argument, p. 17.

<sup>156</sup> FEI Final Argument, p. 18.

FEI argues that an R:C ratio range of reasonableness of 90 to 110 percent has been consistently used by the Commission in past rate designs for natural gas utilities, including FEI, and that consistency with past practice is the most important consideration. FEI refers to Pacific Northern Gas' 1991 Rate Design Application; BC Gas' 1993 Phase B Rate Design; BC Gas' 1996 Rate Design; FEI's 2001 Rate Design and FEI's 2012 Amalgamation Application. FEI argues that there is no evidence that there has been any material improvement in the data or change in circumstances that would warrant deviating from the Commission's past approvals of a 90 to 110 percent range of reasonableness.<sup>157</sup>

FEI argues that the "precedents for a range of reasonableness of 95 percent to 105 percent in the case of BC electric utilities are not appropriate for natural gas utilities."<sup>158</sup> FEI explains that BC electric utilities have relative certainty in load research analysis with respect to the coincident and non-coincident peak demand calculations. FEI states that the equivalent level of certainty does not exist for natural gas utilities because natural gas utilities only have daily system data whereas electric utilities have hourly system data. FEI argues that this point indicates that a wider range of reasonableness is warranted for FEI, as opposed the 95 to 105 percent range applied to BC electric utilities.<sup>159</sup>

FEI states that both EES Consulting and Elenchus agree that the 90 to 110 percent range is reasonable and often used in industry. FEI referred to Elenchus' jurisdictional review of R:C and M:C range of reasonableness and provided several reasons why the Commission should not follow the practice in other jurisdictions. FEI states that the survey of the six jurisdictions is not comprehensive; there is no evidence showing the certainty in the data or assumptions used in the COSA by other utilities; there may be factors influencing the range of reasonableness that are not applicable to FEI and there may be circumstances of FEI that are not applicable to the utilities surveyed.

### *Intervener arguments*

#### CEC

CEC does not support the use of a range of reasonableness in determining the appropriateness of rate rebalancing and particularly does not support the use of a 90 to 110 percent range of reasonableness. CEC submits that:

1. The Commission deny the use of the range of reasonableness and instead apply its judgement to the appropriate timing for rebalancing;<sup>160</sup>
2. The Commission undertake to rebalance the rate classes to unity at this time;<sup>161</sup> and
3. If the Commission determines that a range of reasonableness is appropriate then the range of reasonableness should be reduced to the greatest extent possible.<sup>162</sup>

CEC states that an R:C ratio of 1, or unity, is indicative of a customer recovering its cost of service and that the appropriate principle is to use the best information available without bias to any rate class over time. CEC argues that the application of a range of reasonableness results in the dismissal of important cost and revenue

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<sup>157</sup> FEI Final Argument, pp. 19-21; pp. 25-28.

<sup>158</sup> FEI Final Argument, p. 21.

<sup>159</sup> FEI Final Argument, pp. 21-22.

<sup>160</sup> CEC Final Argument, p. 2.

<sup>161</sup> CEC Final Argument, p. 23.

<sup>162</sup> CEC Final Argument, p. 23.

considerations that have been made using the best available information and appropriate judgement, and without bias. CEC submits that FEI can be considered to have good load and costing data. CEC refers to Elenchus response to an information request that states that Elenchus is not aware of any better data that is available to FEI that could be used to improve the COSA significantly. CEC notes that the COSA studies utilize the best available data and that the costs are calculated to two, three or four decimal places.<sup>163</sup>

CEC recognizes that the most recent relevant evidence of Canadian regulators dealing with natural gas utilities is to move to targeting unity as evidenced by the Elenchus jurisdictional survey, which shows that Union Gas, Enbridge and Centra Gas have an R:C ratio range of reasonableness of either unity or close to unity.<sup>164</sup> CEC also argues that the Panel should not accept the evidence of PNG's 90 percent to 110 percent range of reasonableness having stemmed from a Commission decision, because it is not a proper jurisdictional comparison and the decision is nearly 20 years out of date.<sup>165</sup>

CEC points out that the cost of service, revenue requirement, return on equity calculations, DSM effectiveness calculations and other inputs to Commission decision-making employ significant estimates in the form of forecasts, judgements, depreciation, risk and inflation rates. CEC further states that there are no correct answers in these types of determinations and that the inputs used to derive these determinations are not adjusted with a range of reasonableness before they are used. Rather, they are accepted as the best information, relied upon, and then balanced at the end with other considerations in the art and science of regulation. CEC submits that embedding a range of reasonableness to the R:C ratio is knowingly employing less than the best information and judgements available.<sup>166</sup>

CEC submits that the residential class has been consistently under-recovering its cost of service since 1993 and that the persistent over and under-recovery of rate classes has resulted in significant unfairness and should be addressed by the Commission. Based on CEC's calculations using information from the evidentiary record, small commercial customers (RS 2) will have over-paid their costs by nearly \$100 million over the last 20 years and large commercial customers (RS 3/23) will have over-paid their costs by nearly \$150 million over the last 20 years.<sup>167</sup>

### BCSEA

BCSEA submits that the range of reasonableness should be narrower than FEI's proposed 90 percent to 110 percent R:C ratio range. BCSEA believes that consideration of rate rebalancing should be triggered where R:C or M:C ratios vary from unity. Alternatively, BCSEA supports Commission approval of range of reasonableness of 95 percent to 105 percent for either M:C or R:C ratios.<sup>168</sup> BCSEA noted that narrowing the range of reasonableness would increase the number of situations in which the utility would consider whether or not to propose rate rebalancing and further noted that the utility has ample room to refrain from proposing rate rebalancing.<sup>169</sup>

BCSEA states that FEI acknowledged that it is not making the argument that its proposed 90 percent to 110 percent range is warranted because its own revenue cost analysis is less accurate than the analysis used by the other utilities. BCSEA states that if the Commission agrees with FEI's acknowledgement that the method it has chosen to implement is the best method for FEI to use under all of the circumstances, and approves FEI's

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<sup>163</sup> CEC Final Argument, pp. 10–11; p. 19.

<sup>164</sup> CEC Final Argument, pp. 11–12.

<sup>165</sup> CEC Final Argument, p. 30.

<sup>166</sup> CEC Final Argument, p. 15.

<sup>167</sup> CEC Final Argument, pp. 21–22.

<sup>168</sup> BCSEA Final Argument, p. 1.

<sup>169</sup> BCSEA Final Argument, p. 3.



revenue to cost methodology then it follows that the R:C (or M:C) ratios are the best estimate of the extent to which each rate class is paying its share of its costs.<sup>170</sup>

BCSEA submits that

the farther away a rate class's R:C ratio is from unity the stronger the weight of evidence that the class is paying more, or less, than its share of costs. Elenchus acknowledged during the SRP that for R:C ratios that are outside the range of reasonableness there is directionality: the farther from unity the more, or less, the share of costs is being paid. Asked about a hypothetical situation where rate classes have R:C ratios of 5% and 89% (with a 90%-110% range of reasonableness) Mr. Todd said that the former would require more adjustment than the latter.<sup>171</sup>

BCSEA submits that the same directionality applies to R:C ratios that are within the range of reasonableness.<sup>172</sup>

#### BCOAPO

BCOAPO submits that FEI's proposed R:C ratio range of reasonableness of 90 percent to 110 percent R:C Ratio is reasonable.

BCOAPO argues that attempts to use a tighter range of reasonableness imply accuracy that does not exist. COSA studies, by their nature, contain many points of ambiguity for which judgement is required. BCOAPO states that:

...it is misguided to, as some have suggested, consider that the residential class is 'subsidised' by some other classes based on R:C ratios. The fact is that the entire distribution system of FEI would not exist without the infrastructure which services and is paid for by the residential and small commercial classes. In this sense at least the large number of small volume customers subsidize the small number of large volume customers.<sup>173</sup>

BCOAPO states that they agree with Elenchus and FEI who have noted that consistency and symmetrical treatment are important factors in using revenue-to-cost ratios whether one is considering the type of metric or its range of reasonableness. BCOAPO concludes that the range used by FEI has been used historically and has strong roots in acceptable industry standards and there is nothing persuasive on the record to indicate another approach is necessary.<sup>174</sup>

#### ICG

ICG submits that the range of reasonableness should be set to unity; 100 percent. ICG argues that FEI's range is based on historic precedent and can no longer be justified on principles of fairness. ICG states that historic precedent has no weight as an argument.<sup>175</sup>

ICG states that in 1993 the existing technology and information relevant for a COSA study was far less than today. It also quotes Elenchus expressing an expectation that utility load and costing data would improve over

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<sup>170</sup> BCSEA Final Argument, p. 4.

<sup>171</sup> BCSEA Final Argument, p. 4.

<sup>172</sup> BCSEA Final Argument, pp. 4-5.

<sup>173</sup> BCOAPO Final Argument, p. 16.

<sup>174</sup> BCOAPO Final Argument, p. 16.

<sup>175</sup> ICG Final Argument, p. 1; pp. 3-4.



the years and this would also apply in British Columbia. ICG argues that FEI's and the Commission's experience with COSA studies and rate-setting has also developed greatly over the last 25 years.<sup>176</sup>

ICG submits that the argument that an R:C ratio of 90 is the same as an R:C ratio of 110 ignores the economic reality that the customer at 110 percent is paying higher rates than necessary based on the COSA results. ICG elaborates that the wider the range of reasonableness the greater the inequity between rate classes.<sup>177</sup> Based on FEI's response to an information request, ICG states that the historical pattern shows that the residential group (RS 1) has historically been below 100 percent in all the FEI COSA studies since the early 1990s. ICG submits that the consistency of this pattern reveals a systemic bias.<sup>178</sup>

ICG refers to Elenchus' jurisdictional review pointing out that other jurisdictions and the Commission are moving towards a narrower range of reasonableness and that fairness supports this trend.<sup>179</sup>

### Cascadia

Cascadia submits that rates should be adjusted to unity, where each class pays 100 percent of the calculated costs. Cascadia supports its position by stating that:<sup>180</sup>

- FEI argues that the correct basis for calculating and assigning delivery costs is the methodology that they have used in this filing;
- FEI's proposed range of reasonableness is not based in logic or fact but on historical precedent;
- FEI through historical cost accounting, detailed experience in engineering design, extensive facility construction costing and other detailed knowledge and information, has access to sufficient data to produce exceedingly accurate data inputs to the COSA study models;
- FEI has the expertise and access to experts consultants to complete a robust COSA that is accurate and complete; and
- The rate study shows that each customer class is paying rates different from the cost for the class, with industrial rates generally cross-subsidizing residential rates by an excess of \$25 million annually.

### *FEI reply argument*

FEI maintains its position that an R:C ratio range of reasonableness of 90 to 110 percent is reasonable and appropriate. FEI notes that BCOAPO agrees with FEI while BCSEA, CEC, ICG and Cascadia argue for a narrower or no range of reasonableness. FEI provides several arguments in support of its position, some of which have built upon statements made in FEI's Final Argument.

FEI states that while the Commission is not legally bound by past precedents, it should seek to be consistent rather than have decisions that vary arbitrarily. FEI then quotes Elenchus regarding the importance of consistency in rate design, as well as justices of the Supreme Court of Canada and administrative law textbook authority that all stress the importance of consistency in decision-making.<sup>181</sup>

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<sup>176</sup> ICG Final Argument, pp. 3-4.

<sup>177</sup> ICG Final Argument, p. 5.

<sup>178</sup> ICG Final Argument, p. 5.

<sup>179</sup> ICG Final Argument, p. 6.

<sup>180</sup> Cascadia Final Argument, pp. 1-2.

<sup>181</sup> FEI Reply Argument, pp. 9-10.

FEI submits that intervenor submissions to the effect that FEI's COSA is more accurate today than it was in 1993 are not supported by evidence and that the evidence shows that the accuracy of the COSA is the same as it was in 1993. In support of this argument, FEI submits the adoption of demand meters has not occurred for the great majority of small volume customers, and the data available for the cost allocation process has not improved. FEI states that there are multiple reasonable allocation methods to come to acceptable results, and any method will involve judgement and estimations. FEI points out the estimate in peak day demand to be a known uncertainty in the COSA.<sup>182</sup>

FEI states that jurisdictional evidence does not support a directional trend in Canada to rebalance to unity or an increasing rejection of the range of reasonableness as CEC and ICG claim. FEI notes that Elenchus' jurisdictional review only covered six utilities in Canada. FEI then provides examples of regulators and jurisdictions from case law using both the 90 to 110 percent range and the 95 to 105 percent range to support its reference to statements from Elenchus and EES Consulting that both ranges are used in the industry. FEI's examples of a 90 percent to 110 percent range of reasonableness were regarding Hydro One Networks Inc., Newfoundland Power Inc., Maritime Electric Company and Yukon Energy Corporation. FEI also points out that the Ontario Energy Board uses a range of reasonableness of wider than 90 to 110 percent for electric utilities other than Hydro One Networks.<sup>183</sup>

FEI responded to arguments regarding bias present in historical R:C ratios by stating that any consistent pattern in the COSA results over time can be explained by FEI conducting COSA studies consistent with past practice.<sup>184</sup> FEI states that CEC, Cascadia and ICGs' arguments regarding historical overpayment are incorrect since these rates were determined to be just and reasonable by the Commission and rates within the established range of reasonableness are determined to be recovering their fair share of costs<sup>185</sup>

### **Commission determination**

**The Panel directs FEI to use an R:C ratio range of reasonableness of 95 percent to 105 percent to inform rate design and rebalancing proposals in the current Application. FEI is directed to file updates to the Application in response to the findings and directives in this order with Reasons, in accordance with a procedural order to be issued subsequent to this order. The electronic versions of the updates should include both a blacklined version and a clean version.**

To set just, reasonable and not unduly discriminatory rates, utility costs must be fairly allocated to customers groups. The apportionment of shared utility costs to each of the rate classes through the COSA studies depends on assumptions, estimates and judgements. The Panel accepts that in theory an R:C ratio of 100 percent for each rate schedule would indicate that the revenues recovered from each rate schedule are equal to the cost to serve them. However, due to the assumptions, estimates and judgements involved in a COSA study, the Panel considers it appropriate to use a range of reasonableness. In the Panel's view, the size of the range of reasonableness depends on the precision of the cost allocation estimates and the stability of those estimates over time.

The Panel finds the precision of the estimates have improved sufficiently so that it is appropriate to reduce the range of reasonableness at this time, for the following reasons:

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<sup>182</sup> FEI Reply Argument, pp. 13-15.

<sup>183</sup> FEI Reply Argument, pp. 20-23.

<sup>184</sup> FEI Reply Argument, pp. 23-24.

<sup>185</sup> FEI Reply Argument, pp. 24-25.

- Improvements in cost data – the quality of FEI data used in COSA studies has improved over time. FEI has good costing data available. FEI has made investments in SAP tracking costing data since 1993. The Panel notes that there was no dispute that this has resulted in the improvement of costing data.
- Improvements in customer load data – the Panel notes FEI raises the estimate of peak day demand due to the lack of demand meters as a primary example of marginal improvement in data since the 1993 COSA study. However, FEI acknowledges that customer data has improved since all industrial customers and some large commercial customers now have demand meters, which allows for daily consumption data. While FEI argues the load factors of individual customers and the residential and commercial classes as a whole, continue to be estimates, the Panel notes that Elenchus confirmed that other utilities do not have demand meters for residential or small commercial customers and have the “same difficulty as that FEI is having in estimating the peak demand of the lower volume customers ... Every utility has to address it. Some do it through regression, the way FEI is doing it, some do it through load research. Some will do a combination of both. ... the regression technique is different than the load research technique. Either one is going to give you an estimate. Either one is going to be imperfect.”<sup>186</sup>
- FEI’s revenue cost analysis is not less accurate than other utilities – the Panel notes the jurisdictional review reveals that other gas utilities are using the 95 percent to 100 percent range of reasonableness. FEI acknowledges that it is not making the argument that its proposed 90 percent to 110 percent range of reasonableness is warranted because its own revenue cost analysis is less accurate than the analyses used by other utilities.<sup>187</sup>
- FEI and the Commission have experience using the COSA studies to set rates – the Panel places weight on Elenchus’ view that a range of 95 percent to 105 percent is usually used by regulators and utilities in instances when there is good load and costing data available to be used in a COSA study and the utility and regulator have had experience and history in using COSA studies in order to set rates. The Panel notes that the 1993 Rate Design Phase B Application was the first rate design application by the then recently formed BC Gas that focused on the allocation of utility costs other than gas supply costs. BC Gas, created in 1989, was the result of the amalgamation of three formerly affiliated companies (Inland Natural Gas Co. Ltd., Columbia Natural Gas Limited, and Fort Nelson Gas Ltd.) with the former Gas Division of British Columbia Hydro and Power Authority.<sup>188</sup> As described in the Background section of this decision, this is FEI’s fifth COSA study and rate design application over the last 24 years since the deregulation of natural gas markets in BC in 1985. Independent expert consultants have been used on two occasions to verify the robustness of FEI’s COSA studies. It is reasonable to expect that this experience leads to the use of appropriate assumptions, estimates and judgements used by the utility based on its specific circumstance. As such, the Panel is convinced that FEI is more experienced in performing COSA studies now than it was in 1993.
- FEI has access to expert consultants to assist in completing its COSA study – as noted above, FEI has used expert consultants which over time should lead to improvements in COSA methodologies and techniques and should also lead to the more appropriate assumptions, estimates and judgements used by the utility based on its specific circumstances.
- The estimate of peak day demand is only used to allocate a portion of costs – while FEI focuses on the lack of improvement in the estimation of peak day demand, in the Panel’s view, peak day demand information is only used in the allocation of a portion of the costs: (i) costs classified as demand-related in the delivery COSA model; and (ii) midstream costs, in the gas COSA model. The evidence shows that demand-related costs account for 50 percent of the costs in the delivery COSA model and midstream

<sup>186</sup> SRP Transcript for Sep 12, 2017, pp. 527-529.

<sup>187</sup> BCSEA Final Argument, p. 4; SRP Transcript for Sep 12, 2017, p. 497.

<sup>188</sup> Exhibit B-1, p. 3-7; p. 3-10; Commission Decision for G-22-92, dated February 21, 1992, p. 4

costs account for 23 percent of the costs in the gas COSA model. The remaining costs are allocated based on annual demand and average number of customers, with a weighting factor applied in some cases.<sup>189</sup> In addition, the Panel expects that the availability of more load data through more frequent meter reads and more daily data would result in improved regression models and improved annual demand forecasting techniques. As such, the Panel places less weight on FEI's statement regarding the estimation of peak demand.

The Panel finds a 95 percent to 105 percent R:C ratio range of reasonableness is appropriate, for the following reasons:

- Gas utilities in Elenchus' Canadian jurisdictional review use a range of 95 to 105 percent or smaller – this is the case regardless of whether or not commodity costs are included. FEI has proposed and the Panel has approved the use of the R:C ratio, which include commodity costs. Elenchus' jurisdictional review shows that when utilities use the R:C ratio range of reasonableness they either target unity or close to unity, which Elenchus describes as a range smaller than 95 percent to 105 percent. While FEI argues that its circumstances may not be the same, the Panel notes that a 95 percent to 105 percent R:C ratio range of reasonableness would be larger than the R:C range of reasonableness for all of the utilities provided in Elenchus' jurisdictional review. The Panel also notes that EES Consulting states that FEI's COSA follows standard practice. In order to determine if FEI's COSA follows standard practice EES Consulting would have to compare FEI's approach to the approach of comparable utilities in other jurisdictions, while being aware of differing circumstances.
- Elenchus and EES Consulting use a consistent sample of Canadian natural gas utilities – Elenchus' jurisdictional review of range of reasonableness included all Canadian natural gas utilities included in EES Consulting's jurisdictional review of COSA Methodology. FEI argues that Elenchus' jurisdictional review is not comprehensive, but FEI has not provided any examples of natural gas utilities, other than PNG, that employ a R:C ratio range of 90 percent to 110 percent to support its position. The Panel considers that FEI's reference to PNG is circular in nature since FEI also states that its own 90 percent to 110 percent range possibly stemmed from a 90 percent to a 110 percent range established for PNG prior to FEI's proceeding.<sup>190</sup>
- Inappropriate to compare to electric utilities' range of reasonableness – the Panel also notes that in its Reply Argument, FEI provides examples of electric utilities in other jurisdictions that utilize a 90 percent to 110 percent range of reasonableness to support its point that this range is used in the industry. In contrast, in its final argument, FEI argues that the "precedents for a range of reasonableness of 95 percent to 105 percent in the case of BC electric utilities are not appropriate for natural gas utilities."<sup>191</sup>

On one hand FEI provides reasons why the range of reasonableness for BC electric utilities is inappropriate but on the other hand FEI has not stated why the range of reasonableness for electric utilities outside of BC is appropriate. The Panel places more weight on the evidence regarding the range of reasonableness for natural gas utilities in other relevant jurisdictions than it does for FEI's examples of electric utilities in other jurisdictions.

- Impact of rebalancing all rates to within the 95% to 105% – in determining an appropriate R:C ratio range of reasonableness to inform rate design, the Panel also considered the impact on customers if FEI were to rebalance all the rates to within the 95% - 105% range. The evidence shows marginal rebalancing would occur to bring all of FEI's rate schedules within the range of reasonableness.<sup>192</sup> In the

<sup>189</sup> Exhibit B-1, p. 6-21; p. 6-24; p. 6-26; p. 6-29; Table 6-17, p. 6-31; Appendix 6-4

<sup>190</sup> Exhibit B-5, BCUC IR 14.1, pp. 55-58.

<sup>191</sup> FEI Final Argument, p. 21.

<sup>192</sup> Exhibit B-15, BCUC Technical IR 7.2, pp. 18–21.

case of Fort Nelson there is the potential for some customers to experience larger rate impacts in 2018 if FEI were to rebalance all rates to within the 95% - 105% range of reasonableness. The Panel notes that such rate impacts can be mitigated as described by Elenchus in the Rate Design Report by spreading the full impact of the rebalancing over two or more years.<sup>193</sup> The Panel expects that proposals regarding rate impact mitigation will be submitted with any updates to this Application as a result of this Decision.

For the reasons outlined above, the Panel considers it appropriate to reduce FEI's current R:C ratio range of reasonableness of 90 percent to 110 percent to an R:C ratio range of reasonableness of 95 percent to 105 percent. This range is to be used to inform rate design and rebalancing proposals in the current Application. Since other considerations are made in rate design and rebalancing, FEI is free to propose whether or not they will rebalance rates.

As indicated by FEI, the Commission is not bound by historical precedent. The Panel agrees with FEI that the Commission should seek to be consistent in its decision making and should not vary its decisions arbitrarily. However, since FEI's circumstances have changed over time, the Panel considers it appropriate to place less weight on consistency. The Panel considers that the circumstances surrounding FEI's COSA studies have changed enough in the last 24 years to warrant a narrowing of the estimated the range of reasonableness to 95 percent to 105 percent.

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<sup>193</sup> Exhibit A2-10, p. 7.