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BY ELECTRONIC FILING

British Columbia Utilities Commission
Suite 410, 900 Howe Street
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Attention: Mr. Patrick Wruck
Commission Secretary and Manager, Regulatory Support

Dear Sirs/Mesdames:

Re: FortisBC Energy Inc. 2016 Rate Design Application

In accordance with the Regulatory Timetable set for this proceeding, we enclose for filing the electronic version of the Final Submission of FortisBC Energy Inc. on the remaining rate design topics in this proceeding.

Yours truly,

FASKEN MARTINEAU DuMOULIN LLP

Christopher Bystrom

Encl.

BRITISH COLUMBIA UTILITIES COMMISSION

**IN THE MATTER OF THE UTILITIES COMMISSION ACT,
R.S.B.C. 1996, CHAPTER 473**

and

**FORTISBC ENERGY INC.
2016 RATE DESIGN APPLICATION**

RATE DESIGN

**FINAL SUBMISSION OF
FORTISBC ENERGY INC.**

March 27, 2018

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PART ONE: INTRODUCTION

1. The FortisBC Energy Inc. (FEI) 2016 Rate Design Application (Application) filed on December 19, 2016 reflects a comprehensive and principled review of FEI's rate design. The Commission's review of the Application proceeded in three components.¹ First, following a Streamlined Review Process on FEI's cost of service allocation and revenue to cost ratios, the Commission issued Order G-4-18 which found that FEI's cost of service allocation (COSA) methodology generally follows standard utility practice, and included directions to FEI on a few specific topics. FEI filed amendments to its Application to reflect the directives in Order G-4-18, including the use of a R:C ratio range of reasonableness of 95 percent to 105 percent. Second, the Commission held a Streamlined Review Process on FEI's Transportation Service Review. The Commission indicated it would issue its decision on the Transportation Service Review as part of its overall Decision on the Application.² Third, the Commission ordered that all remaining elements of the rate design be heard by way of a written proceeding. This Final Submission addresses those remaining elements.

2. Over the course of the proceeding, FEI's detailed evidence in the Application has been supplemented by two workshops, three rounds of information requests, an additional round of technical questions related to COSA and revenue to cost ratios, and two streamlined review processes. The Commission also retained Elenchus Research Associates Inc. (Elenchus) to review FEI's Application.³ The results of Elenchus' review were filed in a COSA Report⁴ and a Rate Design report.⁵ Elenchus responded to a round of information requests on each report. Interveners elected not to file any evidence in this proceeding.

¹ Order G-109-17 dated July 18, 2017.

² Transcript Vol. 7, p. 820.

³ Exhibit A2-1.

⁴ Exhibit A2-2.

⁵ Exhibit A2-10.

3. Based on the evidence in this proceeding, the Commission can be confident that FEI's rate design proposals in the Application reflect standard utility practice and an appropriate balancing of rate design principles and considerations. FEI's proposed rate design is based on a COSA study that the Commission determined is consistent with standard utility practice. FEI reviewed the design of its rates considering rate design principles, government policy, stakeholder comments, jurisdictional comparisons, and a detailed analysis of load characteristics and other data. FEI presented its proposals and supporting analysis in detail in its Application and responses to information requests. EES Consulting Inc. (EES Consulting), an expert in public utility rate design matters, reviewed and assisted in developing the rate design for FEI. EES Consulting concluded that FEI's rate design proposals reflect rate design principles and are appropriate. Elenchus also conducted a review of FEI's rate design. The results of Elenchus' review confirm the reasonableness of FEI's rate design.

4. FEI requests that the Application be approved as filed. FEI's approvals sought are set out in the updated Draft Order filed as Appendix 1-2 of Exhibit B-1-5. Blackline versions of FEI's proposed General Terms and Conditions and Rate Schedules are included in Appendix 11-1 and 11-3, respectively. A Blackline version of the proposed Fort Nelson Gas Tariff is included in Appendix 13. Although FEI has estimated an effective date for its proposals to be in the fourth quarter of 2018, FEI requests that the implementation date for its rate design proposals be approved as part of its compliance filing in response to the Commission's Decision.⁶

5. The remainder of this Final Submission is organized as follows:

- In Part Two, FEI describes its comprehensive and principled approach to rate design.

⁶ Exhibit B-32, BCUC-FEI IR 3.91.1.

- In Part Three, FEI discusses how its Residential Rate Design strikes the right balance amongst competing rate design principles and considerations.
- In Part Four, FEI discusses how its Commercial Rate Design strikes the right balance amongst competing rate design principles and considerations.
- In Part Five, FEI discusses how its Industrial Rate Design strikes the right balance amongst competing rate design principles and considerations.
- In Part Six, FEI discusses how it has reasonably shifted revenues to rebalance rates to within the Commission-approved R:C range of reasonableness of 95 percent to 105 percent.
- In Part Seven, FEI sets out its proposed housekeeping and other amendments to its General Terms and Conditions and Rate Schedules.
- In Part Eight, FEI describes the merits of its rate design proposals for FEI's Fort Nelson Service Area (Fort Nelson). FEI's proposals to implement unbundled, flat rates for Fort Nelson similar to FEI's other service areas strikes the appropriate balance of rate design principles and considerations.
- Part Nine concludes this Final Submission.

PART TWO: FEI'S COMPREHENSIVE AND PRINCIPLED APPROACH TO RATE DESIGN

6. FEI's approach to rate design has been comprehensive and principled. As detailed below, FEI's rate design was informed by a robust stakeholder engagement process, detailed data analysis, government policy and a principle-based review of rates. FEI's rate design options and proposals were reviewed and guided by an external rate design expert, EES Consulting, and represent a careful balancing of relevant rate design principles and

considerations. FEI's rate design was also reviewed and confirmed by the Commission-retained rate design expert, Elenchus.

A. FEI's Rate Design Informed by Robust Stakeholder Engagement

7. FEI conducted a stakeholder engagement process prior to filing the Application. The process consisted of information sessions, stakeholder workshops, and a residential customer online survey for both FEI and Fort Nelson. FEI's stakeholder engagement process informed customers and other stakeholders about its current rate design and the potential rate design changes that FEI was considering. The workshops provided stakeholders with a forum to comment on and ask questions about FEI's rate design and potential rate design changes. Stakeholders were also provided the opportunity to bring rate design issues forward for FEI's consideration. In addition, FEI conducted a survey of residential customers regarding rate design preferences and understanding. FEI considered the comments and questions of stakeholders and the results of the residential survey in the rate design proposals set out in the Application. Details of FEI's stakeholder engagement process are presented in Section 4 and Appendix 4 of the Application and are also addressed in the context of FEI's rate design proposals throughout the Application.⁷

B. FEI Conducted Detailed Analysis in Support of its Rate Design

8. FEI's rate design is informed by detailed analysis. FEI conducted a COSA study consistent with standard utility practice to confirm that its rate schedules adequately recover their allocated cost of service. FEI's rate design was informed by detailed analysis of load characteristics, such as load factor, consumption levels, economic cross-over points, and other details, expressed in a variety of formats to assist in the visual evaluation of the data. FEI conducted jurisdictional comparisons to inform rate design options and proposals. FEI used this data to evaluate customer segmentation, alternative rate structures (i.e., flat versus declining

⁷ Exhibit B-1-5, Application, section 4.

or inclining block), the appropriate level of fixed versus variable charges, intra-class rate economics, the calculation of demand charges, transportation service balancing requirements, and other terms and conditions of service. Moreover, FEI responded comprehensively to information requests for further detail and analysis on rate design issues. In short, FEI's analysis laid a solid foundation for FEI's rate design and this analysis has been presented clearly and comprehensively in this proceeding.

C. FEI Considered Government Policy

9. FEI considered government policy as reflected in published government energy policy documents, and the legislation and regulations implementing those policies.⁸ One of the major developments since FEI's rate design proceeding in 2001 is the implementation of the provincial government's climate action and energy policies. 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.⁹ Another significant policy is government's support for postage stamp rates as detailed in section 5.4.4 of the Application. FEI's rate design policies are guided by these relevant government policies as discussed throughout the Application.

D. FEI Conducted a Principle-Based Review of Issues

10. FEI's rate design review and proposals are guided by the widely accepted rate design principles identified by Dr. Bonbright in his work, *Principles of Public Utility Rates*.¹⁰ The principles adopted by FEI, as previously articulated by the Commission are as follows:

- Principle 1: Recovering the Cost of Service; the aggregate of all customer rates and revenues must be sufficient to recover the utility's total cost of service

⁸ Exhibit B-1-5, Application, section 5.4.

⁹ Exhibit B-1-5, p. 5-3; Exhibit B-5, BCUC IR 1.5.1

¹⁰ Exhibit B-1-5, p. 5-2.

- 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)

11. EES Consulting concluded that “FEI has considered standard Bonbright principles in proposing the rates contained in the application.” Elenchus confirmed that FEI’s principles cover the same areas as the principles set out in the Second Edition of James Bonbright’s *The Principles of Public Utility Rates*.¹¹

12. FEI does not apply the eight principles above in any priority or with any particular weighting. Rather, as stated by FEI: “different rate design principles may have varying levels of importance in different contexts.”¹² Similarly, Elenchus states: “While there is no generally

¹¹ Exhibit A2-2, p. 9.

¹² Exhibit B-1-5, Application, p. 9-15.

accepted hierarchy for these principles, the relevance and weight given to the principles will vary with the particular circumstance and context of a regulatory application.”¹³

13. The evidence is clear that FEI has appropriately applied rate design principles in designing its proposals.

E. Proposals Guided and Reviewed by Rate Design Experts

14. EES Consulting, a third party expert in public utility rate design matters, was retained by FEI to review and assist in developing FEI’s COSA study and rate design. EES Consulting reviewed FEI’s rate design and concluded:

FEI has considered standard Bonbright principles in proposing the rates contained in the application. We believe that these principles are adequately maintained with the current FEI rate proposal.¹⁴

After reviewing the various rate design changes, we agree that they are appropriate.¹⁵

15. EES Consulting’s report, including a review of FEI’s COSA study and rate design, is attached as Appendix 6-1 to the Application.

F. FEI’s Rate Proposals Confirmed by Rate Design Experts

16. Elenchus was retained by the Commission to review FEI’s rate design proposals. Elenchus’ reports and responses to IRs revealed no material deficiencies in FEI’s Rate Design.¹⁶ Elenchus also endorsed EES Consulting’s work:¹⁷

¹³ Exhibit A2-2, p. 8.

¹⁴ Exhibit B-1, Appendix 6-1, p. 2.

¹⁵ Exhibit B-1, Appendix 6-1, p. 35.

¹⁶ Exhibit A2-10.

¹⁷ Exhibit A2-8, CEC-Elenchus IR 1.18.2.

Elenchus has reviewed the work of EES, FEI's consultant for this work, and has found the company's to be consistently competent and professional.

17. FEI submits that Elenchus' review of its Rate Design confirms that FEI has followed a principled approach to rate design that reflects industry practice.

G. FEI's Proposals Reflect an Appropriate Balance of Rate Design Principles and Considerations

18. Each of FEI's rate design proposals reflects a careful balance of complex rate design principles and considerations. FEI states:¹⁸

Rate design is a complex balancing process as it frequently requires the application of multiple, and sometimes conflicting, principles and the consideration of viewpoints from various stakeholders. In addition, different rate design principles may have varying levels of importance in different contexts. FEI, therefore, applies its experience and judgment to consider and balance the most relevant principles in a given context when identifying rate design issues and proposing rate design solutions. Rate design should strive to strike a balance among competing rate design principles based on specific characteristics of customers in each rate schedule.

19. Elenchus similarly stresses the balancing and application of judgment in rate design:¹⁹

It is inevitable that in applying these [Bonbright] 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.

20. The evidence in this proceeding, including the stakeholder engagement process, information requests, streamlined review proceedings, and Elenchus' review, have

¹⁸ Exhibit B-1-5, Application, p. 1-3.

¹⁹ Exhibit A2-2, p. 8.

demonstrated that FEI has exercised sound and reasonable judgment in balancing competing rate design principles and considerations.

PART THREE: RESIDENTIAL RATE DESIGN

A. Introduction

21. FEI conducted a full review of the rate design for the residential rate class, which takes service under RS 1, RS 1U, RS 1X and RS 1B (collectively referred to as RS 1). Based on the results of its review, FEI is seeking approval of a 5% increase in the Basic Charge and a corresponding decrease in the volumetric Delivery Charge, such that the change is revenue neutral within RS 1.

22. In the section below, FEI reviews the analysis showing that its proposed increase to the Basic Charge achieves a reasonable balance of rate design principles and considerations.

B. Increase in Basic Charge Achieves Reasonable Balance of Rate Design Principles and Considerations

23. While some principles and considerations support an increase to the Basic Charge, these are offset by conflicting considerations weighing against a significant increase in the Basic Charge. The rate design considerations supporting an increase to the Basic Charge are:

- **Intra-rate schedule fairness.** FEI's analysis of the mix of fixed and volumetric charges in RS 1 from the perspective of fairness between low and high consumption customers supports an increase in the basic charge.²⁰ The analysis shows that a consequence of holding the Basic Charge constant over the past years is that higher use customers are bearing a greater share of delivery

²⁰ Exhibit B-1-5, Application, section 7.5.1.

revenue requirement increases.²¹ An increase in the Basic Charge would help restore intra-rate schedule fairness.

- **Economic fairness (cost causation).** From a pure cost causation perspective, the Basic Charge should recover 100% of customer-related costs.²² Currently, the Basic Charge recovers about 44 percent of the customer-related costs.²³ A 5 percent increase in Basic Charge improves cost recovery of customer-related costs by approximately 2 percent.²⁴
- **Jurisdictional review.** Other Canadian gas utilities have a higher percentage of cost recovery through a basic charge.²⁵

24. However, other considerations support not making any increase, or any significant increase, to the Basic Charge:

- **Price signals encouraging energy efficiency and conservation.** Since the Basic Charge is fixed, it is not reduced by energy efficiency or conservations measures. Increasing the Basic Charge can therefore send price signals that are contrary to government policies in favour of energy efficiency and conservation.²⁶
- **Bill impacts and rate stability.** Increasing the Basic Charge would increase the bills for low volume customers and decrease the bills for higher volume

²¹ Exhibit B-1-5, Application, pp. 7-17 to 7-18.

²² Exhibit B-21, BCUC IR 2.65.4; Exhibit A2-10, Elenchus Rate Design Report, p. 10; Exhibit A2-13, BCOAPO-Elenchus IR 2.3.1. Note that demand-related costs should not be recovered through the Basic Charge. Rather, in the absence of demand meters on residential customers, it is most reasonable to recover demand-related costs through the volumetric charge.

²³ Exhibit B-1-5, Application, p. 7-17.

²⁴ Exhibit B-5, BCUC IR 1.18.3.

²⁵ Exhibit B-1-5, Application, Section 7.6; Exhibit A2-10, Elenchus Rate Design Report,

²⁶ Exhibit B-1-5, Application, section 5.4 and pp. 7-18 to 7-19.

customers.²⁷ Furthermore, increasing the Basic Charge would increase the bills for *all* customers to the extent that it causes low volume customers to leave the system. As indicated by Elenchus, maintaining a low fixed charge encourages customers with minimal volumes to stay connected.²⁸ Conversely, increasing the Basic Charge significantly could cause some low consumption customers to leave the system.²⁹ If low volume customers leave the system, it would result in net costs for other customers.³⁰

- **RSAM negates, in part, the need for high fixed charges.** A revenue stabilization or decoupling mechanism, such as the RSAM, helps ensure that the utility recovers its delivery revenues from residential and commercial rate classes. Using a mechanism such as the RSAM reduces or removes the disincentive that would otherwise exist for the utility to pursue conservation programs, without moving to fully fixed distribution rates.³¹

25. Consistent with FEI's proposal, Elenchus' analysis provides a rationale for having a Basic Charge that collects less than the full customer-related costs. Elenchus states:

It is extremely rare for residential natural gas customers to have meters that record their daily demand due to the high cost of this type of meter. As a result, it is not practical to implement the conceptually optimal three-part tariff structure (fixed basic connection charge, variable volumetric charge and variable demand charge). Consistent with the perception that monthly volumetric consumption is a reasonable proxy for demand, it follows that it is reasonable to recover demand-related costs through the volumetric charge. 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

²⁷ Exhibit B-1-5, Application, p. 7-25, Table 7-9.

²⁸ Exhibit A2-10, Elenchus Rate Design Report, pp. 10-11.

²⁹ Exhibit B-5, BCUC IR 1.6.2 and 1.18.2.

³⁰ Exhibit B-21, BCUC IR 2.64.3.

³¹ Exhibit A2-17, FEI-Elenchus IR 2.1.3.

monthly charge also serves to maintain customer connections even for customers with low demand. This approach is consistent with the marginal cost of serving connected customers (i.e., it is financially beneficial for a utility to encourage connected customers to continue to take service, even if their volume is minimal, and avoid having them discontinue natural gas service). ...³²

Conceptually, cost allocation principles imply that to reflect cost causality the fixed charge should mirror customer-related costs as identified in the cost allocation model, while variable energy and demand charges should reflect energy and demand-related costs. Nevertheless, rate-setting is also often influenced by value of service considerations that result in a lower fixed charge which keeps bills down for customers with below average demand. This approach can encourage increased penetration in terms of the number of customers connected although this is arguably accomplished by embedding a cross subsidy of low-volume users by the higher volume users in the same rate class.³³

26. In summary, FEI's proposal of a one-time 5 percent increase in the Basic Charge reflects a balanced proposal in light of all the relevant rate design principles and considerations. A one-time 5 percent increase in the Basic Charge and a corresponding decrease in the volumetric Delivery Charge will improve the cost recovery from low-consumption customers, while not being large enough to discourage customers from engaging in energy and efficiency measures or cause low consumption customers to disconnect from the system. The change will result in a less than one percent annual bill impact for the majority of customers, and zero bill impact for an average use customer.

C. Conclusion and Approval Sought

27. To implement its residential rate design proposal, FEI is seeking the following approvals related to Rate 1 as discussed in Section 7.8 of the Application:

³² Exhibit A2-10, Elenchus Rate Design Report, p. 10-11.

³³ Exhibit A2-10, Elenchus Rate Design Report, p. 13.

- Approval to increase the Basic Charge per Day by \$0.0195, from \$0.3890 to \$0.4085, to increase the proportion of fixed costs recovered by the Basic Charge; and
- Approval to decrease the Delivery Charge per GJ by \$0.086 to maintain revenue neutrality with the Basic Charge increase.

28. FEI submits that the evidence demonstrates that the above approvals reflect the most reasonable balance of rate design principles and considerations and should be approved as filed.

PART FOUR: COMMERCIAL RATE DESIGN

29. Based on the analysis of the existing rate design and rate structure options for commercial customers, FEI is proposing to continue with the flat rate structure and 2000 GJ per year customer segmentation threshold for its commercial customers in RS 2 and RS 3/RS 23. However, to minimize the rate inequity for customers close to the 2000 GJ threshold, FEI proposes to increase the Basic Charges for RS 2, RS 3 and RS 23, reduce the Delivery Charges for RS 2, and increase the Delivery Charges for RS 3 and RS 23. This change will eliminate the bill differential for customers whose annual consumption is close to the 2000 GJ threshold. As discussed below, this proposal is superior to the alternatives as it causes less disruption to customers, and is supported by cost causation. This proposal can be implemented with minimal bill impacts to customers.

A. Proposal Required to Correct the Misalignment between the 2000 GJ Threshold and the Economic Crossover Point

30. FEI's proposal to adjust the Basic Charges and Delivery Charges will correct the misalignment between the 2000 GJ threshold³⁴ and the economic crossover point between

³⁴ See Exhibit B-25, CEC-FEI IR 2.84.1 for the basis for the 2000 GJ threshold set in 1993.

large and small commercial customers. The economic crossover point between RS 2 and RS 3/RS 23 is the annual volume at which a customer would have the same annual total cost whether served under either RS 2 or RS 3/RS 23.³⁵ The economic cross-over point between RS 2 and RS 3/RS 23 is at approximately 1,400 GJ/year, which is 600 GJ less than the 2000 GJ threshold between small and large commercial customers.

31. There are three problems caused by the current misalignment, all of which would be corrected by FEI's proposal:

- **Inefficient Price Signals.** A misalignment between the threshold and the economic crossover point sends price signals to customers to engage in potentially inefficient behaviours to either increase or decrease consumption to achieve more favourable rates. For example, if the crossover point is lower than the threshold, as it is today, then customers close to the threshold have an incentive to increase their consumption to become RS 3 customers as that would be more favourable economically.³⁶ Alternatively, if the crossover point were to be higher than the threshold, customers close to the threshold would have an incentive to decrease consumption to become RS 2 customers.³⁷ If the threshold and economic crossover point are aligned, then these types of price signals are removed: for all volumes up to 2000 GJ, a customer will pay less under RS 2 and, for all volumes above 2000 GJ, a customer will pay less under RS 3.³⁸
- **Rate Instability.** The misalignment can cause rate instability to customers whose fluctuations in annual demand may occasionally cause them to move back and forth between the small and large commercial rate schedules. A commercial customer may experience a materially higher or lower rate due to an immaterial

³⁵ Exhibit B-1-5, Application, pp. 8-11 to 8-12.

³⁶ Exhibit B-1-5, Application, p. 8-12 and 8-16.

³⁷ Exhibit B-5, BCUC-FEI IR 1.22.4.

³⁸ Exhibit B-5, BCUC-FEI IR 1.22.3.

change in their annual demand.³⁹ The proposed rates improve rate stability for customers as the average cost for customers consuming at or near 2000 GJ per year will be the same.⁴⁰

- **Revenue Instability.** The misalignment can cause revenue stability due to customer movement between the small and large commercial rate schedules due to variations in customer consumption around the threshold. The proposed rates will reduce revenue changes due to movements between the rate schedules and provide an incentive for customers to receive service under the correct service offering.⁴¹

32. For these reasons, FEI's proposal is required to align the economic crossover point with the 2000 GJ threshold between small and large commercial customers.

B. FEI's Proposal Reflects Best Balance of Rate Design Considerations

33. FEI's proposal is to align the economic crossover point with the 2000 GJ threshold by simultaneously raising the Basic Charge for both RS 2 and RS 3/RS 23 and lowering the Delivery Charge for RS 2 and raising the Delivery Charge for RS 3/RS 23. These rate adjustments were determined with the constraint of achieving revenue neutrality for the combined RS 2, RS 3 and RS 23 revenues.⁴²

34. FEI's proposal is superior to the alternatives which would cause unnecessary and significant customer disruption. Alternatives to address the misalignment between the economic crossover point and the threshold would require lowering the threshold between RS 2 and RS 3/RS 23. The threshold could be as low as 1000 GJ, or potentially at 1400 GJ to match

³⁹ Exhibit B-1-5, Application, p. 8-16.

⁴⁰ Exhibit B-5, BCUC-FEI IR 1.22.3.

⁴¹ Exhibit B-5, BCUC-FEI IR 1.22.3.

⁴² Exhibit B-1-5, Application, p. 8-20.

the current economic cross over point. These alternatives are less desirable for a number of reasons:

- (a) **Disruption to Customers.** As shown in Tables 8-1 and 8-2 of the Application, moving the segmentation threshold down would result in significant changes to the annual energy, average customer use and customer load factor of the commercial rate schedules. For example, moving the annual energy threshold down to 1,400 GJ would move approximately 2,700 small commercial customers from RS 2 to RS 3/RS 23, resulting in an increase of approximately 41% in the number of customers and 17% in the energy in the large commercial group, and lead to a \$600 thousand net revenue shift to RS 3/RS 23. The significant customer disruption caused by moving customers between the commercial rate schedules is not supported by the rate design principles of rate and revenue stability.⁴³ This level of disruption is sufficient to rule out these alternatives.

- (b) **No Need to Change Threshold.** The evidence supports the continued use of FEI's 2000 GJ threshold between small and large commercial customers. The current 2000 GJ threshold has been in place since 1993⁴⁴ and the analysis of bill frequency and load factors presented in the Application shows that the 2000 GJ threshold remains reasonable.⁴⁵ While other thresholds could be acceptable based on the data, the analysis does not reveal any need to change the threshold. The multi-jurisdiction review of the commercial customer rates shows that FEI's current 2000/year threshold is within the range of thresholds used by other utilities.⁴⁶

⁴³ Exhibit B-1-5, Application, pp. 8-17 to 8-19.

⁴⁴ Exhibit B-5, BCUC-FEI IR 1.21.1.

⁴⁵ Exhibit B-1-5, Application, pp. 8-7 to 8-11

⁴⁶ Exhibit B-1-5, Application, p. 8-7.

(c) **A lower threshold would increase administrative burden, and increase movement between Commercial Rate Schedules causing more rate and revenue instability.** There are about 1250 more customers at or near the 1000 GJ consumption level than at the 2000 GJ per year consumption level. For this reason, reducing the threshold would cause FEI's annual customer review effort to quadruple, and more customers may experience rate instability from moving between RS 2 and RS 3 due to fluctuations in volumes.⁴⁷ Increased movement of customers would also negatively impact revenue stability.

35. Elenchus reviewed FEI's rate design proposal and agrees with FEI that:

adjusting the Basic and Delivery Charges for commercial customers instead of moving the threshold is the most reasonable rate design option since it will align with the economic crossover point without significant customer disruption.⁴⁸

36. FEI's proposal would align with the current 2000 GJ threshold and not cause customer disruption or increased movement of customers between the small and large commercial rate schedules. In addition to improving rate and revenue stability as discussed above, FEI's proposal to increase the Basic Charge for RS 2 and RS 3/RS 23 is supported by the rate design principle of cost causation, as it will increase the recovery of customer-related costs by the Basic Charge.⁴⁹

37. FEI's proposals were designed to minimize bill impacts to commercial customers.⁵⁰ Specifically, FEI's proposed changes were designed to: "minimize the revenue shift between small and large commercial rate schedules, eliminate any revenue shifts from commercial to other rate schedules, set maximum annual bill impact to any one customer to 10

⁴⁷ Exhibit B-11, CEC-FEI IR 1.35.1.

⁴⁸ Exhibit A2-11, FEI-Elenchus IR 2.12.3.

⁴⁹ Exhibit B-1-5, Application, pp. 8-21 to 8-22.

⁵⁰ Exhibit B-1-5, Application, p. 8-22 to 8-23.

percent and minimize the bill impact to customers consuming at the 2000 GJ per year level.”⁵¹ As a result, bill impacts to RS 3/23 will be zero to one percent and bill impacts to RS 2 will be from 2 to 10 percent increase. FEI does not expect any changes in customer behaviour as a result.⁵²

38. Given the considerations outlined above, FEI’s proposal is the most reasonable rate design solution. In summary, FEI’s proposal is in alignment with the eight Bonbright principles:⁵³

- **Principle 1:** Recovering the Cost of Service - the proposed rates will continue to recover the cost of service.
- **Principle 2:** Fair apportionment of costs among customers - the increase in the Basic Charges is more aligned with having appropriate cost recovery in rates.
- **Principle 3:** Price signals that encourage efficient use and discourage inefficient use - the rate structure will encourage customers to focus on efficient consumption as there will not be a gap in the average cost at and around 2000 GJ where it would encourage customers to consume more gas just to have a lower total bill (economic crossover consideration).
- **Principle 4:** Customer understanding and acceptance and **Principle 5:** Practical and cost-effective to implement - no changes are being recommended as the same rate structures are being proposed. Aligning the economic crossover point with the 2000 GJ threshold should increase customer understanding and acceptance.

⁵¹ Exhibit B-5, BCUC-FEI IR 1.23.3. Also see BCUC-FEI IR 1.23.2.

⁵² Exhibit B-5, BCUC IR 1.24.1.1.

⁵³ Exhibit B-5, BCUC-FEI IR 1.23.2.

- **Principle 6:** Rate stability and **Principle 7:** Revenue stability – The proposed rates will improve rate stability for customers and revenue stability for the utility, as the average cost at consumption levels near the threshold will be about the same and customers will be incented to receive service under the correct service offering, resulting in less customer movement and disruption between rate schedules.
- **Principle 8:** Avoidance of undue discrimination - will be improved as the interclass equity will be enhanced as customers who consume approximately 2000 GJ will have, approximately, the same cost.

C. Conclusion and Approvals Sought

39. To implement its commercial rate design proposal, FEI is requesting the following approvals.

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

40. FEI submits that the evidence demonstrates that the above approvals reflect the most reasonable balance of rate design considerations and should be approved as filed.

PART FIVE: INDUSTRIAL RATE DESIGN

41. FEI's rate design for industrial customers considers the following sets of rate schedules:

- (a) General Firm Service (RS 5 and RS 25)
- (b) Interruptible Service (RS 7 and RS 27)
- (c) Seasonal Service (RS 4)
- (d) Large Industrial (RS 22, RS 22A, RS 22B, and special contract customers)

42. FEI's proposed rate design changes for each of the above rate schedules are addressed in the subsections below.

A. General Firm Service (RS 5 and RS 25) Rate Design

(a) Introduction

43. RS 5 and RS 25 are General Firm Service rates for sales and transportation customers, respectively. FEI is proposing the following two adjustments to RS 5 and 25:⁵⁴

- Update the multiplier in the Demand Charge from 1.25 to 1.10 to more accurately estimate the peak Daily Demand of customers.
- Increase the Demand Charge by \$3.00 to continue the incentive for low load factor customers to take service under Large Commercial RS 3/RS 23 rather than General Firm Service RS 5/RS 25.

44. These changes will improve the accuracy of the determination of the customer peak daily demand for billing purposes, and set rates to incentivize customers to take service under the appropriate rate schedule, i.e., General Firm Service or Large Commercial Service.

⁵⁴ Exhibit B-1-5, Application, p. 9-23 to 9-24.

These changes will also send the correct pricing signal for the service being provided and appropriately recover the cost of service.⁵⁵ Each of the proposals is discussed below.

(a) Proposal 1: Peak Day Demand Estimate

45. FEI's proposal to update the multiplier in the formula in RS 5 and RS 25 is required because the current formula overestimates a customer's peak day demand (or Daily Demand). For purposes of calculating the Demand Charge, RS 5 and RS 25 estimate a customer's peak Daily Demand through a formulaic calculation that includes a 1.25 multiplier to estimate peak Daily Demand from peak monthly demand. The peak Daily Demand is the billing determinant to which the Demand Charge is applied. The proposed update to the formula will align the estimated peak Daily Demand with measured peak Daily Demand data, without producing anomalous results that could result in some customers paying no demand charge. FEI's proposal is also easy to understand and implement and has the least impact on customers. The rate design considerations in support of FEI's proposal are set out below.

FEI's Proposal Will Improve the Estimate of a Customer's Peak Daily Demand

46. FEI's proposal is required to improve the estimate of a customer's peak Daily Demand for calculating the demand charge in RS 5 and RS 25. The current RS 5/RS 25 formula to estimate a customer's peak Daily Demand was established during the 1996 Rate Design, when daily consumption quantities were not available for all customers. In the absence of this data, a Daily Demand formula was created to estimate a customer's peak consumption.⁵⁶ The formula grosses up the customer's highest daily average usage derived from monthly billing

⁵⁵ Exhibit B-5, BCUC-FEI IR 1.27.2.

⁵⁶ Exhibit B-1-5, Application, p. 9-13.

data by a factor of 1.25 to estimate their peak day consumption within their peak month usage.⁵⁷

47. The daily consumption figures that are available today for all RS 5 and RS 25 customers⁵⁸ show that the current formula overestimates the peak day demand for the majority of RS 5 and RS 25 customers. As shown in Table 9-6 of the Application, for approximately 450 of the 774 customers (those with a load factor >50%), the current method using a 1.25 multiplier yields an average Daily Demand that is 46% higher than the actual average consumption on the five coldest days.⁵⁹

48. The primary reason why the current multiplier overestimates the peak Daily Demand of customers is likely that detailed data was not available at the time the multiplier was initially developed. However, FEI also noted that the number of customers taking service under RS 5 and 25 has tripled since the 1.25 multiplier was adopted. As a result, changes in the demand profiles of RS 5 and RS 25 customers may explain why the 1.25 multiplier is now too high.⁶⁰

49. Overestimating customers' peak Daily Demand does not result in the fair apportionment of costs among RS 5 and RS 25 customers, and may distort the price signals for efficient use intended by the Demand charge.⁶¹ FEI's proposal is therefore required to adjust the formula to improve the alignment of RS 5 and RS 25 with rate design principles.

⁵⁷ The formula in RS 5 and RS 25 is: "Daily demand is equal to 1.25 multiplied by the greater of a) the Customer's highest average daily consumption of any month during the winter period (November 1 to March 31), or one half of the Customer's highest average daily consumption of any month during the summer period (April 1 to October 31)."

⁵⁸ Exhibit B-5, BCUC IR 1.27.2.

⁵⁹ Exhibit B-1-5, Application, pp. 9-13 to 9-14.

⁶⁰ Exhibit B-5, BCUC IR 1.27.2.

⁶¹ Exhibit B-1-5, p. 9-15 to 9-16

FEI's Proposal is Superior to Alternatives

50. FEI's proposal to adjust the multiplier in the formula is superior to alternative solutions. Specifically, FEI evaluated five options for estimating peak day demand and concluded that the option of updating the multiplier was the most reasonable option. The five options considered were:

1. Status Quo/Current Formula – Continue to use the current Daily Demand formula with the 1.25 multiplier.
2. FEI System Maximum Day Send Out – Use the customer's actual consumption that occurred on the same day as FEI's maximum daily send out.
3. Average Consumption on 3 or 5 Coldest Days in Region – Use the customer's actual average daily consumption over the 5 coldest days for their region.
4. Modified Formula – Use the greater of the customer's average consumption on the five coldest days for their region or one half of the average summer maximum day (as in the current formula method).
5. Current Formula with Updated Multiplier – Use the Current Formula method, but update the current 1.25 multiplier to align with the customer groups' coincident daily usage under peak weather conditions (5 coldest days for their region) for each customer.⁶²

51. FEI's proposal (Option 5 - Current Formula with Updated Multiplier) is the best option for a number of reasons. FEI has described these reasons in Table 9-10 of the Application. The key reasons are:

- **Updates Daily Demand based on measured peak daily demand:** FEI's proposal takes advantage of the actual daily demand data that is now available by updating the multiplier to align with the measured daily demand of all General Firm customers during the 5 coldest days of the year. While the multiplier is based on all General Firm customers' daily demand, rather than individual

⁶² Exhibit B-1-5, Application, p. 9-16 to 9-17.

customers, this avoid the complexity and anomalous results produced when attempting to use individual customer peak demand as noted in the bullets below.⁶³

- **Minimizes anomalous results:** FEI's proposal will increase rate and revenue stability by producing fewer anomalous results than the alternatives. This is because the alternatives use individual customer's peak demand, which results in anomalous results that understate a customer's peak demand due to reduced demand on Sundays, statutory holidays or short term seasonal holidays, such as the Christmas / New Year period when some customers would have reduced operations. An anomalous outcome could allow a customer to receive firm service at a significantly reduced cost, at the expense of all other non-bypass customers.⁶⁴ FEI's proposal removes anomalous results by relying on the peak demand of all General Firm customers, rather than the data of individual customers.⁶⁵
- **Easy to Understand and Implement:** Other than the adjustment to the multiplier, FEI's proposed method uses the current formula, which has been used for many years and is understood by customers. The rate calculation is understandable and it is easy to implement. Further, 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.⁶⁶
- **Least Bill Impact.** FEI's proposed option has the least annual bill impact.⁶⁷

⁶³ Exhibit B-1-5, Application, Table 9-10.

⁶⁴ Exhibit B-11, CEC-FEI IR 1.42.1; Exhibit B-5, BCUC-FEI IR 1.29.1.

⁶⁵ Exhibit B-1-5, Application, Table 9-10.

⁶⁶ Exhibit B-1-5, Application, p. 9-20.

⁶⁷ Exhibit B-11, CEC-FEI IR 1.40.2.

52. For these reasons, FEI's proposal reflects the best balance of rate design considerations.

(b) Proposal 2: Economic Incentive for High Load Factor Customers

53. FEI also proposes to raise the RS 5 and RS 25 Demand Charge by \$3.00 per month per GJ of Daily Demand to continue to provide an incentive for only high load factor customers to receive service under RS 5/RS 25. Based on the load factors of FEI's customer segments, a 40 percent load factor is the minimum economic threshold for RS 5 and RS 25, with some exceptions.⁶⁸ An increase in the Demand Charge is required to maintain price signals to incentivize customers to take service under the appropriate Rate Schedules and to maintain cost recovery. FEI's proposal is superior to the alternative methods considered, and has minimal bill impacts to customers.

Raising Demand Charge Required to Maintain Price Signals and Cost Recovery

54. FEI's proposed change is required to maintain the existing incentive for only high load factor customers to receive service under RS 5 or RS 25. In general, a commercial customer with a load factor less than 40 percent should be better off taking service under RS 3 or RS 23. FEI's proposed change to the calculation of the Daily Demand formula in RS 5 and RS 25 and to the charges in RS 3 RS 23 will change the economic cross over points between the RS 3/RS 23 and RS 5/RS 25. FEI's 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.⁶⁹

55. As shown in Table 9-13 of the Application, FEI's proposal to increase the Demand Charge by \$3.00 increases the economic crossover point such that there would be relatively few

⁶⁸ Exhibit B-25, CEC-FEI IR 2.74.1

⁶⁹ Exhibit B-1-5, Application, p. 9-20 to 9-23.

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. 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 because of the increased volume it takes to reach the point of indifference when the annual bill would be the same under large commercial service or general firm service.⁷⁰

Raising Demand Charge Superior to Alternative Solutions

56. FEI considered four options for ensuring there is an appropriate economic incentive for lower load factor customers to continue to take service under RS 3 or RS 23 rather than RS 5 or RS 25. FEI's evaluation of these options was as follows:⁷¹

1. Change the Basic Charge – raising the Basic Charge will mostly incent low volume customers to take service under Large Commercial RS 3/RS 23, but would not target customers with a low load factor. This is because the Basic Charge is a fixed monthly charge independent of the monthly or annual demand or the load factor of the customer.
2. Change the Delivery Charge – raising the Delivery Charge will affect all customers based on their total demand without regard to the customer's load factor. This will encourage more customers with a high load factor to migrate to Large Commercial which is not the intent of the change that is required.
3. Remove the Demand Charge - removing the demand charge from RS 5/RS 25 (as suggested by a stakeholder during the stakeholder engagement workshop) would remove the mechanism that rewards more efficient system utilization by higher load factor customers. RS 5 and RS 25 were designed to serve high load factor customers.
4. Change the Demand Charge – raising the Demand Charge will more directly incent low load factor customers to take service under Large Commercial RS 3/RS 23.

⁷⁰ Exhibit B-1-5, Application, p. 9-20 to 9-23. See Exhibit B-5, BCUC-FEI IR 1.31.2 for Corrected Tables 9-7 and 9-8.

⁷¹ Exhibit B-1-5, Application, p. 9-21 to 9-22.

57. FEI's proposal to increase the demand charge is the only mechanism of the above alternatives that is consistent with the purpose of RS 5 and RS 25 and that would improve the incentive for customers whose load factor is less than 40 percent to take service under RS 3 or RS 23, rather than RS 5 or RS 25.

58. No other viable options were identified in the proceeding. Information requests explored other potential options involving different load factors or lower changes to the demand charge. Each of these options was shown not to be feasible.⁷² The option of adding a minimum load factor is addressed below.

Minimum Load Factor would be Redundant, an Unnecessary Administrative Burden and have Negative Impacts on Customers and FEI

59. Adopting 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.

60. First, the addition of a minimum load factor is redundant and unnecessary. While using a minimum load factor would give customers an incentive to maintain a higher load factor (or manage peak demand use) to qualify for the higher load factor rate,⁷³ customers already have this incentive due to the demand charge in RS 5 and RS 25.

61. Elenchus agreed with this analysis, stating:

Elenchus agrees with EES Consulting that since FEI's industrial rates include a demand charge that already takes into account differing load factors by rate group, as a result, load factor is not necessary to segment customers even further in the industrial rate group.⁷⁴

⁷² E.g., Exhibit B-11, CEC-FEI IR 1.44.2 to 1.44.3.1.

⁷³ Exhibit B-5, BCUC-FEI IR 1.30.2.

⁷⁴ Exhibit A2-16, CEC-Elenchus IR 2.29.1.

62. Second, a minimum load factor has numerous disadvantages. These were described by FEI as follows:⁷⁵

- The load factor threshold is somewhat arbitrary and customers that fall just under the threshold are penalized by being grouped along with low load factor customers.
- 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.
- Customers can be incited to ‘flare’ gas (i.e. use gas unnecessarily or inefficiently) in off-peak period 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.
- Load factors can change from year to year, which may require customers to be moved to different rates from year to year leading to increased administrative burden and rate instability.
- The addition of a load factor threshold would have significant impacts on some customers.

63. Third, implementing a minimum load factor would impose additional burdens on both FEI and customers. Using a minimum load factor 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. The review of customer accounts to see if

⁷⁵ Exhibit B-5, BCUC-FEI IR 1.30.2.

customers continue to meet the criterion and if the customers should be transferred to another rate schedule would create unnecessary additional work for both FEI and the customer.⁷⁶

64. Elenchus similarly described the impacts of introducing a minimum load factor:

The introduction of a minimum load factor as a new criteria to be classified into a rate class can cause customers to have to be reclassified into a different customer class, if they do not meet the new minimum load factor requirement. This would impact the utility's customer classification, utility's billing process and customer understanding and acceptance of the new minimum load factor requirement and the resulting customer reclassification. It may also have bill impact for the customer resulting from the reclassification that are related to differences other than the load factor differences that are addressed by demand charges (e.g., the subclasses may have other cost difference, in which case it would be preferable to base subclasses on the more relevant cost factors, such as annual volume or peak demand).⁷⁷

65. In summary, 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. There is no reasonable basis to introduce a minimum load factor in RS 5 and RS 25.

(c) Combined Impacts on Customers Will Be Minimal

66. If both proposed changes to RS 5 and RS 25 are considered (i.e., a 1.10 multiplier and the higher demand charge), the annual demand charges for these customers will be almost the same as under the current formula. Overall, the net bill impact of these changes is an additional \$45.2 thousand which is offset by revenue shifts to RS 1 in FEI's proposal.⁷⁸ FEI therefore does not anticipate any additional migration of customers either into RS 5/RS 25 or out of RS 5/RS 25.⁷⁹

⁷⁶ Exhibit B-5, BCUC-FEI IR 1.30.3.

⁷⁷ Exhibit A2-16, CEC-Elenchus IR 2.29.2.

⁷⁸ Exhibit B-1-5, Application, Table 12-2, Page 12-5.

⁷⁹ Exhibit B-5, BCUC-FEI IR 1.27.4.

(d) Conclusion and Approval Sought

67. FEI's proposal to update the multiplier from 1.25 to 1.10 in the Daily Demand formula will more accurately estimate peak day demand of RS 5 and RS 25 customers.⁸⁰ FEI's proposal to increase the Demand Charge by \$3.00 will send the appropriate price signals so that only high load factor have an incentive to take service under RS 5 and RS 25. FEI's analysis shows that these rate design solutions reflect the best balance of relevant rate design principles and considerations.

68. To implement its proposals, FEI is requesting:

- 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, as discussed in Section 9.5.

69. FEI submits that the proposal should be approved as filed.

B. General Interruptible Service (RS 7 and 27) Rate Design

(a) Introduction

70. FEI's review of General Interruptible Service shows that the existing discount from RS 5 and RS 25 achieves a reasonable balance between (i) maximizing the economic value of interruptible service to offset utility costs to firm customers, and (ii) providing a sufficient incentive for existing customer to stay on interruptible service and to encourage new customers to sign up for interruptible service.⁸¹ As FEI is proposing changes to RS 5 and 25, FEI is proposing to update the existing method of calculating delivery charges for RS 7 and RS 27 to keep the same discount from General Firm Service.

⁸⁰ Exhibit B-1-5, pp. 9-19 to 9-20 and p. 9-24

⁸¹ Exhibit B-1-5, Application, p. 9-30.

71. In the subsections below, FEI describes why RS 7 and RS 27 are set at an appropriate discount to the General Firm Service and then describes its proposal to maintain the same discount taking into account the changes to RS 5 and RS 25.

(b) RS 7 and RS 27 Reflect Appropriate Balance of Rate Design Principles

72. FEI's RS 7 and RS 27 are set at an appropriate discount to General Firm Service. The theoretical and evidentiary basis for this conclusion can be summarized as follows:

- **Customer Costs of Interruptible Service are Key:** From the customer's perspective, 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 and fuel that can be used or the cost from ceasing operations.⁸² Elenchus agrees, stating: "the risk of interruption is a relevant consideration in setting rates. The constraints on the frequency and duration of interruptions is a key determinant of the value of interruptible service for both the utility and customers."⁸³
- **Price Signal needs to be Set at the Right Level:** Setting the discount either too high or too low would send the wrong price signals and could cause rate and revenue instability for customers and FEI, respectively. If the discount is too low, this may discourage new customers from considering interruptible service and may also cause existing interruptible customers to migrate to firm service, causing FEI to incur costs to serve a higher peak demand. If the discount is too high and if the expected level of curtailment is very low, too many customers

⁸² Exhibit B-1-5, Application, p. 9-24; Exhibit B-11, CEC-FEI IR 1.47.1.

⁸³ Exhibit A2-11, BCUC-Elenchus IR 2.14.2.

with firm service may elect to contract for interruptible service, which would decrease FEI's revenue but not FEI's fixed costs.⁸⁴

- **Minimal Migration Activity:** The lack of migration activity is strong evidence that the discount is sending the correct price signals. FEI has experienced no unusual or unanticipated migration activity from firm to interruptible or interruptible to firm that would suggest the rates are either too high or too low.⁸⁵ Migration activity of existing customers between firm and interruptible is not desirable.⁸⁶ For example, if all interruptible customers and volumes moved to firm service, the incremental capital cost of the transmission and distribution system upgrades needed would be approximately \$134 million, resulting in an additional revenue requirement of \$10.4 million. Approximately only 22% of this incremental cost of service would be offset by additional revenues from the previously-interruptible customers now paying higher firm service rates.⁸⁷
- **Value for Service.** RS 7/RS 27 customers continue to receive value for service. FEI evaluated the interruptible discount against the level of service disruption that RS 7/RS 27 interruptible customers experience. Over the past twenty years, interruptible customers have experienced a total of approximately 19.5 days of capacity curtailment. On average, the annual curtailment is about one day per year.⁸⁸
- **Net Savings for other Non-Bypass Customers.** 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. The value to all customers

⁸⁴ Exhibit B-1-5, Application, p. 9-29; Exhibit B-11, CEC-FEI IR 1.47.2.

⁸⁵ Exhibit B-1-5, Application, p. 9-29; Exhibit 22-1, BCOAPO-FEI 2a.4.2.

⁸⁶ Exhibit B-11, CEC-FEI IR 1.47.2.

⁸⁷ Exhibit B-8, BCOAPO-FEI IR 1.9.2(b).

⁸⁸ Exhibit B-1-5, Application, p. 9-29.

of the avoided cost of service from RS 7/RS 27 interruptible customers is approximately \$0.04 per GJ, or a net annual benefit of approximately \$5 million.⁸⁹

73. Elenchus' analysis supports FEI's method of providing interruptible service at a discount. While Elenchus did not observe other utilities that *explicitly* set interruptible rates based on a discount from firm rates, Elenchus noted it must be an implicit consideration: "The discount from their firm rates must be an implicit consideration, since there will be no take-up for the service unless the discount is sufficient to make it attractive to customers."⁹⁰

74. Elenchus states the following in its rate design report:⁹¹

Interruptible rates are designed with the primary purpose of controlling load factor for the utility. Customers who have the capability to maintain operations during gas service curtailments, or are prepared to discontinue operations, are provided the option of contracting for interruptible natural gas service. Interruptible gas services are provided at a lower rate than the equivalent firm service. By designing the system to meet only the lower firm design day requirements all utility customers benefit from the reduced capital cost and a more efficient system than if all customers were served on a firm basis.

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. At the same time, it benefits other customer classes to charge the highest rate for interruptible service that results in the optimal volumes being contracted as interruptible service. The value of interruptible service for both the utility and the customer depends on the detailed terms and conditions. [Emphasis added.]

⁸⁹ Exhibit B-1-5, Application, p. 9-29 to 9-30; Exhibit B-8, BCOAPO-FEI 1.9.2(a).

⁹⁰ Exhibit A2-11, BCUC-Elenchus IR 1.15.1.

⁹¹ Exhibit A2-10, p. 25.

75. As described above, the evidence shows that RS 7 and RS 27 are set at an appropriate discount to the General Firm Service. FEI therefore proposes to maintain the existing level of discount.

(c) Update Required to Maintain Existing Discount

76. FEI is proposing changes to RS 7 and RS 27 to preserve the discount between the firm and interruptible rate given the rate design changes to General Firm Service.

77. The changes to the Daily Demand formula in RS 5 and RS 25 will cause the load factor of RS 5 and RS 25 customers to increase compared to the load factor under the existing Daily Demand formula. For example, an RS 5 or RS 25 customer who has a 100% Load Factor will have an effective load factor of 90.9% due to the 1.1 multiplier ($100\% / 1.1$). Therefore, to preserve the discount between the firm and interruptible rate:

- the load factor of 55% used in the RS 7/RS 27 calculation⁹² needs to be increased to 62.5% ($55\% / 80\% = x\% / 90.9\%$, where x equals 62.5%);
- the firm equivalent⁹³ to which the RS 7/RS 27 charge is compared must also be increased by the 1.1/1.25 multiplier change in order to have an apples-to-apples comparison (i.e., a 55% load factor customer is now a 62.5% load factor customer; a 80% load factor customer is now an 90.9% load factor customer).

78. These changes will maintain the existing discount between General Firm Service and Interruptible Service. Maintaining the existing discount for interruptible service is appropriate as it avoids shifts of customers from firm to interruptible, or vice versa. As noted above, movement of existing customers between firm and interruptible service is not favourable. If interruptible customers move to firm service, FEI will have to incur additional

⁹² Exhibit B-1-5, Application, Table 9-17, Line 1.

⁹³ Exhibit B-1-5, Application, Table 9-17, Line 3 and Table 9-20, Line 6.

system costs to serve a higher peak demand. On the other hand, if existing firm service customers move to interruptible service, this will decrease FEI's revenues but not decrease FEI's fixed costs as investments in the system have already been made.⁹⁴ For this reason, FEI's proposal to keep the existing discount from General Firm Service reflects that best balance of rate design principles and considerations.

(d) Conclusion and Order Sought

79. 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 as shown in Table 9-20 and discussed in Section 9.6 of the Application. FEI submits that the rate design changes to RS 7 and 27 should be approved as filed.

C. Seasonal Firm Service (RS 4) Rate Design

(a) Introduction to RS 4

80. RS 4 serves the unique needs of seasonal customers who typically do not use natural gas during the winter and thus do not contribute to FEI's system peak demand. RS 4 charges are derived from the charges in RS 5 and RS 7:⁹⁵

- During the Off-Peak Period seasonal customers receive firm sales service. The Off-Peak period Delivery Charge has been derived from the RS 5 Demand Charge converted to a volumetric rate at a 100% load factor, plus the RS 5 Delivery Charge.
- From November 1 to March 31 (referred to in RS 4 as the Extension Period), seasonal customers receive only interruptible sales service. For the Extension Period, the RS 4 Delivery Charge is the RS 7 Delivery Charge times 1.5.

⁹⁴ Exhibit B-11, CEC-FEI IR 1.47.2 and 1.48.1.

⁹⁵ Exhibit B-1-5, Application, pp. 9-33 to 9-44.

81. The subsections below address how RS 4 continues to reflect an appropriate balance of rate design principles and that RS 4 must be updated due to the rate design changes to RS 5 and RS 7.

(b) RS 4 Reflects Appropriate Balance of Rate Design Principles

82. FEI proposes to continue with the existing method for determining RS 4 Delivery Charges as it reflects an appropriate balance of rate design principles.

83. Customers served under RS 4 require and receive seasonal service and are not receiving service during the coldest peak periods of the winter. Therefore, in alignment with the Bonbright principle to fairly allocate costs to customers, 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.⁹⁶

84. For the Off-Peak Period, seasonal customers require firm service and are therefore charged a firm rate based on the RS 5 Demand Charge plus Delivery Charge. Since the Seasonal customers do not contribute to the System Peak which occurs in the Extension Period, the RS 4 Off-Peak rate is discounted from the RS 5 firm rate by using a 100% Load Factor equivalent rate.⁹⁷

85. During the Extension Period the seasonal Delivery Charge is set at 1.5 times the delivery charge for the RS 7 General Interruptible Service rate. 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. That is, interruptible service customers that use gas throughout the winter period with rare curtailment during the Peak Demand Period are not the same as seasonal

⁹⁶ Exhibit B-1-5, Application, p. 9-45.

⁹⁷ Exhibit B-1-5, Application, p. 9-45.

customers who do not use gas during the coldest winter months. This pricing methodology provides the price signals to incent customers to take service under the appropriate rate schedule service offering of General Firm or General Interruptible or Seasonal Service.⁹⁸

86. No concerns were raised with respect to RS 4 in FEI's stakeholder consultation or during the proceeding.

(c) Update Required to Reflect Changes to RS 5 and RS 7

87. The RS 4 charges need to be updated to reflect FEI's proposed changes to the RS 5/RS 25 Demand Charge and RS 7/RS 27 Delivery Charge.⁹⁹ The consequence of flowing through the changes to the RS 5 and RS 25 Demand Charge and the RS 7 and RS 27 Delivery Charge are that the RS 4 Delivery Charge during the Off-Peak period is increased by \$0.114 per GJ to \$1.392 per GJ and the rate in the Extension Period decreases by \$0.018 per GJ to \$2.165 per GJ. The bill impact of the proposed Delivery Charges is to increase the revenues received from the Seasonal customers by \$13.3 thousand, or approximately 2 percent.¹⁰⁰ These changes are required to maintain the appropriate rate design for RS 4 in light of the changes to RS 5 and 25 and RS 7 and 27.

(d) Conclusion and Order Sought

88. To implement the changes, FEI is requesting approval to increase RS 4 rates due to the proposed changes to RS 5 and RS 7 as shown in Table 9-21 and discussed in Section 9.7 of the Application, by increasing the Off-Peak Delivery Rate by \$0.114/GJ and by decreasing the Extension Period Rate by \$0.018/GJ. FEI submits that the RS 4 rate design changes should be approved as filed.

⁹⁸ Exhibit B-1-5, Application, p. 9-45.

⁹⁹ Exhibit B-1-5, Application, pp. 9-35 to 9-36.

¹⁰⁰ Exhibit B-1-5, Application, pp. 9-35 to 9-36.

D. Large Volume Transportation Service (RS 22 and Contract Customers) Rate Design

(a) Introduction

89. For FEI's Large Volume Transportation Service, FEI is proposing 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. The two customers served under special contracts are British Columbia Hydro and Power Authority Island Generation (BC Hydro IG) and the Vancouver Island Generation Joint Venture (VIGJV). FEI's proposed RS 22 charges are an improvement from the status quo, which consists of value of service RS 22 interruptible rates, an option to negotiate a firm RS 22 rate, one negotiated value of service RS 22 firm rate for Creative Energy, and individually negotiated special contracts with the BC Hydro IG and VIGJV. RS 22 customers, the VIGJV and BC Hydro IG are similar and FEI's proposed RS 22 firm and interruptible rates will be based on costs allocated in the COSA and result in rates similar to the existing rates for RS 22 customers, BC Hydro IG, and VIGJV.

90. The following sections describe the continued grandfathering of RS 22A and 22B, the concerns with the status quo for non-grandfathered large industrial customers and the merits of FEI's proposed cost-based RS 22 firm and interruptible rates.

(a) Continued Grandfathering RS 22 A and B

91. FEI proposes to continue to grandfather RS 22A and 22B that have been closed service offerings since 1993 given their unique characteristics.¹⁰¹

92. The service under RS 22A and RS 22B is primarily firm service with a small component on an interruptible basis. The RS 22A and RS 22B rate structure is comprised of fixed monthly charges which include a Basic Charge and an Administration Charge per month in addition to the firm and interruptible delivery charges. The firm delivery charges are comprised

¹⁰¹ Exhibit B-1-5, Application, p. 9-38 to 9-39.

of a firm demand charge per month per GJ of Firm DTQ and a firm volumetric delivery charge per GJ of Firm MTQ delivered per month. The pricing for interruptible service is volumetric per GJ on any volumes over the firm MTQ and set at a premium of firm service prices to encourage customers to maintain their Firm DTQ. There is no minimum delivery volume for RS 22A or RS 22B, but these rate schedules have a firm daily Demand Charge and the minimum firm contracted capacity of these customers is currently above 12000 GJ per month.¹⁰²

93. RS 22A and RS 22B are only available to large industrial customers that were receiving transportation service prior to 1993 in the Inland Service Area and Columbia Service Area, respectively.¹⁰³ Both Rate Schedules were closed by the Commission, citing “the many special circumstances and negotiated agreements underlying the existing rates for these interior customers”.¹⁰⁴ FEI proposes to continue this treatment.

(b) Concerns with Status Quo for Non-Grandfathered Large Industrial Customers

94. Non-grandfathered large industrial customers consist of the VIGJV and BC Hydro IG and RS 22 customers, including Creative Energy.

95. BC Hydro and the VIGJV each have individually negotiated special contracts. The rate structure for these two customers does not have a Basic Charge or Administration Charge per month like RS 22, RS 22A and RS 22B. The rate structure is comprised of a firm demand toll expressed in dollars per GJ of contract demand per day and the interruptible rates are expressed in dollars per GJ on any volumes consumed on a daily basis over their firm daily contracted capacity or contract demand per day. Unlike RS 22 customers, the VIGJV and BC Hydro IG are currently responsible for a portion of system gas, which includes line heater fuel, compressor fuel and unaccounted for gas, associated with transporting gas to Vancouver Island

¹⁰² Exhibit B-1-5, Application, p. 9-42.

¹⁰³ Exhibit B-1-5, Application, pp. 9-38 to 9-39.

¹⁰⁴ Exhibit B-1-5, Application, pp. 9-39.

and the Sunshine Coast. The VIGJV and BC Hydro IG are also charged a commodity toll for odorant and motor fuel tax.¹⁰⁵ 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.¹⁰⁶

96. The current interruptible rates for RS 22 and the firm rate for Creative Energy are value of service rates based on a discount from RS 5 and RS 25.¹⁰⁷ RS 22 is comprised of a Basic Charge and an Administration Charge per Month, in addition to the interruptible Delivery Charge per GJ.¹⁰⁸ If an RS 22 customer wishes to receive firm service, a tariff supplement is negotiated and submitted to the Commission for approval on a contract-by-contract basis. Creative Energy is the only current RS 22 customer with firm service. Creative Energy's firm rate was approved by Order G-128-05, subject to review in the next FEI rate design proceeding. The RS 22 Interruptible delivery charges and the RS 22 Firm Rates for Creative Energy are currently both determined by adjusting the RS 5/RS 25 firm rates to assume a 100% load factor. The difference between the current RS 22 firm and interruptible calculations is that the RS 22 Interruptible charge is converted into a complete volumetric charge per GJ, and the RS 22 Firm Rates for Creative Energy maintain a demand charge and firm variable delivery charge.¹⁰⁹

97. Although the Commission approved the firm rate for Creative Energy, the Commission stated that it was:¹¹⁰

...not persuaded as to the merits of the methodology that was used to adjust the Rate Schedule 25 demand charge for Tariff Supplement G-21, but concludes that

¹⁰⁵ Exhibit B-1-5, Application, p. 9-42.

¹⁰⁶ Exhibit B-1-5, Application, p. 9-45.

¹⁰⁷ Exhibit B-1-5, Application, pp. 9-40 to 9-41.

¹⁰⁸ Exhibit B-1, Application, pp. 9-40 to 9-41.

¹⁰⁹ Exhibit B-1-5, Application, pp. 9-40 to 9-41.

¹¹⁰ Exhibit B-32, BCUC-FEI IR 3.94.3.

the application including the proposed rates should be approved until such time as the rates can be reviewed in a rate design proceeding.

98. FEI's proposal to establish a postage stamp, cost of service firm rate for all large industrial customers addresses the concerns of the Commission.¹¹¹

99. FEI presented the status quo as Option 1 in its Application.¹¹² If the Commission were to approve the continuation of the status quo (Option 1), as well as updates to RS 22 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.¹¹³ FEI would consider this level of rate increase to be rate shock.¹¹⁴ FEI would also expect a migration of customers from RS 22 to RS 27 or RS 7, as the breakeven economics between the different rate classes would change significantly. This could in turn lead to a need to redesign the RS 7 / 27 rate to maintain appropriate price signals.¹¹⁵ Further, if Option 1 is approved, the Commission's concerns in the approval of Creative Energy's tariff supplement (Order G-128-05) would not be addressed, and there would continue to be a lack of an established firm rate for RS 22. FEI also would need to amend the final COSA based upon the Commission's direction in its Decision.¹¹⁶

100. As discussed below, the merits of FEI's RS 22 proposal demonstrate that it is preferable to the status quo.

¹¹¹ Exhibit B-32, BCUC-FEI IR 3.94.3, citing Order G-128-05.

¹¹² Exhibit B-1-5, Application, p. 9-43 to 9-45.

¹¹³ Exhibit B-1-5, Application, pp. 9-47 to 9-28; Exhibit B-32, BCUC-FEI IR 3.94.3.

¹¹⁴ Exhibit B-32, BCUC-FEI IR 3.94.3.

¹¹⁵ Exhibit B-32, BCUC-FEI IR 3.94.3.

¹¹⁶ Exhibit B-32, BCUC-FEI IR 3.94.3.

(c) Proposed Cost-Based Rates for RS 22 Reflect Appropriate Balance of Rate Design Considerations

Description of Proposal

101. FEI proposes that RS 22, VIGJV and BC Hydro IG be grouped together for rate design purposes as they are similar large industrial customers. FEI proposes a firm rate equal to the allocated costs in the approved COSA Model and interruptible rates based on the firm rate.¹¹⁷ To derive the new firm rate for RS 22, the costs from the COSA model 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.¹¹⁸

102. FEI's proposed RS22 firm rate is very similar to the existing firm rates of Creative Energy, VIGJV and BC Hydro.¹¹⁹ The Demand charge would encourage customers to shift to firm service for only base load consumption that has a high load factor.¹²⁰ Firm service would be subject to the availability of firm capacity on FEI's system.¹²¹

103. The rates for interruptible service would be set equal to the allocated cost of firm delivery from the COSA model (\$0.972/GJ), but would be converted into a volumetric rate (i.e. no demand charge, and no firm MTQ charge of \$0.150 per GJ of gas delivered).¹²² This ensures that there is no incentive for customers to shift from firm contracted capacity to

¹¹⁷ See Exhibit B-21, BCUC-FEI IR 2.71.3.1 for a description of the allocation of costs in the Final COSA.

¹¹⁸ Exhibit B-1-5, Application, p. 9-46.

¹¹⁹ Exhibit B-24, Catalyst-FEI IR 2.22.

¹²⁰ Exhibit B-1-5, Application, p. 9-46.

¹²¹ Exhibit B-1-5, Application, p. 9-46.

¹²² Exhibit B-32, BCUC-FEI IR 3.95.2.

interruptible service. If any interruptible customer wished to firm up a portion of their capacity, subject to firm service availability, the customer would need to make a demand charge commitment for firm capacity, increasing their fixed monthly charges. The pricing for interruptible service would remain volumetric per GJ on any volumes over the firm MTQ.¹²³

104. As with the existing RS 22, FEI's proposal does not include 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.

Balance of Rate Design Principles and Considerations

105. FEI's 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:

- **Large Industrials Are Similar.** Similar types of customers (i.e., customers with similar customer load and service characteristics, such as load factors, volume, types of end use), should be grouped together in the COSA model for cost allocation purposes.¹²⁴
- **Types of End Use.** The VIGJV and BC Hydro IG fit within the broad industrial end uses of RS 22 customers.¹²⁵ RS 22 serves a broad group of industrial customers, including refineries, manufacturing, cement, forestry, healthcare, education, food/beverages and greenhouses. These customers generally use natural gas to fuel boilers, kilns and dryers.¹²⁶ Prior to the

¹²³ Exhibit B-1-5, Application, p. 9-46.

¹²⁴ Exhibit B-24, Catalyst-FEI IR 2.39.

¹²⁵ Exhibit B-24, Catalyst-FEI IR 2.5

¹²⁶ Exhibit B-1-5, Application, p. 9-37.

termination of the agreement, BC Hydro's Burrard Thermal site was also an RS 22 Bypass customer.¹²⁷

- **Consumption Levels.** The VIGJV and BC Hydro IG fit within the consumption levels of RS 22 customers. RS 22 serves a broad group of industrial customers with a minimum take or pay of 12000 GJ per month,¹²⁸ and consumption ranging from approximately 150 TJ to 2000 TJ per year.¹²⁹ The VIGJV is composed of 5 separate sites; the average consumption per site of 1,498 TJ is within the range of consumption of RS 22 customers.¹³⁰ While BC Hydro IG has a large firm contracted capacity, BC Hydro IG's actual usage of 323 TJ¹³¹ is within the range of consumption levels of RS 22 customers.
- **Mix of Interruptible and Firm.** RS 22 customers, the VIGJV and BC Hydro IG all have an interruptible service component and need to be able to handle interruption of some capacity.¹³² While Creative Energy is the only RS 22 customer that has chosen to negotiate a firm service contract, RS 22 customers have always had the option to negotiate a firm rate.¹³³ Some of FEI's existing RS 22 customer and potential new RS 22 customers have expressed interest in firm service.¹³⁴ The new RS 22 would accommodate mixtures of firm and interruptible service for industrial customers across the province.¹³⁵

¹²⁷ Exhibit B-5, BCUC-FEI IR 1.3.4.

¹²⁸ Exhibit B-1-5, Application, p. 9-6.

¹²⁹ Exhibit B-1-5, Application, p. 9-37.

¹³⁰ Exhibit B-21, BCUC-FEI IR 2.71.2.

¹³¹ Exhibit B-21, BCUC-FEI IR 2.71.4.1.

¹³² Exhibit B-21, BCUC-FEI IR 2.71.2.

¹³³ Exhibit B-1-5, Application, p. 9-41.

¹³⁴ Exhibit B-33, Catalyst-FEI IR 3.30 and 31.

¹³⁵ Exhibit B-5, BCUC-FEI IR 1.34.4

- **Load Factors:** The VIGJV has a similar load factor to RS 22 customers.¹³⁶ BC Hydro's load factor is small due to its high firm contract demand,¹³⁷ and low consumption, as it is rarely operated.¹³⁸
- **Existing and Proposed Rates Are Similar:** The proposed RS 22 rates are similar to the existing rates for RS 22 customers, VIGJV and BC Hydro IG. If large volume customers reserve firm service for only their baseload (i.e., 100 percent load factor) volumes, they will be able to achieve an effective rate of \$0.972 per GJ for any mix of firm and interruptible service.¹³⁹ This is slightly less than Creative Energy's existing firm rate,¹⁴⁰ and similar to the current rates of the VIGJV and BC Hydro IG.¹⁴¹ BC Hydro IG and VIGJV would also no longer be required to provide System Gas or be charged for Carbon Tax and other commodity toll items under FEI's proposal. When this is taken into account, the VIGJV would experience an overall rate decrease of approximately 4.5 percent.¹⁴² FEI's comparison of revenues from VIGJV and BC Hydro IG under existing rates and FEI's proposed RS 22 rates also shows reduced revenue from the VIGJV, while the BC Hydro's IG's existing revenue is within the range of revenue from BC Hydro IG depending on its consumption pattern.¹⁴³

¹³⁶ Exhibit B-21, BCUC-FEI IR 2.71.2.

¹³⁷ Exhibit B-21, BCUC-FEI IR 2.71.2.

¹³⁸ Exhibit B-21, BCUC-FEI IR 2.71.4.1.

¹³⁹ Customers would also have to take enough firm to exceed the minimum take or pay volume, and this does not include the Basic Charge. Exhibit B-32, BCUC-FEI IR 3.95.2 and 95.2.2.

¹⁴⁰ Exhibit B-5, BCUC-FEI IR 1.34.6.

¹⁴¹ Exhibit B-5, BCUC-FEI IR 1.34.6; Exhibit B-33, Catalyst-FEI IR 3.1.

¹⁴² Exhibit B-33, Catalyst-FEI IR 3.1.

¹⁴³ Exhibit B-32, BCUC-FEI IR 3.96.2.

- **Location.** RS 22 is for all new industrial customers in any region. Some existing RS 22 customers are very close to the Transmission System, just as VIGJV is close to the Vancouver Island Transmission system.¹⁴⁴
- **Incremental Cost to Service.** The incremental costs related to serve these customers is similar, consisting of the ongoing O&M, taxes and depreciation.¹⁴⁵
- **Cost-Based Rates Supported by Rate Design Principles:** FEI's proposal will establish cost of service based rates applicable to all large industrial customers. This is consistent with the rate design principles of fair apportionment of costs and avoidance of undue discrimination among similar types of customers.¹⁴⁶ The establishment of cost-based rates should also address the concerns expressed by the Commission when it approved Creative Energy's existing value of service firm rate.¹⁴⁷
- **Customer Understanding and Acceptance:** Consistent with the principle of customer understanding and acceptance, FEI's proposed cost-based rates are more transparent as they are based on allocated costs from the COSA model, rather than value of service rates or individually negotiated rates.¹⁴⁸ 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.¹⁴⁹

¹⁴⁴ Exhibit B-21, BCUC-FEI IR 2.71.2; Exhibit B-24, Catalyst-FEI IR 2.1 and 2.39; Exhibit B-33, Catalyst-FEI IR 3.33.

¹⁴⁵ Exhibit B-21, BCUC-FEI IR 2.71.2.

¹⁴⁶ Exhibit B-1-5, Application, p. 9-47.

¹⁴⁷ Exhibit B-32, BCUC-FEI IR 3.94.3.

¹⁴⁸ Exhibit B-1-5, Application, p. 9-47.

¹⁴⁹ Exhibit B-5, BCUC-FEI IR 1.34.4.

- **Government Policy in Favour of Postage Stamp Rates:** Moving towards a postage stamp firm rate for all large industrial customers is consistent with government policy in favour of postage stamp rates.¹⁵⁰ This policy is reviewed in Section 5.4.4 of the Application. Benefits of postage stamp rates include supporting the Province's Natural Gas Strategy, economic development and job creation, regulatory efficiency and rate stability.¹⁵¹

106. In summary, FEI's proposed cost-based rates for RS 22 are consistent with the rate design principles of fair apportionment of costs and avoidance of undue discrimination among similar types of customers, customer understanding and acceptance, and government policy.¹⁵² FEI's proposed RS 22 rates reflect the appropriate balance of rate design considerations.

(d) Treatment of Creative Energy, VIGJV and BC Hydro Contracts

107. Under FEI's proposed RS 22 rates, the existing contract rates would be addressed as follows:

- **Tariff Supplement G-21 for Creative Energy would be terminated.**¹⁵³ Tariff Supplement G-21 for Creative Energy was approved by Order G-128-05 subject to the review of firm rates for RS 22 in the next FEI rate design proceeding. Therefore, if the Commission approves FEI's RS 22 firm rate proposal, the tariff supplement would be cancelled and Creative Energy would take firm service under the approved firm rate applicable to all RS 22 customers.¹⁵⁴

¹⁵⁰ Exhibit B-1-5, Application, p. 9-47.

¹⁵¹ Exhibit B-1-5, Application, p. 5-7; Exhibit B-5, BCUC-FEI IR 1.34.9.

¹⁵² Exhibit B-5, BCUC-FEI IR 1.34.4.

¹⁵³ Exhibit B-1-5, Application, pp. 9-46

¹⁵⁴ Exhibit B-5, BCUC-FEI IR 1.34.7.

- **The VIGJV could choose to become an RS 22 customer immediately or after expiration of its Transportation Service Agreement (TSA).**¹⁵⁵ An extension to the VIGJV's TSA was approved by Order G-6-18, so that it now expires on November 1, 2022.¹⁵⁶ The 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.¹⁵⁷
- **BC Hydro IG could choose to become a RS 22 customer after the expiration of its agreement.**¹⁵⁸ BC Hydro IG will continue to take service under its existing special contract, which cannot be terminated until April 2022. After the contract expires, BC Hydro IG could choose to become an RS 22 customer.¹⁵⁹ If BC Hydro elects not to become an RS 22 customer, BC Hydro could elect to become an RS 50 customer, if it meets the requirements of that rate schedule.¹⁶⁰ BC Hydro could also elect to extend their current agreement, which would require negotiation of a rate that would need to be approved by the Commission.¹⁶¹

¹⁵⁵ Exhibit B-1-5, Application, pp. 9-46

¹⁵⁶ Exhibit B-32, BCUC-FEI IR 3.94.1.

¹⁵⁷ Exhibit B-32, BCUC-FEI IR 3.94.1.

¹⁵⁸ Exhibit B-1-5, Application, pp. 9-46

¹⁵⁹ Exhibit B-1-5, Application, pp. 9-46 to 9-47.

¹⁶⁰ Rate Schedule 50 requires a minimum period of 15 years and firm transportation service of at least 45 TJ per day. Exhibit B-1-4, p. 11-26.

¹⁶¹ Exhibit B-5, BCUC-FEI IR 1.34.7.1; Exhibit B-32, BCUC-FEI IR 3.96.2.

(e) Conclusion and Approval Sought

108. To implement the above changes, FEI requests approval to set the charges for RS 22 on a cost of service basis for all large industrial customers, as discussed in Section 9.8.5 of the Application, as follows:

- Firm Demand Charge of \$25.000/GJ/Month.
- Firm MTQ Delivery Charge of \$0.150/GJ.
- Interruptible MTQ Delivery Charge of \$0.972/GJ.
- Approval to terminate Tariff Supplement G-21, FEI's contract with Creative Energy Vancouver Platforms Inc., as discussed in Section 9.8.5 of the Application.

109. FEI requests that its proposed RS 22 charges be approved as filed.

PART SIX: REVENUE SHIFTS AND REBALANCING

A. Introduction

110. Based on FEI's Final COSA results after rate design changes, FEI proposes to rebalance RS 5/25 and RS 6/6P to within the R:C ratio range of reasonableness of 95 percent to 105 percent, and shift the revenue responsibility to RS 1.¹⁶² The following sections explain the rationale for these proposals.

¹⁶² Exhibit B-1-5, Application, Section 12.

B. Rebalancing Proposals

(a) Rebalancing RS 5/25

111. FEI is proposing to decrease the RS 5/25 Basic Charge by \$118 per month to \$469 per month, to rebalance RS 5/25 to within the range of reasonableness established by Order G-4-18. Before this rebalancing and after FEI's Rate Design proposals, the R:C ratio for RS 5/25 is 106.3 percent. Decreasing the basic charge by \$118 per month creates a revenue responsibility decrease of \$1.139¹⁶³ million for RS 5/25, and brings it to an R:C ratio of 105 percent.

112. FEI is proposing to implement this rebalancing by changing the Basic Charge of RS 5/25 so that there will be no impacts to RS 7, RS 27 or RS 4, all of which are set based in reference to RS 5 and RS 25 demand and delivery charges. In addition, changing only the Basic Charge, and not the demand or delivery charge, allows RS 5 and RS 25 to continue to attract customers with at least a 40 percent load factor. With the proposed rates, including rebalancing, a customer in RS 5 or RS 25 consuming 15000 GJ would need to have a load factor of approximately 40% to be better off under RS 5/25 than when taking service under RS 3 and RS 23, which is the intent of the General Firm Service offering.¹⁶⁴

(b) Rebalancing RS 6/6P

113. To set the R:C ratio for RS 6/RS 6P within the range of reasonableness, 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.¹⁶⁵ FEI explained that its proposal to reduce only the Delivery Charge is consistent with applicable rate design principles and government policy, as follows:¹⁶⁶

¹⁶³ Exhibit B-32, BCUC-FEI IR 3.97.1.

¹⁶⁴ Exhibit B-1-5, Application, p. 12-6.

¹⁶⁵ Exhibit B-1-5, Application, p. 12-7.

¹⁶⁶ Exhibit B-34, CEC-FEI IR 3.94.1.

Reducing the Delivery Charge only, instead of a reduction to the Basic Charge or some combination of Delivery and Basic Charge, sends the appropriate price signal by making natural gas for vehicles more affordable on a per GJ basis as a substitute for gasoline or diesel, thereby supporting government's policy of reducing GHG emissions. Additionally, the proportion of fixed cost recovery is improved, increasing the percentage of fixed revenues recovering fixed costs.

114. After the proposed adjustment, RS 6 and RS 6P will have an R:C ratio of 105 percent.¹⁶⁷

115. As a housekeeping amendment, FEI proposes to set the Delivery Charge for RS 6P equal to the Delivery Charge of RS 6 after all other rate design proposals and rebalancing are effected.¹⁶⁸ RS 6P is for CNG fuelling services to customers at FEI's Surrey Operations Centre. The Delivery Charge for RS 6P was set equal to the Delivery Charge of RS 6 and was intended to remain equal to the RS 6 Delivery Charge over time. However, the Delivery Charge for RS 6P and RS 6 are no longer equal with the RS 6P Delivery Charge being \$0.022/GJ less than that of RS 6.¹⁶⁹ FEI thus proposes to align the two rates to reflect the original intention of RS 6P.

(c) Setting of New RS 22 Firm Rates at 100% R:C Ratio

116. FEI is creating a new RS 22 rate and rate structure for large volume industrial transportation customers, and has calculated the new firm rate to collect the allocated costs of this customer group. FEI is setting this RS 22 rate at 100 percent of the R:C ratio. When creating a new rate schedule and rate structure, there is no pre-existing R:C ratio. If an R:C ratio other than 100 percent were to be adopted for a new rate schedule or service, it would be equally reasonable to propose 95 percent at the lower end of the range of reasonableness as

¹⁶⁷ Exhibit B-1-5, Application, p. 12-7.

¹⁶⁸ Exhibit B-1-5, Application, p. 12-7.

¹⁶⁹ Exhibit B-1-5, Application, p. 12-7.

105 percent at the upper end. FEI therefore selected 100 percent for the R:C ratio for the new RS 22 firm rate.¹⁷⁰

(d) Revenue Shifts to RS 1

117. FEI is proposing to shift the revenue responsibility from the rate rebalancing of RS 5/25 and RS 6/6P to RS 1. RS 1 is the only rate schedule with an R:C ratio of less than 100%. RS 1 is within the approved range of reasonableness, but at the lower bound. FEI's approach of shifting revenues to RS 1 is consistent with past practice. The impact to RS 1 is an approximate annual bill change of 0.2%.¹⁷¹

118. An alternative approach for rebalancing would be to shift revenues among all rate classes with an R:C ratio within the range of reasonableness. This approach would reduce the impact to RS 1 to an approximate annual bill change of 0.1%.¹⁷²

(e) No Rebalancing of RS 22A

119. Although RS 22A is outside the range of reasonableness, FEI is not proposing to rebalance RS 22A as this is a closed rate schedule with a favourable rate compared to similar customers. Specifically, consistent with how this rate schedule was originally derived and its grandfathered status, FEI has not allocated the same level of distribution system costs to RS 22A that it allocates to RS 22.¹⁷³ FEI only allocates a portion of distribution costs to R22A as a direct assignment for industrial customer stations and service lines.¹⁷⁴ Rebalancing the charges

¹⁷⁰ Exhibit B-5, BCUC IR 1.42.1.

¹⁷¹ Exhibit B-1-5, Application, p. 12-8.

¹⁷² Exhibit B-32, BCUC-FEI IR 3.97.2.

¹⁷³ Transcript Vol. 5, p. 455, ll. 13 to 19; p. 456, ll. 6-13 and 23-25; Exhibit B-24, Catalyst-FEI IR 2.39.

¹⁷⁴ Exhibit B-33, Catalyst-FEI IR 3.22.

under RS 22A would be inconsistent with continuing to grandfather the terms and conditions of service under this rate schedule.¹⁷⁵

C. Conclusion and Approvals Sought

120. To implement FEI's proposed rebalancing, FEI requests the following:

- 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 discussed in Section 12.2 of the Application.
- 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 as discussed in Section 12.2.2.
- Approval to decrease the Delivery Charge per GJ of RS 6 by \$1.622/GJ to address rebalancing as discussed in Section 12.2.3 of the Application.
- Approval to set the Delivery Charge per GJ for RS 6P to equal the Delivery Charge per GJ of RS 6 as discussed in Section 12.2.3 of the Application.

121. FEI requests that these items be approved as filed.

PART SEVEN: HOUSEKEEPING AND OTHER AMENDMENTS TO GENERAL TERMS AND CONDITIONS AND RATE SCHEDULES

122. FEI is proposing housekeeping and other amendments to its General Terms and Conditions and its rate schedules.

123. FEI's proposed changes to its General Terms and Conditions are described in section 11 of the Application and shown in a blackline version of the General Terms and

¹⁷⁵ Exhibit B-1-5, Application, p. 12-6.

Conditions in Appendix 11-1 of the Application.¹⁷⁶ 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.

124. The proposed amendments to the General Terms and Conditions include numerous minor housekeeping changes for consistency. More substantive changes include the removal of reference to FEI's three service areas of Mainland, Vancouver Island and Whistler, which are combined under the Mainland and Vancouver Island Service Area to reflect the final phase-in to common rates effective January 1, 2018. FEI also updated its Standard Fees and Charges Schedule based on a jurisdictional and internal cost review, as described in section 11.1.2.2 of the Application.¹⁷⁷

125. FEI's proposed changes to its Rate Schedules are described and shown in blackline form in Appendix 11-3.¹⁷⁸ The proposed amendments align language amongst the rate schedules, and include minor revisions to wording and housekeeping changes for consistency purposes. The changes include removal of reference to FEI's three service areas of Mainland, Vancouver Island and Whistler, which are combined under the Mainland and Vancouver Island Service Area to reflect the final phase-in to common rates effective January 1, 2018. The changes also include a decrease to the administrative charge for transportation service rate schedules as described in section 1.4 of Appendix 11-3.¹⁷⁹

126. The proposed amendments to the General Terms and Conditions and wording of the Rate Schedules were the subject of a small number of information requests, in which FEI provided further details such as supporting calculations for the decrease to the Application

¹⁷⁶ Exhibit B-1, Appendix 11.

¹⁷⁷ Exhibit B-1-5, Section 11.

¹⁷⁸ Exhibit B-1-1, Supplemental Filing.

¹⁷⁹ Exhibit B-1-1, Supplemental Filing, Appendix 11-3.

Charge and Returned Payment Charge.¹⁸⁰ In FEI's view, no material issues were raised with respect to FEI's proposed amendments.

127. To implement the proposed changes, FEI seeks the following:

- Approval of the housekeeping and other amendments to FEI's General Terms and Conditions as set out in Appendix 11-1 and discussed in Section 11 of the Application.
- Approval of proposed housekeeping and other amendments to FEI's Rate Schedules as set out and discussed in Appendix 11-3 of the Application.

128. FEI submits that the proposals are reasonable and should be approved as filed

PART EIGHT: FORT NELSON RATE DESIGN

A. Introduction to Fort Nelson Rate Design

129. FEI's proposed rate design changes for Fort Nelson are set out in section 13 of the Application. The rate design is based on the COSA study for Fort Nelson approved by Order G-4-18. FEI filed amendments to its Application to reflect the Commission's directions in Order G-4-18 to use a load factor for RS 25 reflecting the load factor of Fort Nelson's industrial customer, and to use a range of reasonableness of 95% to 105% for the R:C ratio. FEI's approvals sought for the Fort Nelson rate design are set out in section 13.1 of the Application, as amended, and FEI's updated Draft Order.¹⁸¹

130. The following subsections are organized as follows:

¹⁸⁰ Exhibit B-5, BCUC-FEI IR 1.38 to 1.41; Exhibit B-8, BCOAPO IR 1.11.1 to 1.11.6; Exhibit B-11, CEC-FEI IR 1.57; Exhibit B-25, CEC IR 2.89.

¹⁸¹ Exhibit B-1-5.

- In section B, FEI describes how its proposal to unbundle Fort Nelson's rates will increase transparency, increase access to services and reflects the preferences of Fort Nelson customers.
- In section C, FEI describes how its proposal to introduce a flat rate structure will improve price signals and reflects the preferences of Fort Nelson customers.
- In section D, FEI sets out how its proposed Residential charges are designed to minimize bill impacts and reflect the best balance of rate design considerations.
- In section E, FEI describes its proposal to adopt a commercial rate structure and segmentation similar to FEI that reflects the best balance of rate design considerations.
- In section F, FEI describes its proposal to adopt a General Firm Service similar to FEI, with a Rate Schedule 25 and Rate Schedule 5.
- Section G describes FEI's proposed amendments to the Fort Nelson Gas Tariff in alignment with FEI's General Terms and Conditions and Rate Schedules.
- Section H sets out FEI's proposals to rebalance and shift revenue to align rates with the R:C range of reasonableness of 95 percent to 105 percent.

B. Unbundled Rates Are More Transparent, Enable Access to Services and Are Preferred by Customers

131. FEI proposes to unbundle Fort Nelson's rates. Currently, Fort Nelson's rates are bundled so that there is no distinction on a customer's bill between commodity, midstream and

delivery components. The rates in FEI's other service areas have been unbundled since the early 1990s, while Fort Nelson has never had a full rate design or unbundling process.¹⁸²

Unbundling Rates Reflects Best Balance of Rate Design Principles and Considerations

132. FEI proposal to unbundle Fort Nelson rates reflects the best balancing of rate design principles and considerations:

- **More transparent and improves customer understanding.** Unbundling Fort Nelson's rates provides transparency into the different components of customers' bills. The unbundling of rates allows customers to see on their bill the commodity, midstream and delivery components, including changes in a particular component from one period to the next.¹⁸³ Examples of unbundled bills are provided in Exhibit B-21, Attachment 73.1.
- **Access to Services.** Unbundled rates provide Fort Nelson customers with the ability to participate in other services that require unbundled rates in the future subject to Commission approval, such as the Renewable Natural Gas program.¹⁸⁴
- **Preferred by Customers.** The results from the survey of residential customers support a move towards unbundled rates. When provided with an example of how their rate structure differs from the rest of the province, only 21 percent of Fort Nelson customers prefer the current rate structure and 42 percent preferred a structure that matches the rest of the province.¹⁸⁵
- **Used by Other Jurisdictions.** As stated by Elenchus in its Rate Design Report: "All Canadian gas utilities in the Elenchus review have unbundled rates where gas

¹⁸² Exhibit B-1-5, Application, p. 13-21.

¹⁸³ Exhibit B-1-5, Application, p. 13-21.

¹⁸⁴ Exhibit B-1-5, Application, p. 13-21.

¹⁸⁵ Exhibit B-1-5, p. 13-21 to 13-22.

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."¹⁸⁶

133. Elenchus agrees with FEI's analysis of the unbundling of Fort Nelson's rates, stating:¹⁸⁷

Elenchus agrees with the advantages and disadvantages that are identified by FEI that are summarized in the preceding sections. An approach that is more consistent with standard practice will align the billing of Fort Nelson customers more closely with contemporary 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.

134. The potential downsides of unbundling rates are customer confusion and rate impacts. These impacts will be mitigated, as discussed below.

Customer Communication Will Mitigate Potential for Customer Confusion

135. As noted by Elenchus, any change in a utility's rate structure results in some degree of customer confusion until customers understand and accept the new rate structure.¹⁸⁸ FEI will support customer understanding and acceptance through a communication plan leading up to the implementation date. This should help customers become familiar with the changes they will see on their bills. Some of the communications activities would include mass customer communication through bill messages and bill inserts, and digital communications. The implementation process will also include training and education materials for customer service representatives so they can help customers understand the changes to their bills. These

¹⁸⁶ Exhibit A2-10, Elenchus Rate Design Report, p. 27.

¹⁸⁷ Exhibit A2-10, Elenchus Rate Design Report, p. 28.

¹⁸⁸ Exhibit A2-10, Elenchus Rate Design Report, p. 29.

communications strategies have been successful in the past, such as for the Vancouver Island and Whistler bill changes arising from amalgamation of the three utilities.¹⁸⁹

Deferral Account for Billing System Costs Will Mitigate Rate Impacts

136. FEI is requesting approval for a deferral account to record the cost of changes to the billing system for Fort Nelson that will be required to unbundle Fort Nelson's rates. FEI estimates that the one-time pre-tax cost to make the changes to the billing system is approximately \$70 thousand. The actual costs will be recorded in the account on a net-of-tax basis consistent with normal practice, and amortized over five years beginning in 2019. 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.¹⁹⁰

Unbundling Rates Should Be Approved

137. The unbundling of Fort Nelson's rates will help align Fort Nelson with standard utility practice and contemporary customer expectations. FEI requests that the unbundling of Fort Nelson's Rate be approved. The particular way in which FEI proposes to unbundle Fort Nelson's rates is addressed in the sections below.

C. Flat Rate Structure is the Most Common in Canada, Encourages Efficiency, and is Preferred by Customers

138. FEI is proposing to move Fort Nelson to a flat rate structure. 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. FEI's declining block rate structure was eliminated in 1993.

¹⁸⁹ Exhibit B-21, BCUC-FEI IR 2.76.1 and 2.76.2.

¹⁹⁰ Exhibit B-1-5, Application, p. 13-22. Also see Exhibit B-21, BCUC-FEI IR 2.74.1 for a discussion of the advantages and disadvantages of alternative amortization periods.

139. Moving to a flat rate structure represents the best balance of rate design considerations:

- **Easy to understand and administer.** A flat rate is easy to understand, which should lead to relatively higher customer satisfaction, less cost pressures and easier administration of the residential rate structure.¹⁹¹
- **Improves rate and revenue stability.** Annual forecasting for flat rates is more accurate than other rate options. Forecast accuracy results in improved rate and revenue stability.¹⁹²
- **Removes price signals that discourage efficiency and conservation.** A flat rate structure is more consistent with policy in favour of energy conservation and efficiency. A declining block rate structure sends price signals that can discourage customer engagement in energy efficiency and conservation programs.¹⁹³ A flat rate can be considered a neutral option as it does not discourage or encourage consumption of natural gas in any particular pattern.¹⁹⁴
- **Most Common in Canada.** Seven out of 11 Canadian natural gas utilities use a flat rate structure.¹⁹⁵ Elenchus' jurisdictional review also confirmed that "AltaGas, ATCO, Centra Gas (Manitoba Hydro), and Puget Sound Energy utilize flat rates for most or all rate groups. Declining block rates are used for all customer groups by Union Gas and Enbridge."¹⁹⁶

¹⁹¹ Exhibit B-1-5, Table 7-2, p. 7-13.

¹⁹² Exhibit B-1-5, Table 7-2, p. 7-13.

¹⁹³ Exhibit B-1-5, p. 13-23.

¹⁹⁴ Exhibit B-1-5, Table 7-2, p. 7-13.

¹⁹⁵ Exhibit B-1-5, p. 13-22.

¹⁹⁶ Exhibit A2-10, Elenchus Rate Design Report, p. 28.

- **Preferred by Customers.** FEI's customer survey results indicate that the flat rate structure is preferred by the majority of Fort Nelson's residential customers as it received the highest marks on all rate design considerations compared to other rate structure options. The high level of preference for a flat rate structure may be explained by the fact that the majority of Fort Nelson's residential customers would like to see a rate structure that is simple, transparent and easy to understand.¹⁹⁷
- **Lack of Benefit from Declining Block Rates.** Fort Nelson's declining block rates provide benefits to only a small percentage of customers, as the majority of residential and commercial customers do not consume enough natural gas to realize the lower prices from the declining block rate structure.¹⁹⁸
- **Would Eliminate Fluctuating Minimum Charges.** Fort Nelson's current minimum charge fluctuates with commodity prices because it is calculated based on a minimum 2 GJ per month consumption pro-rated on a daily basis. The fluctuations can cause customer dissatisfaction and are inconsistent with the principle of rate stability. A flat rate structure with a set Basic Charge would remove these impacts.¹⁹⁹

140. Elenchus agrees with FEI's analysis of a flat rate structure, stating:²⁰⁰

Elenchus agrees with the advantages and disadvantages that are identified by FEI...

Customers whose energy consumption never exceeds the first block would be indifferent to a flat rate structure since they already have what amounts to a flat rate structure. Larger volume customers, who may have the greatest

¹⁹⁷ Exhibit B-1-5, p. 13-23.

¹⁹⁸ Exhibit B-1-5, pp. 13-23 and 13-24.

¹⁹⁹ Exhibit B-1-5, Table 7-2, p. 7-13 and pp. 13-24 to 13-25.

²⁰⁰ Exhibit A2-10, pp. 28-29.

opportunity to reduce their consumption through improved conservation, will have increased information on the financial value to them of reducing their consumption.

On the other hand, customers may be accustomed to the situation that more consumption results in lower unit costs and would not easily accept giving up this benefit. They may perceive that their higher consumption, which may reflect higher need, is being unfairly penalized. Appropriate customer education, however, can focus on the reality that unbundled rates result in a more equitable sharing of costs. Depending on the rate design of the flat rate structure, based on consumption levels, some customers may end up paying more and some customers may end up paying less than under a declining block rate structure. Change always results in resistance among some of the customers that pay more, especially if customer communications about the reasons for the change are not communicated effectively.

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. Consistency across FEI's service areas should enhance the ability of FEI to educate its customers about the drivers of their energy costs and to manage their natural gas bills by adopting better conservation practices and investing in more efficiency appliances.

In addition, from the FEI perspective, given that most distribution expenses are fixed, having a fixed rate structure would better align with the nature of their operating costs. Also, in promoting conservation consistent with Government objectives, a flat rate structure sends a better price signal for conservation than a declining block rate structure.

On the downside, there will be changes to billing procedures that the utility will have to introduce to implement the flat rate structure and customer service will have to be enhanced to deal with the expected increase in customer enquiries once customers start receiving bills based on the new rate structure. The transition to a flat rate structure may result in significant bill increases for some customers.

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. FEI may also want to equip its staff

to respond to complaints with information on ways that customers can reduce their consumption and bills most effectively.

141. As indicated above, Elenchus highlights a number of benefits of a flat rate structure, including price signals to encourage conservation, alignment with standard practice, consistency across service areas, and alignment with the nature of the utility's operating costs. The potential concerns raised by Elenchus, regarding customer understanding and rate impacts, are being addressed through a communications plan and amortization of billing system costs as discussed above.

142. FEI's proposal to move to a flat rate structure is supported by rate design principles and considerations. The proposed flat rate is easy to understand and administer, sends neutral price signals for efficiency and conservation, provides better rate and revenue stability, and is used by the majority of Canadian natural gas utilities. Further, the customer research survey results show that the flat rate structure is preferred by a majority of Fort Nelson residential customers. The particular rate structures FEI proposes to adopt are set out in the following sections.

D. Fort Nelson Residential Customer Rate Design

143. FEI's proposal for a flat, unbundled residential rate structure is to implement a flat volumetric Delivery Charge with a fixed daily Basic Charge similar to FEI's residential rate structure. Fort Nelson residential customers would also have a Commodity Cost Recovery Charge and Storage and Transport Charge, which would be set separately as part of the Commission's review of FEI's quarterly Gas Cost Reports.²⁰¹

144. FEI calculated Fort Nelson's proposed daily Basic Charge and volumetric Delivery Charge in a way that achieves the lowest maximum dollar amount bill increase for any individual customer. This was done using a linear programming technique in which

²⁰¹ Exhibit B-21, BCUC-FEI IR 2.78.1.

minimization of the upward increase in annual bills is set as one of the constraints for the calculations.²⁰² As seen in Figure 13-10 of the Application and in BCUC-FEI IR 1.47.1,²⁰³ the bill impacts will be minimal for the vast majority of customers and low consumption customers will see decreases due to the elimination of the 2 GJ minimum daily charge.²⁰⁴

145. A review of the alternative ways to set the Basic and Delivery Charges, as noted by FEI and Elenchus, confirms FEI's proposal:

- **Using FEI's Basic Charge would result in Rate Shock:** If Fort Nelson's Basic Charge was set equal to FEI's Basic Charge of \$0.4085 per day as proposed in this application, residential customers would experience annual changes between -26 percent to +24 percent (-\$272 to +\$51).²⁰⁵
- **No Bill Impact for Average Customer Approach Yields Similar Results.** The option of setting the Basic Charge so that there is no bill impact for customers consuming the average monthly class consumption yields charges similar to those FEI proposed. FEI's analysis of this option is presented in BCUC-FEI IR 2.77.3.²⁰⁶
- **FEI Will Examine Basic Charge Against Future COSA Results.** As with FEI's other service areas, FEI 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. FEI may

²⁰² Exhibit B-1-5, p. 13-31.

²⁰³ Exhibit B-5.

²⁰⁴ Exhibit B-1-5, Application, p. 13-31.

²⁰⁵ Exhibit B-21, BCUC IR 2.77.3.

²⁰⁶ Exhibit B-21.

apply for an adjustment to Fort Nelson's Basic Charge at that time, with due consideration to rate design principles.²⁰⁷

146. FEI's approach to setting the Basic Charge and Delivery Charge balances the relevant rate design principles and considerations. Setting the charges to minimize bill impacts is in line with the rate stability principle and will assist with customer understanding and acceptance as FEI transitions Fort Nelson to a flat, unbundled rate structure. The Fort Nelson Basic Charge will continue to be evaluated against COSA results in future rate design proceedings.

E. Fort Nelson Commercial Customer Rate Design

147. To unbundle the rates and adopt a flat rate structure for Fort Nelson commercial customers, FEI will 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. FEI is also proposing to set the annual consumption threshold between small and large commercial customers at 2000 GJ/year (from the current 6000 GJ/year) to be consistent with FEI's RS 2 to RS 3 threshold. This change and the proposed levels for the Basic and Delivery Charges for small and large commercial customers are discussed below.

(a) Threshold Between Large and Small Commercial Customers at 2000 GJ

148. FEI is proposing to segment the small and large commercial customers based on a 2000 GJ/year separation point, rather than the current 6000 GJ threshold. The implementation of a 2000 GJ separation point is justified for a number of reasons.

- **2000 GJ is within Range Supported by Analysis of Customer Data.** The analysis of the load factor and consumption of Fort Nelson commercial customers

²⁰⁷ Exhibit B-21, BCUC-FEI IR 2.77.1.

supports a separation point between 1,500 to 2000 GJ per year. This can be seen visually in Figure 13-14 of the Application. The current threshold of 6000 GJ is not supported by any data.²⁰⁸ The 2000 GJ threshold divides commercial customers into two distinct groups; as shown in the table provided in BCUC-FEI IR 1.49.1, there is a material difference between the use per customer, load factor and costs to serve of small and large customers when using a 2000 GJ threshold.²⁰⁹

- **2000 GJ is within Range of Thresholds in other Jurisdictions.** In other jurisdictions, the threshold for small commercial customers ranges from 419 GJ for Gaz Metro to 5,500 GJ for Pacific Northern Gas. While 2000 GJ is within this range, the existing threshold of 6000 GJ is not.²¹⁰
- **2000 GJ is Consistent with FEI's Other Service Areas.** The 2000 GJ/year threshold is utilized for commercial customers in FEI's other service areas.²¹¹
- **2000 GJ Threshold Can Be Implemented with Minimal Impact.** Moving the threshold from 6000 GJ/year to 2000 GJ/year would only cause an estimated 9 small commercial customers to migrate to the large commercial rate. These migrating customers will receive a minor rate reduction due to the lower rates offered in Rate 2.2.²¹²

149. The analysis shows that the current threshold of 6000 GJ between small and large commercial customers cannot be justified. A new 2000 GJ threshold is warranted based

²⁰⁸ Exhibit B-1-5, Application, pp. 13-36 to 13-40.

²⁰⁹ Exhibit B-5, BCUC-FEI IR 1.49.1

²¹⁰ Exhibit B-1-5, Application, p. 13-36. The Multi-Jurisdictional Review of Rates study is provided in Appendix 8, Exhibit B-1.

²¹¹ Exhibit B-1-5, Application, p. 13-36.

²¹² Exhibit B-1-5, Application, p. 13-38 and pp. 13-42 to 13-44.

on the analysis of the customer data, consistency with other jurisdictions and FEI's other service areas, and bill impact analysis.

(b) Level of Charges for Small and Large Commercial Customers

150. FEI's proposed charges for small and large commercial customers balance a number of rate design principles and considerations.

- **Basic Charge for Large Commercial Customers Should Be Higher.** Due to the higher cost to serve larger commercial customers, the Basic Charge for large commercial customers should be higher than the Basic Charge for small commercial customers.²¹³ FEI's proposed rates meet this expectation.
- **Delivery Charge for Large Commercial Customers Should Be Lower.** Due to the higher load factor of large commercial customers, the Delivery Charge for large commercial customers should be lower than the Delivery Charge for small commercial customers.²¹⁴ FEI's proposed rates meet this expectation.²¹⁵
- **Alignment with Economic Cross Over Point:** To send price signals for customers to take service under the appropriate rate schedule, the economic crossover point between the Rates 2.1 and 2.2 should be at 2000 GJ, so that at 2000 GJ/year small and large commercial customers would have the same annual bill.²¹⁶ FEI's proposed rates meet this expectation with an economic crossover point of approximately 2000 GJ.²¹⁷

²¹³ Exhibit B-1-5, Application, p. 13-41.

²¹⁴ Exhibit B-1-5, Application, p. 13-41.

²¹⁵ Exhibit B-5, BCUC IR 1.49.2.

²¹⁶ Exhibit B-1-5, Application, p. 13-41.

²¹⁷ Exhibit B-5, BCUC IR 1.50.1.

- **Recovery of Customer-Classified Costs.** The basic charge of both Rate 2.1 and Rate 2.2 should align proportionally to the customer classified costs from the COSA model.²¹⁸ FEI's proposes rates meet this expectation, with the Basic Charge recovering 86% of customer-classified costs.²¹⁹
- **Bill Impacts.** FEI sought to limit the bill impact that individual customers in the two rate classes will experience.²²⁰ FEI accomplished this: the largest increase for Rate 2.1 customers would be 2%, while the largest increase for Rate 2.2 customer would be 0.7%.²²¹

151. Based on these factors, FEI proposed the charges for small and large customers (before rebalancing) set out in Table 13-22 of the Application. These charges reflect the appropriate balancing of rate design considerations.

F. Fort Nelson Industrial Customer Rate Design

152. FEI is proposing to use the RS 5 and RS 25 industrial rate structure in use in its other services areas for Fort Nelson. This change would eliminate Fort Nelson's existing bundled, declining block industrial rate structure. Like FEI's other service areas, RS 5 and RS 25 would include a Basic Charge, Demand Charge, and a Delivery Charge. Rate 3.1 (to be renamed RS 5) would have a Commodity Cost Recovery Charge and a Storage and Transport Charge, while RS 25 would have an Administration Charge.²²² The proposed rates before rebalancing are set out in Table 13-24 of the Application.

153. These changes are justified for the following reasons:

²¹⁸ Exhibit B-1-5, Application, p. 13-41.

²¹⁹ Exhibit B-5, BCUC IR 1.49.2.

²²⁰ Exhibit B-1-5, Application, p. 13-41.

²²¹ Exhibit B-1-5, Application, pp. 13-42 to 13-43.

²²² Exhibit B-1-5, Application, p. 13-45.

- **Elimination of Bundled, Declining Block Rate Structure.** For the reasons noted above, it is desirable to implement an unbundled, flat rate structure in Fort Nelson.
- **Lack of Fort Nelson Customers.** Fort Nelson has only one industrial customer. This customer takes service under Rate Schedule 25, but is no longer operating its production facility and only uses natural gas for space heating.²²³
- **Consistency with FEI.** In the absence of Fort Nelson customers on which to design an industrial rate, it is desirable for Fort Nelson to adopt an industrial rate structure consistent with FEI's other service areas. The RS 5 and RS 25 structure has been proven to work well in the context of FEI's other service areas.
- **No Impact to Other Rate Schedules.** The proposed 2018 rates will be designed to collect the same revenue as was forecast in Fort Nelson's 2017-2018 Revenue Requirement so that no other Rate Schedules are affected by this change.²²⁴

154. FEI submits that the proposed rates should be approved as filed.

Phase Out of RSAM for RS 25

155. FEI is proposing to phase-out the application of the RSAM to Rate 3.1 (to be renamed RS 5) and RS 25. If customers' actual UPC varies from the forecast UPC used to set rates, whether due to weather variances or other causes, FEI currently records the delivery charge differences in the RSAM deferral account for refunding or charging through a rate rider to the RSAM rate schedules over the ensuing two years. However, it would no longer be reasonable for the RSAM to apply to Fort Nelson's Rate 3.1 and RS 25 since a very large portion of the revenues will now be recovered through fixed charges – the Basic Charge, Administrative

²²³ Exhibit B-1-5, Application, p. 13-45.

²²⁴ Exhibit B-1-5, Application, p. 13-45.

Charge and Demand Charge. This treatment of exclusion from the RSAM is consistent with FEI's exclusion of RS 5 and 25 from the RSAM.²²⁵

156. Although FEI 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.²²⁶ FEI will address the discontinuance of the RSAM Rider for the existing RS 25 customer in a future Fort Nelson revenue requirements application.

G. Amendments to FEI Fort Nelson Gas Tariff

157. FEI is proposing amendments to the Fort Nelson Gas Tariff, which includes the general terms and conditions and rate schedules for Fort Nelson's service offerings. The proposed revisions reflect the proposals in the Application and align the tariff language with that of FEI's rate schedules. FEI has also made minor revisions to wording and housekeeping changes for consistency purposes. All proposed amendments are summarized in section 13.6 and shown in blacklined version of the Fort Nelson Gas Tariff included in Appendix 13-6.²²⁷

158. There were few information requests on the amendments to the Fort Nelson Gas Tariff. FEI notes that Rate Schedule 6: Natural Gas Vehicle Service Fort Nelson (RS 6) is a new rate schedule for Fort Nelson Natural Gas Vehicle Service customers, which is substantially consistent with FEI's RS 6. FEI is proposing to use the FEI RS 6 as the basis for Fort Nelson's RS 6 because there are no Fort Nelson RS 6 customers. FEI expects Fort Nelson RS 6 customers would have similar characteristics to FEI's RS 6 customers.²²⁸

²²⁵ Exhibit B-1-5, Application, p. 13-46.

²²⁶ Exhibit B-1-5, Application, p. 13-46.

²²⁷ Exhibit B-1-1, Appendix 13-6, Exhibit B-1-1-1; Appendix 13-6; and Exhibit B-1-4 Appendix 136.

²²⁸ Exhibit B-21, BCUC-FEI IR 2.75.5.

H. Rate Rebalancing and Revenue Shifts

159. Based on the Final COSA results reflecting FEI's proposed rate design changes for Fort Nelson, FEI is proposing rate rebalancing to bring the R:C ratios of Rate 1, 2.1, 2.2 and 25 within the Commission-approved range of reasonableness of 95% to 105%. FEI is proposing the following:²²⁹

- Decrease Rate 2.1 revenue by \$35.0 thousand, which will reduce the R:C ratio of Rate 2.1 to within the range of reasonableness;
- Decrease Rate 2.2 revenue by \$37.2 thousand, which will reduce the R:C ratio of Rate 2.2 to within the range of reasonableness;
- Increase RS 25 revenue by \$5.7 thousand, which will increase the R:C ratio of RS 25 to within the range of reasonableness; and
- Increase Rate 1 revenue by \$66.5 thousand to offset the decrease in revenue from Rate 2.1 and Rate 2.2 net of the increase in revenue from RS 25. This will bring RS 1 to within the range of reasonableness.

160. The proposed rates and bill impacts resulting from the above proposals are analyzed in detail in section 13.7.1.5 of the Application, and are addressed below.

Rate 1: Residential

161. For Rate 1, FEI will 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. Collecting all of the revenue shift through the Rate 1 Basic Charge impacts low consumption customers more, but this is offset by the fact that the lowest consuming customers receive the greatest rate reductions to their annual bills through the unbundling of Fort Nelson residential rates.

²²⁹ Exhibit B-1-5, pp. 13-50 to 13-51.

Before rebalancing, a customer with annual consumption of 34 GJ (one quarter of the average) will experience a 7% decrease to their annual bill. By applying the adjustment only to the Basic Charge, FEI moderates the decrease to lower consuming customers, making the adjustments more equitable between low and high consumers in Rate 1. This also results in Fort Nelson collecting more of its customer-related charges through the Basic Charge.²³⁰

Rate 2.1 and 2.2: Commercial

162. For Rate 2.1 and Rate 2.2, FEI adjusted rates to account for the decrease in revenue responsibility of \$35.0 thousand and \$37.2 thousand, respectively. This adjustment maintains an economic breakeven threshold of 2000 GJ /year as shown in Figure 13.19, aligns the basic charge of both Rate 2.1 and Rate 2.2 proportionally to the customer classified costs from the COSA model, and limits any individual customer's annual bill impact as shown in Figures 13-20 and 13-21.²³¹ FEI's proposal is the optimal solution to meet these objectives, as derived by the Excel Solver function performing a linear programming analysis.²³²

RS 25: Industrial

163. For Rate Schedule 25, FEI adjusted the Demand Charge to account for the increase in revenue responsibility of \$5.7 thousand, resulting in an annual bill increase of approximately 4%.²³³ FEI increased the Demand Charge to achieve the R:C ratio of 95 percent for the following reasons:²³⁴

1. The Commission's Decision directed FEI to use a Load Factor that was the average actual Load Factor of 27 percent in place of a deemed load factor of 40 percent.

²³⁰ Exhibit B-1-5, p. 13-51.

²³¹ Exhibit B-1-5, p. 13-51.

²³² Exhibit B-34, CEC-FEI IR 3.96.1.

²³³ Exhibit B-1-5, Application, p. 13-52.

²³⁴ Exhibit B-34, CEC-FEI IR 3.97.1

2. The change in load factor results in an increase in the demand-related allocated cost for RS 25.
3. Increasing the Demand Charge provides recovery of the increased allocated fixed demand-related cost and the amount needed for rebalancing.

164. Increasing the Demand Charge as the cost recovery mechanism for the increased demand-related costs and rebalancing to achieve a 95 percent R:C ratio is an appropriate and reasonable approach that is consistent with rate design principles.

Implementation and Potential for Phase-In

165. FEI will reassess the need to phase-in the rate design-related changes for Fort Nelson residential customers in Fort Nelson's 2019/2020 Revenue Requirements Application. If FEI were to implement the rate design and rebalancing proposals in the fourth quarter of 2018, then a phase-in would not be recommended. This is because the total bill impacts to residential customers in 2018 would be negative 2 percent, largely due to decreasing commodity rates that were implemented January 1, 2018.²³⁵ However, FEI recognizes that it will take time to implement its rate design proposals for Fort Nelson, especially given the need to implement a customer communications plan.²³⁶ The rate design-related rate changes could therefore occur in 2019, at the same time as any rate changes resulting from Fort Nelson's 2019/2020 Revenue Requirements Application. Consequently, FEI 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.²³⁷

²³⁵ Exhibit B-32, BCUC-FEI IR 3.98.2; Exhibit B-1-5, page 13-57.

²³⁶ Exhibit B-21, BCUC-FEI IR 2.76.1 and 2.76.2.

²³⁷ Exhibit B-32, BCUC IR 3.98.4.

I. Conclusion and Approval Sought

166. Based on FEI's analysis and relevant rate design considerations, FEI's rate design proposals for Fort Nelson customers will result in a reasonable balance of rate design principles, are just and reasonable and should be approved as filed.

PART NINE: CONCLUSION

167. FEI submits that the evidence demonstrates that its proposed rate design changes should be approved as filed. FEI requests that the implementation date for its rate design proposals be approved as part of its compliance filing in response to the Commission's Decision.²³⁸

ALL OF WHICH IS RESPECTFULLY SUBMITTED.

Dated: March 27, 2018

[original signed by Christopher Bystrom]
Christopher Bystrom
Counsel for FortisBC Energy Inc.

²³⁸ Exhibit B-32, BCUC-FEI IR 3.91.1.