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February 6, 2018

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC
V6Z 2N3

Attention: Mr. Patrick Wruck, Commission Secretary and Manager, Regulatory Support

Dear Mr. Wruck:

Re: FortisBC Energy Inc. (FEI)

2016 Rate Design Application (the Application) ~ Project No. 3698899

British Columbia Utilities Commission (Commission) Orders G-4-18 and G-5-18 Compliance Filing

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On January 9, 2018, the Commission issued Order G-4-18 and Reasons for Decision on cost of service allocation and revenue to cost ratios, and Order G-5-18 establishing the remainder of the regulatory timetable for the review of the Application referenced above.

Directive 2 of Order G-4-18 ordered as follows:

> 2. FEI is directed to file updates to the Application in response to the findings and directives in this order with reasons, in accordance with a procedural order to be issued subsequent to this order. The electronic versions of the updates should include both a blacklined version and a clean version.

Order G-5-18 directed FEI to file any updates to the Application by February 6, 2018.

In accordance with Commission Orders G-4-18 and G-5-18, FEI respectfully submits the attached blacklined updates to the Application. A clean version of the complete updated

Application[1] is being filed as a separate exhibit, concurrent with this filing, in order to assist participants with referencing the latest information in one place for the balance of the proceeding.

In order to assist participants to identify the changes to the Application, the following pages have been updated, either for content or pagination, pursuant to the directive of Order G-4-18. FEI has included blacklined versions of the following pages.

Description	Revised Pages
Application, Table of Contents	ix, xi, xiv
Application, Section 1	1-2, 1-4 to 1-6, 1-8 to 1-11
Application, Section 2	2-2 to 2-6, 2-8
Application, Section 6	6-1, 6-32, 6-34, 6-35
Application, Section 7	7-22 to 7-24
Application, Section 8	8-16
Application, Section 11	11-2, 11-7, 11-18, 11-23, 11-26, 11-27
Application, Section 12	12-i, 12-3, 12-6 to 12-10
Application, Section 13	13-i to 13-iii, 13-1, 13-3, 13-4, 13-10, 13-15 to 13-17, 13-20, 13-41, 13-45, 13-47 to 13-60
Appendix 1-2	1-3
Appendix 13-6	1.1, 2.1, 3.1, 5.19, 25.27

As directed by Commission Order G-4-18:

- FEI has used an R:C ratio range of reasonableness of 95 percent to 105 percent to inform rate design and rebalancing proposals for both FEI and Fort Nelson.
- FEI has utilized a load factor of 27 percent for cost allocation purposes that best reflects the cost to serve Fort Nelson's RS 25 customer.

The following is a summary of the updates to the Application:

- Section 1: Updated Tables 1-1 and 1-2.
- Section 2: Updated Approvals Sought for Residential Rate Schedules, Industrial Rate Schedules. Updated implementation of proposed rate design changes from June 1, 2018 to the fourth quarter of 2018 (i.e. October to December 2018). The final implementation date is to be determined as part of FEI's compliance filing following the Commission's Decision on the Application.
- Section 6: Updated the R:C ratio range of reasonableness to 95 percent to 105 percent to inform rate design and rebalancing proposals.

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[1] Including the revisions to the Application filed through the Supplemental Filing (Ex. B-1-1), the Evidentiary Update filed April 7, 2017 (Exhibit B-1-1-1), the Supplemental Filing Erratum filed March 10, 2017 (Ex. B-1-2), and the Errata filed April 7, 2017 (Ex. B-1-3).

- Section 7: Updated volumetric Delivery Charge and bill impacts for RS1 customers as shown in Section 7.8.1 and Table 7-7.
- Section 12: Updated Sections 12.2.2 and 12.2.3 where FEI is proposing to shift revenue responsibility from RS 5/25 and RS 6/6P to RS 1 customers. Updated Tables 12-3 and 12-4.
- Section 13:
  - Subsection 13.1: Updated Approvals Sought for residential, commercial and Industrial rates.
  - Subsection 13.4: Updated to reflect applying the actual load factor of 27% of the RS 25 customer for RS 25 and using a range of reasonableness of an R:C ratio of 95 percent to 105 percent to inform rebalancing proposals, which shifts revenue responsibility to Rate 1 and RS 25 customers.
  - Updated Tables 13-2, 13-7, 13-10, 13-12, 13-20, 13-26, 13-27, 13-28, 13-29, 13-30 and 13-32.
  - As explained in Section 13.7.3, FEI is not proposing to phase in the rate design changes for Rate 1 customers over two years.
- Appendix 1-2: Updated Draft Final Order
- Appendix 13-6: Updated revised charges as set out in the updated Approvals Sought.[2]

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (email only): Registered Parties

[2] Please note that although the target implementation date has been updated from June 1, 2018 to the fourth quarter of 2018, FEI intends to update the effective date for the tariffs in Appendices 11-1 (FEI General Terms and Conditions), 11-2 (FEI Rate Schedules) and 13-6 (Fort Nelson Gas Tariff) in the compliance filing of the tariffs and rate schedules, when the final implementation date of the proposed rate design changes is determined.

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are not included in the scope of the Application, as they are approved by Orders in Council and not subject to change in this proceeding.[1]

A final area not being considered in this Application, save for one element, pertains to Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) stations owned by FEI that are used to provide service to natural gas for transportation customers. These stations have been established under the provisions of *Greenhouse Gas Reduction (Clean Energy) Regulation* (refer to Section 5.4.2) or Section 12B of FEI's GT&Cs. Unique rates are established and approved for each of these stations that are over and above the delivery charges required to deliver natural gas to a CNG station or LNG to an LNG station. These unique rates are designed to recover the costs of each station from the customers receiving CNG or LNG service at that station. CNG customers pay for delivery on FEI's system under RS 6, RS 23, or RS 25. For LNG customers, delivery on FEI's system occurs through RS 46. The one element of the rates for CNG and LNG station service being reviewed in this Application is the Overhead and Marketing Charge (refer to Section 11.3).

FEI has a number of tariff supplements, including bypass agreements. These tariff supplements are negotiated agreements and are approved separately by the Commission and, as such, FEI is not proposing any changes to existing tariff supplements in this Application. The exception to this is the proposed cancellation effective Q4 of 2018, of FEI Tariff Supplement G-21 between Creative Energy Vancouver Platforms Inc. (Creative Energy) and FEI. Please refer to Section 9 of the Application for more information.

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FEI's review resulted in the identification of a number of rate design issues. In each case, FEI carefully analysed the issue, evaluated alternative solutions and identified proposals to improve the alignment of customer rates with rate design principles. FEI's proposed solutions to each issue represent what in FEI's view is the best balance of often conflicting principles and considerations.

FEI retained EES Consulting Inc. (EES Consulting), a third party expert in public utility rate design matters, to review and assist in developing the COSA study and rate design for FEI. As discussed in more detail in its report, EES Consulting concludes that the COSA study in this Application follows standard utility practice and is generally consistent with past practice for the utility and that the results are acceptable for purposes of setting just and reasonable rates for FEI. EES Consulting also concluded that FEI's rate design proposals reflect rate design principles and are appropriate.

A more detailed summary of each aspect of the proposed rate design is provided in the sections below.

1 Order in Council (OIC) No. 557/2013 and OIC No. 749/2014.

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approved 2016 test year, plus known and measurable changes expected by or soon after January 1, 2018. The allocated costs by rate schedule are compared to the revenue collected by rate schedule to calculate the revenue to cost (R:C) ratio for each rate schedule. The R:C ratio shows whether the rates charged to each rate schedule adequately recover the allocated cost of service[3]. The resulting R:C ratios are, with limited exceptions, within a +/- 5% range of reasonableness.

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FEI also conducted a COSA study after taking into account the impact of its rate design proposals in the Application, which have an impact on the allocation of costs amongst rate schedules and create shifts in revenues between rate schedules. After taking into account the proposals in the Application, the resulting R:C ratios remain within a +/- 5% range of reasonableness, except for RS 5/25, RS 22A and RS 6/RS 6P. FEI is not proposing to rebalance RS 22A as this is a closed rate schedule. Rebalancing is required to shift some revenue from RS 5/25 and RS 6/RS 6P to the residential rate schedule, as it is the only rate schedule below 100%.

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A summary of the revenue shifts from rate design proposals and rebalancing is shown in Table 1-1 below.

[3] FEI also shows margin to cost (M:C) ratios in the following table. The M:C ratio shows whether delivery rates charged to each rate schedule adequately recover the allocated delivery cost of service. Delivery rates include Basic Charges, Demand Charges and Delivery Charges. Delivery cost of service excludes cost of gas and storage and transport costs.

1 **Table 1-1: R:C and M:C Results before and after Rate Design Proposals and Rebalancing**

Rate Schedule	Initial COSA		Revenue Shifts and Rebalance Amount ($000)	Approximate Annual Bill Change	COSA after Rate Design Proposals and Rebalancing	
	R:C	M:C			R:C	M:C
Rate Schedule 1 *Residential Service*	95.6%	93.1%	2,000.8	0.3%	96.6%	94.6%
Rate Schedule 2 *Small Commercial Service*	101.3%	102.5%	(1,174.1)	-0.5%	102.2%	104.1%
Rate Schedule 3/23 *Large Commercial Sales and Transportation Service*	101.6%	103.3%	1,174.1	0.6%	103.6%	107.6%
Rate Schedule 5/25 *General Firm Sales and Transportation Service*	104.9%	112.2%	(1,093.3)	-1.2%	105.0%	112.6%
Rate Schedule 6/6P *Natural Gas Vehicle Service*	131.2%	159.1%	(75.9)	-20.3%	105.0%	109.5%
Rate Schedule 22A *Transportation Service (Closed) Inland Service Area*	109.5%	109.8%			113.0%	113.4%
Rate Schedule 22B *Transportation Service (Closed) Columbia Service Area*	99.7%	99.7%			103.1%	103.1%
Rate Schedule 22 *Large Volume Transportation Service*	1425.5%	1864.4%	(754.2)	-3.4%	100.0%	100.0%

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

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1.4 RESIDENTIAL RATE DESIGN: ADJUSTMENTS TO RATES

FEI reviewed the rate design for the residential rate class, which takes service under RS 1, RS 1U, RS 1X and RS 1B[4] (collectively referred to as RS 1). FEI considered the potential rate structure options for residential customers (i.e., flat, declining or inclining block) and the possible blends of fixed and volumetric charges.

FEI is proposing the continuation of the flat rate structure for RS 1. The existing flat rate structure provides the best balance of rate design considerations for residential customers. Flat rates are simple to administer and easy to understand and provide more stable utility revenues and customer rates. The customer research survey results show that the flat rate structure is preferred by a majority of residential customers and the flat rate structure is used by the majority of Canadian natural gas utilities for their residential customers.

FEI is also proposing a 5% increase in the Basic Charge[5] and a corresponding decrease in the Delivery Charge[6], such that the change is revenue neutral within RS 1. This proposal achieves a reasonable balance among competing rate design considerations. A one-time 5% increase in the Basic Charge and a corresponding decrease in the Delivery Charge will improve the cost recovery from low-consumption customers. The change will result in only a small annual bill impact for the majority of customers (+/- less than 1%), and no bill impact for an average use customer.

FEI is proposing a slight increase in the Delivery Charge per Gigajoule (GJ) as a result of rate design proposals in other rate schedules and the resulting rebalancing between customer classes. As shown in Table 1-1 above, as RS 1 has an R:C ratio of less than 100%, FEI proposes to shift $2,000.8 thousand to RS 1. The shift represents an annual bill impact of approximately 0.3% for RS 1 customers.

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[4] The differences in RS 1, RS 1U, RS 1X and RS 1B pertain to the commodity portion of small commercial rates. In all cases, the transportation and storage service (midstream service) and the delivery service are provided by FEI. Under RS 1, customers receive conventional natural gas from FEI as their commodity. Under R 1U, customers receive their commodity from a licensed natural gas marketer. In the event that there is a marketer failure, customers that had been served by a marketer under RS 1U may be served under RS 1X. Under RS 1B, customers receive commodity service from FEI, but have elected to receive a percentage of their natural gas as renewable natural gas (biomethane) with the balance being conventional natural gas.

[5] As defined in the General Terms & Conditions: Means a fixed charge required to be paid by a Customer for Service as specified in the applicable rate schedule, or the prorated daily equivalent charge – calculated on the basis of a 365-day year (to incorporate the leap year), and rounded down to four decimal places.

[6] Delivery Charge means the delivery charge defined in the Table of Charges of the applicable FEI Rate Schedules.

originally designed, FEI is proposing to update the multiplier in the peak day demand formula from 1.25 to 1.1 (the multiplier estimates the peak day demand from the average peak Monthly demand). As a result of the above change, FEI is also proposing to raise the Demand Charge for RS 5 and RS 25 by $3.00/GJ/Month to continue to provide a price signal for only high load factor customers to take General Firm Service. As the R:C ratio before rebalancing is 106%, FEI proposes to shift $1.093 million of revenue responsibility to RS 1 as explained in section 12.2.2. The R:C ratio after rebalancing is 105%, which is within the range of reasonableness directed by Order G-4-18. FEI is proposing to reduce the revenue responsibility of RS 5/25 by decreasing the Basic Charge by $118 per month.

RS 7 and RS 27 are for interruptible service. The RS 7 and RS 27 charges are set at a discount from firm service. The existing discount achieves a reasonable balance between maximizing the economic value of interruptible service, which helps to offset utility costs to firm customers, and providing a sufficient incentive for existing customers to stay on interruptible service and to attract new customers. FEI is therefore proposing to retain the current interruptible service rate structure and the method of calculating RS 7 and RS 27 Delivery Charges based on a discount from RS 5 and RS 25. FEI is proposing to update the RS 7 and RS 27 Delivery Charge calculation to reflect the change in the Daily Demand formula, including a 62.5% firm service load factor assumption and a 90.9% load factor discount.

For seasonal customers, FEI is proposing to maintain the existing rate structures and methodology to derive the RS 4 Delivery Charges. Since the RS 4 Delivery Charges are based on RS 5 and RS 7, FEI is proposing to update the RS 4 Delivery Charges to reflect the proposed changes to RS 5 and RS 7.

FEI's large industrial customers take service under RS 22, RS 22A, RS 22B, or individual contracts (the Vancouver Island Gas Joint Venture (VIGJV) and BC Hydro Island Generation (BCH IG)). FEI's existing rates are currently separated by geographical regions and there is no postage stamp, cost-based firm rate. FEI is proposing to continue to grandfather RS 22A and RS 22B as closed service offerings due to their unique characteristics. For all other large industrial customers, FEI is proposing to create a firm rate under RS 22 based on a cost allocation from the COSA model. This firm rate would be available for all large industrial customers, including VIGJV and BCH IG when their contracts expire. Under this option, Tariff Supplement G-21 for Creative Energy would be terminated and the contract for BCH IG would be included as a tariff supplement at their current rates. The RS 22 interruptible Delivery Charge is proposed to be set at the effective average cost per GJ of the firm rate.

1.7 *TRANSPORTATION SERVICE RATE DESIGN: TIGHTENING BALANCING RULES CONSISTENT WITH INDUSTRY PRACTICE*

FEI's transportation service is available to large commercial and industrial customers on FEI's system who source their own gas, either from a shipper agent or on their own, and have the gas delivered directly to FEI's system.

The transportation service model is generally working well. As such, FEI does not believe that significant changes are required. However, given industry improvements in monitoring, communicating, and implementing gas balancing, FEI is proposing changes to require transportation customers to balance their gas supply more tightly. In particular, FEI is proposing to eliminate monthly balancing and to require all transportation customers in all service areas to balance daily, which is consistent with FEI's own system balancing requirements at its interconnection points. FEI does not expect these requirements to be burdensome for shipper agents. Many shipper agents are already exclusively balancing daily.

FEI is also proposing to amend the balancing tolerance from 20% to 10%, coupled with a tiered charge approach under which charges increase as tolerance ranges are exceeded. The proposed charges and tiered approach will provide an incentive to balance within the 10% tolerance.

1.8 *Fort Nelson Service Area*

FEI conducted a full review of the rate design for the Fort Nelson Service Area (Fort Nelson or FEFN), including a separate COSA study for Fort Nelson. FEI received approval for Fort Nelson's revenue requirements and rates for 2018 in November 2016. At the time of filing the Application, FEI was in the process of adjusting its proposed Fort Nelson rate design to take into account the approved rates for 2018. FEI filed the proposed rate design for Fort Nelson on February 2, 2017 as part of a supplementary filing to this Application and an evidentiary update on April 7, 2017 with the proposed rate design for Fort Nelson set out in Section 13. Updates to Section 13 arising from Order G-4-18 will be filed on February 6, 2018.

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1.9 *General Terms and Conditions*

FEI's GT&Cs set out the Commission-approved terms and conditions of service provided by FEI. FEI is proposing amendments to all sections of the GT&Cs. Only minor housekeeping amendments are being proposed to Sections 10 (Service Lines) and 12 (Main Extensions), which were recently amended as part of the FEI 2015 System Extension Application and Decision (Order G-147-16, dated September 16, 2016).

A number of substantive amendments are being proposed to the GT&Cs, including:

- In the GT&C Definitions, a number of new definitions have been proposed or moved from the rate schedules into the GT&Cs to reduce repetition in multiple rate schedules These include definitions for Business Day,[9] CNG, CNG Service, Fort Nelson, LNG, LNG Service, and Service Line Cost Allowance.
- As a result of the phase in of amalgamation being completed by December 31, 2017, FEI is proposing to further combine service areas. The GT&Cs have combined all of the

[9] To avoid repetition, the capitalized terms used in this section are the same terms defined in the GT&Cs.

- service areas, with the exception of Fort Nelson, into one service area, which has been referred to as the Mainland and Vancouver Island Service Area.
- In Section 14 (Access to Premises and Equipment), FEI is proposing a new right to install and operate a remote meter, at the Customer's cost, in situations where FEI is unable to obtain regular access to a Customer's Premise.
- FEI is proposing the removal of Section 15A in its entirety, as the On-Bill Financing Pilot Program that was previously offered in some interior communities is no longer in effect.
- In Section 19.7 (Over-billing), a maximum refund period of six years has been proposed for over-billing errors.
- The name of FEI's "Equal Payment Plan" has been changed to "Monthly Payment Plan", as the reference to "equal" does not adequately convey that monthly payments amounts may be adjusted after an approved rate change, at reconciliation times or at other times, as may be appropriate.
- A new paragraph (e) is being proposed for Section 23.2 (Discontinuance or Refusal Without Notice), which would authorize FEI to discontinue or to refuse Service without notice in the event that a Customer tampers with or otherwise alters a Meter Set.

Numerous other proposed amendments to the GT&Cs are being proposed for stylistic consistency, as well as to simplify language where possible.

1.10 *CONCLUSION*

Table 1-2 below summarizes FEI's proposed rate changes, by showing the estimated COSA-based 2018 rates, the proposed rate changes and the estimated 2018 rates after the proposed changes. It is important to note that the proposed rate changes will be made to 2018 approved rates, not the estimated COSA-based rates. Therefore, the estimated 2018 rates below will not be the rates that are actually approved for 2018.

Table 1-2: FEI Rate Proposal Summary

Rate Schedule	Estimated COSA[10] Based 2018 Rate	Proposed Rate Changes	Estimated 2018 Rates After Proposed Changes
RS 1 – Residential			
Basic Charge (daily)	$0.3890	$0.0195	$0.4085
Delivery Charge ($/GJ)	$4.821	($0.059)	$4.762
RS 2 – Small Commercial			
Basic Charge (daily)	$0.8161	$0.1324	$0.9485

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[10] The COSA rates shown are 2016 approved rates plus known and measureable changes discussed in Section 6.

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Rate Schedule	Estimated COSA[10] Based 2018 Rate	Proposed Rate Changes	Estimated 2018 Rates After Proposed Changes
Delivery Charge ($/GJ)	3.850	($0.186)	3.664
RS 3/RS 23 – Large Commercial			
Basic Charge (daily)	$4.3538	$0.4357	$4.7895
Delivery Charge ($/GJ)	$3.189	$0.001	$3.190
RS 4			
Basic Charge (Monthly)	$439	Nil	$439
Delivery Charge ($/GJ) Off Peak	$1.278	$0.114	$1.392
Delivery Charge ($/GJ) Extended Period	$2.183	($0.018)	$2.165
RS 5/RS 25			
Basic Charge (Monthly)	$587.00	($118.00)	$469.00
Delivery Charge ($/GJ)	$0.887	Nil	$0.887
Demand Charge ($/Month/GJ)	$21.596	$3.00	$24.596
RS 6/RS 26			
Basic Charge (Monthly)	$61	Nil	$61
Delivery Charge ($/GJ)	$4.873	$1.622)	$3.251
RS 7/RS 27			
Basic Charge (Monthly)	$880.00	Nil	$880.00
Delivery Charge ($/GJ)	$1.455	($0.012)	$1.443
RS 22			
Basic Charge (Monthly)	$3,664.00	Nil	$3.664.00
Firm Demand Charge ($/Month/GJ)	n/a		$25.000
Firm MTQ ($/GJ)	n/a		$0.150
Interruptible MTQ ($/GJ)	$1.060	($0.088)	$0.972

Based on the analysis and considerations set out in the Application, FEI believes that its rate design proposals are just and reasonable and should be approved as proposed.

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LNG to an LNG station. These unique rates are designed to recover the costs of each station from the customers receiving CNG or LNG service at that station. CNG customers pay for delivery on FEI's system under RS 23 or RS 25. For LNG customers, delivery on FEI's system occurs through RS 46. The one element of the rates for CNG and LNG station service being reviewed in this Application is the Overhead and Marketing Charge (refer to Section 11.3).

FEI has a number of tariff supplements, including bypass agreements. These tariff supplements are negotiated agreements and are approved separately by the Commission and, as such, FEI is not proposing any changes to existing tariff supplements in this Application. The exception to this is the proposed cancellation effective Q4 of 2018, of FEI Tariff Supplement G-21 between Creative Energy and FEI. Please refer to Section 9.8 of the Application for more information.

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As demonstrated in this Application, FEI's current rate design is working well in most respects. FEI is proposing a number of changes to improve the alignment of customer rates with rate design principles. These changes include, for example, rate rebalancing, an increase to the residential Basic Charge to better align the recovery of fixed charges, adjustments to commercial customer charges to improve inter-class rate economics, adjustments to industrial charges to more accurately reflect cost causation and other principles, including the cost of a firm service rate for large industrial customers, and more stringent balancing requirements for transportation customers consistent with industry practice.

FEI notes that it filed a supplemental filing on February 2, 2017, and an evidentiary update on April 7, 2017 with the proposed rate design for Fort Nelson in Section 13. This later filing date was needed because FEI received approval for Fort Nelson's revenue requirements and rates for 2018 in November 2016, and FEI adjusted its proposed Fort Nelson rate design to take into account the approved rates for 2018. The supplemental filing on February 2, 2017 and evidentiary update filed on April 7, 2017 also included FEI's proposed amendments and housekeeping changes to the FEI rate schedules. The blacklined changes to each rate schedule reflecting the rate design proposals in the Application was included and filed as Appendix 11-3, and the supporting calculations for the proposed decrease to the Administration Charge per Month from $78.00 to $39.00 was included and filed as Appendix 11-4.

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FEI retained EES Consulting, a third party expert in public utility rate design matters, to review and assist in developing the COSA study and rate design for FEI. EES Consulting concludes that the COSA study for this rate design follows standard utility practice and is generally consistent with past practice for the utility, and that the results of the COSA study are acceptable for purposes of setting just and reasonable rates for FEI. EES Consulting also concludes that FEI's rate design proposals reflect rate design principles and are appropriate. EES Consulting's report, including a review of FEI's COSA study and rate design, is attached as Appendix 6-1 to this Application.

FEI's proposals are set out below under Approvals Sought and discussed in additional detail in the following sections of the Application. Based on the analysis and considerations set out in the Application, FEI believes that its rate design proposals will result in a reasonable balance of rate design principles and other relevant considerations, are just and reasonable, and should be approved as proposed.

2.2 APPROVALS SOUGHT

Pursuant to section 58 to 61 of the UCA, FEI seeks the Commission's approval of the following, to be effective Q4 of 2018:

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Midstream[12] Cost Allocation Methodology

1. Approval to use the three-year average load factor in RS 5 to allocate midstream costs when setting FEI's Storage and Transport Charges for RS 5, as discussed in Section 6.4.2.1 of the Application.

Residential Rate Schedules

2. Approval of the following for Rate Schedules 1, 1U, 1X, and 1B:
   - 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, as discussed in Section 7.8 of the Application.
   - Approval to decrease the Delivery Charge per GJ by $0.086 to maintain revenue neutrality with the Basic Charge increase, as discussed in Section 7.8 of the Application.
   - Approval of proposed housekeeping and other amendments as set out in Appendix 11-3, and to be discussed in the supplemental filing to the Application to be filed February 2, 2017.
   - Approval to increase the Delivery Charge per GJ by $0.027 as a result of the revenue shifts and rebalancing of rates discussed in Section 12.2 of the Application.

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Commercial Rate Schedules

3. Approval to adjust the basic charges and delivery charges of the commercial rate schedules to align with the 2,000 GJ threshold between small and large commercial customers, as discussed in Section 8.7 of the Application, as follows:
   - 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.

[12] The terms "storage and transport" and "midstream" are used interchangeably in this Application.

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- For RS 23:
  - Decrease the Administration Charge per Month from $78.00 to $39.00, set out in Appendices 11-3 and 11-4, and to be discussed in the supplemental filing to the Application to be filed February 2, 2017.

4. Approval of proposed housekeeping and other amendments to Rate Schedules 2, 2U, 2X, 2B, 3, 3U, 3X, 3B, and 23, as set out in Appendix 11-3, and to be discussed in the supplemental filing to the Application to be filed February 2, 2017.

Industrial Rate Schedules

5. 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.
6. 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.
7. 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.
8. 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, by increasing the Off-Peak Delivery Rate by $0.114/GJ and by decreasing the Extension Period by $0.018/GJ.
9. 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, as follows:
   - Firm Demand Charge of $25.000/GJ/Month.
   - Firm MTQ Delivery Charge of $0.15/GJ.
   - Interruptible MTQ Delivery Charge of $0.972/GJ.
10. Approval to terminate Tariff Supplement G-21, FEI's contract with Creative Energy Vancouver Platforms Inc., effective Q4 of 2018, as discussed in Section 9.8.5 of the Application.

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11. Approval of adjustments to the transportation model as follows:
    - Amendments to Rate Schedules 22, 22A, 22B, 23, 25, 26, and 27 to implement daily balancing for all transportation customers, as discussed in Section 10.6.
    - Amendments to Rate Schedules 22, 22A, 22B, 23, 25, 26, and 27 to reduce the daily balancing tolerance to a 10% threshold and to introduce a balancing charge of $0.25/GJ for transportation customers for gas supply shortfalls within a 10% to 20% tolerance level, as discussed in Section 10.7.
12. Approval of proposed housekeeping and other amendments to Rate Schedules 5, 7, 11B, 14A, 22, 22A, 22B, 25, 26, and 27 as set out in Appendices 11-3 and 11-4, and to be discussed in the supplemental filing to the Application to be filed February 2, 2017, including, but not limited to, the following:

- Approval to decrease the Administration Charge per Month from $78.00 to $39.00 in Rate Schedules 22, 22A, 22B, 25, 26, and 27, as set out in Appendix 11-3 and 11-4, and to be discussed in the supplemental filing to the Application to be filed February 2, 2017.
- Approval to cancel RS 6A General Service – Vehicle Refueling Service as set out in Appendix 11-3, and to be discussed in the supplemental filing to the Application to be filed February 2, 2017.
- Approval to cancel RS 40, as set out in Appendix 11-3, and to be discussed in the supplemental filing to the Application to be filed February 2, 2017.

13. Approval to decrease the Delivery Charge per GJ of RS 6 by $1.622/GJ to address rebalancing as discussed in Section 12.2.2 of the Application.

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14. 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 12.2.2 of the Application.

General Terms and Conditions

15. Approval of the housekeeping and other amendments to FEI's General Terms and Conditions as set out in Appendices 11-1 and 11-2 and discussed in Section 11 of the Application. The proposed amendments to the FEI General Terms and Conditions include the following:
    - Approval of the amendments to the Standard Fees and Charges Schedule, including renaming it the Standard Charges Schedule, as set out in Appendices 11-1 and 11-2, and discussed Section 12 of the Application.
    - Approval to rename the Application Fee to Application Charge and decrease the charge from $25.00 to $15.00.
    - Approval to rename the Dishonoured Cheque Charge to the Returned Payment Charge and decrease the charge from $20.00 to $8.00.
    - Approval to rename Disputed Meter Testing Fees to Meter Testing Charges.

A Draft Order setting out the approvals sought is attached as Appendix 1-2 to the Application.

2.3 *IMPLEMENTATION*

Based on the regulatory timetable as established by the Commission in Appendix A of Order G-5-18, FEI is seeking to implement its proposed rate design changes in the fourth quarter (Q4) of 2018. In order to provide adequate time to prepare for the implementation of approved changes, including billing system changes and notification to customers of the changes, FEI requests a Commission decision by August 2018.

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FEI expects to implement the rate design changes in Q4 of 2018 for the following reasons:

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- It is expected to provide sufficient time for the review of the Application, with flexibility for the process that the Commission considers appropriate as established in Appendix A to Order G-5-18.

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- It is expected to provide sufficient time for FEI to implement the changes following a Commission decision. Implementation requires a number of activities, including programing and testing of rate design changes and notifying customers of the changes. FEI expects that it will require two to three months to implement all the proposed changes in the Application.
- Implementing the rate design mid-year avoids the need to coordinate the rate design changes with changes to rates implemented through the revenue requirements process. Implementing the rate design separately will be less complex than if combined with revenue requirement changes, and will enable clearer and simpler communications to customers.

While FEI is currently targeting implementation some time in Q4 of 2018, this is dependent on the Commission's ability to issue a decision by August, 2018. Alternatively, if the Commission is unable to render a decision early in 2018, FEI requests that the effective date of any rate design changes should, instead, be determined as part of the compliance filing following the Commission's determination of this Application. At the time of its compliance filing, FEI will be in a position to recommend an implementation date that considers the final determinations in the 2016 Rate Design Application decision, confirms implementation requirements and timing, allows adequate time for customer communication and notification, and, to the extent possible, considers the timing of other Commission decisions or pending decisions that may also impact rates.

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2.4 PROPOSED REGULATORY REVIEW PROCESS

FEI proposes the following draft regulatory timetable as presented in Table 2-1 below. The timetable takes into consideration suggestions from Commission staff, and acknowledges the workload required by the Commission and all parties in this and other ongoing and anticipated proceedings. A draft procedural order has been provided in Appendix 1-1.

Table 2-1: Proposed Regulatory Timeline

ACTION	DATE (2017)
FEI Supplemental Filing – FEI Rate Schedules and Fort Nelson Rate Design and Rate Schedules	Thursday, February 2
FEI Publication of Notice	by Thursday, February 16
Registration of Interveners and Interested Parties and Confirmation of Participation at Workshop	Tuesday, February 20
Workshop #1 – Summary of Information Provided to Stakeholders at the May 19 Education & Background Information Session	Thursday, February 23
Workshop #2 – Review of COSA Model, Proposals in the Application, and Approvals Sought	Thursday, March 9
Commission Information Request (IR) No. 1 to FEI	Monday, March 27
Intervener IR No. 1 to FEI	Monday, April 3

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- **Section 4:** Stakeholder Engagement – Describes the Company's stakeholder engagement process undertaken prior to submission of the Application, including information sessions, workshop and residential customer survey.
- **Section 5:** Rate Design Principles - Discusses the legal context for the Application, the rate design principles adopted by FEI for the rate design, as well as relevant government policy.
- **Section 6:** FEI Cost of Service Allocation Methodology – Explains the history and methodologies employed in the development of the COSA study undertaken for the rate design.
- **Section 7:** Rate Design for Residential Customers – Provides a description of the customer characteristics of FEI's residential customers, reviews the existing residential customer rate design and describes FEI's proposed changes.
- **Section 8:** Rate Design for Commercial Customers – Provides a description of the customer characteristics of FEI's commercial customers, reviews the existing commercial customer rate design and describes FEI's proposed changes.
- **Section 9:** Rate Design for Industrial Customers – Provides a description of the customer characteristics of FEI's industrial customers, reviews the existing industrial customer rate design and describes FEI's proposed changes.
- **Section 10:** Transportation Service Review – Provides a description of FEI's sales customer business model and FEI's operations that balance the system on a daily basis. Reviews the details of FEI's transportation business model, including the various balancing related provisions, and identifies recommended changes to the transportation rate schedules.
- **Section 11:** General Terms and Conditions and Rate Schedules – Provides an overview and rationale for housekeeping and other proposed changes to FEI's General Terms and Conditions. FEI will make a supplemental filing on February 2, 2017, which will include blacklined proposed changes to FEI's rate schedules to reflect the proposals in the Application.
- **Section 12:** Summary and Conclusion – Provides a summary of the proposals in the Application.
- **Section 13:** Rate Design for the Fort Nelson Service Area – Provides the COSA Study, review of the existing rate design and FEI's rate design proposals for Fort Nelson. As discussed above, FEI filed this section of the Application with its supplemental filing on February 2, 2017 and an evidentiary update on April 7, 2017.

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6. FEI COST OF SERVICE ALLOCATION STUDY

6.1 *INTRODUCTION*

A COSA study is a fundamental component in the preparation of a utility rate design application. A COSA study provides important contextual information in assessing how the proposed rates and rate structures perform against the relevant rate design principles and considerations. The results of the COSA study provide key metrics for assessing the proposed rate design against a number of the rate design principles identified in Section 5.3. Information for assessing the rate design's effectiveness in recovering the cost of service, providing a fair apportionment of costs among customers, avoiding undue discrimination or providing revenue stability can all be drawn from the COSA.

FEI conducted a COSA study in accordance with standard utility practice to allocate FEI's costs to each of FEI's rate schedules. The costs and revenues used in the COSA study reflect FEI's approved 2016 test year, plus known and measurable changes expected by or soon after January 1, 2018. The allocated costs by rate schedule are compared to the revenue collected by rate schedule to calculate the R:C ratio for each rate schedule. The R:C ratio shows whether the rates charged to each rate schedule adequately recover the allocated cost of service. The resulting R:C ratios are, with limited exceptions, within a +/- 5% range of reasonableness.

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The COSA study results described in this section do not account for the rate design proposals set out in the Application. As some of FEI's rate design proposals affect the allocation of costs, revised R:C ratios taking into account the rate design proposals are presented in Section 12 of the Application. As discussed in Section 12, only limited rebalancing of rates is proposed to bring the R:C ratios within a +/- 5% range of reasonableness.

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In this section, FEI describes the:

- COSA methodology;
- Delivery cost of service allocation;
- Gas cost allocation;
- Results of the COSA study; and
- Responses to stakeholder feedback.

6.2 *COST OF SERVICE ALLOCATION METHODOLOGY*

FEI conducted a COSA study to determine how to allocate and recover FEI's costs through customer rates. FEI's COSA methods have been reviewed by EES Consulting. EES Consulting found "*that the COSA follows standard utility practice, is generally consistent with past practice for the utility and the results are acceptable for purposes of setting just and*

6.5.1 R:C Ratios – The Range of Reasonableness

R:C ratios are assessed based on whether or not they fall within an established "range of reasonableness". Order G-4-18 directed FEI to use a range of reasonableness of 95 percent to 105 percent for purposes of informing rate design and rebalancing proposals. In theory, the R:C ratio should equal 100% for each rate schedule, indicating that the revenues recovered from each rate schedule would equal the indicated cost to serve them. However, achieving unity implies a level of precision that does not exist with any COSA. As a COSA study necessarily involves assumptions, estimates, simplifications, judgments and generalizations, a range of reasonableness is warranted and accepted when evaluating the appropriateness of the R:C ratios.

The result of the COSA study for each rate schedule is considered in light of this range of reasonableness and each rate schedule that falls within that range is deemed to be recovering its fair cost. If a rate schedule falls out of the range of reasonableness, this indicates that revenues are either insufficient in covering the cost of service or exceed the cost of service, which suggests that rate rebalancing may be in order. The "range of reasonableness" is therefore used as an indication of the rate schedules that require re-balancing. Even if all of the rate schedules fall within the range of reasonableness, some re-balancing may be necessary in light of rate schedule characteristics and rate design objectives.

The appropriate range of reasonableness will depend on the particular circumstances of a public utility. Recent Commission decisions regarding the range of reasonableness suggest that a range of reasonableness of 95 per cent to 105 per cent is appropriate for electric utilities in British Columbia. Specifically:

- In Commission Order G-130-07 in response to BC Hydro's 2007 Rate Design Application, the Commission determined that a "range of reasonableness of 95 per cent to 105 per cent [was] the correct range for the purpose of future rebalancing in the circumstances of BC Hydro."[89] The rationale for the decision was based in part on the "the known system demand and demand metering of large commercial and industrial customers" and "the accuracy of the relatively sophisticated load research analysis."[90] As a result, the Commission panel determined for BC Hydro "that the appropriate target R:C ratio in each class is unity or one and that future rebalancing should only be required when a customer class falls outside of the range of reasonableness."[91]
- Similarly, in Order G-156-10, dated October 19, 2010, the Commission found that "the appropriate range of reasonableness of 95% to 105% is the correct range for the purpose of future rebalancing in the circumstances of FortisBC [electric]."[92] As in the BC Hydro decision, the Commission determined that the appropriate target R:C in each rate

gas is imputed for RS 23, RS 25 and RS 27 to ensure consistency and to show R:C ratios on combined basis for RS 3/RS 23, RS 5/RS 25 and RS 7/RS 27.

[89] Commission Decision and Order G-130-07, dated October 26, 2007, page 71.
[90] Ibid.
[91] Ibid.
[92] Commission Decision and Order G-156-10, dated October 19, 2010, page 77.

Deleted: FEI believes that the appropriate range of reasonableness for evaluating its R:C ratios is 90 per cent to 110 per cent.

> not been included as an offset against costs within the study as they are not easily quantified.[93]

This reliance on judgment led the Commission to conclude:

> Given the imprecision inherent in cost of service studies in general, and in particular the studies in issue, the Commission believes that as long as revenues from a particular class of service and costs allocated to that class of service do not differ by more than 10%, there is no compelling evidence to determine that the cost of service results indicate rate restructuring is required.[94]

The Commission also accepted, as a guide to rate setting, a range of reasonableness of 90 per cent to 110 per cent in the FEI (formerly BC Gas) 1993 Phase B Rate Design.[95] The same range of reasonableness was used in the BC Gas 1996 Rate Design[96] and in the FEI (formerly Terasen Gas Inc.) 2001 Rate Design[97] and in FEI's 2012 Amalgamation Application

As directed by Order G-4-18, FEI is using a R:C ratio range of reasonableness of 95% to 105%.

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6.5.2 R:C Ratios – The COSA Results

This section provides the R:C ratios and margin to cost ratios for each of the rate schedules based on the results of the COSA Study. The margin to cost ratio is calculated by dividing the total delivery margin collected from a rate schedule which includes Basic Charge, demand charge, volumetric Delivery Charge and administrative charge revenues, by the allocated embedded delivery costs. Gas and storage and transport costs are excluded from both the numerator and denominator when calculating the M:C ratios.

The results shown below in Table 6-18 represent FEI's COSA model prior to rate design and rebalancing proposals. These results help inform FEI's rate design proposals described in Sections 7 through 9 of this Application. The final COSA results including all rate design and rebalancing proposals are included in Section 12.

93 Commission Decision and Order G-42-91, dated May 23, 1991, page. 29.
94 Ibid.
95 Commission Decision and Order G-101-93, dated October 25, 1993, page12: "In previous decisions the Commission has accepted a 10% band as reasonable."
96 Commission Order G-98-96, dated October 7, 1996.
97 Commission Order G-116-01, dated October 3, 2001.

Table 6-18: R:C and M:C Ratio Results before Rate Design Proposals or Rebalancing[98]

Rate Schedule	R:C	M:C
Rate Schedule 1 *Residential Service*	95.6%	93.1%
Rate Schedule 2 *Small Commercial Service*	101.3%	102.5%
Rate Schedule 3/23 *Large Commercial Sales and Transportation Service*	101.6%	103.3%
Rate Schedule 5/25 *General Firm Sales and Transportation Service*	104.9%	112.2%
Rate Schedule 6 *Natural Gas Vehicle Service*	131.2%	159.1%
Rate Schedule 22A *Transportation Service (Closed) Inland Service Area*	109.5%	109.8%
Rate Schedule 22B *Transportation Service (Closed) Columbia Service Area*	99.7%	99.7%

Except for RS 6 and RS 22A, the R:C ratios are all within a range of 95% to 105%, and the margin to cost ratios are generally within the 90% to 110% range. This indicates that the revenue collected from each rate schedule is closely aligned with the costs caused by that rate schedule. This supports the principle of matching revenues and the related costs. In Section 5.3, this is the second rate design principle "Fair apportionment of costs among customers (appropriate cost recovery should be reflected in rates)". The general clustering of the R:C and margin to cost results within or close to the 95% to 105% range also suggests that the current rate design aligns well with the eighth rate design principle listed in Section 5.3 "Avoidance of undue discrimination (interclass equity must be enhanced and maintained)". FEI has been consistent in its cost allocation approach and as evidenced by the results in Table 6-17, the rates in place fairly collect each rate schedule's allocated costs.

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FEI has excluded RS 4, RS 22, and RS 7/RS 27 from Table 6-17 above because Rate Schedule 4 is a seasonal service (firm in the summer and interruptible in the winter), RS 22 is predominantly interruptible[99] and RS 7/RS 27 is fully interruptible. These rates do not drive system capacity additions,[100] and consequently are not allocated any demand-related costs. The charges within these rate schedules are not set using their allocated costs from the COSA model. Nevertheless, FEI has calculated the ratios for these rate schedules, which are shown in Table 6-19 below.

[98] Refer to Appendix 6-4 which shows the COSA schedules using the 2016 test year. FEI has also included Appendix 6-9 which shows 2013 Test Year COSA Financial Schedules from the 2012 Amalgamation Application. These schedules assume that the former Mainland, Vancouver Island, Whistler and Fort Nelson service areas had all amalgamated.

[99] One RS 22 customer has 2 TJ per day of firm. All other RS 22 customers have no firm demand. Under RS 22, customers can negotiate a firm service level and rate that is subject to Commission approval.

[100] RS 4 is winter interruptible, which is when FEI's system peaks.

Topic	Undertaking	FEI's Action/Response
Basic versus volumetric Delivery Charges	Some participants in the workshop questioned the objective and reasoning for any change in basic and delivery charge ratio. FEI was asked to justify its proposal based on rate design considerations.	Section 7.5.1 studies the issue of fixed vs volumetric charges from the perspective of intra-rate schedule fairness, suggesting an increase in fixed charge is reasonable. Section 7.5.2 provides the opposing views regarding the government energy conservation policy. The impact on customers' rates and annual bill amounts is included in Section 7.8. The final proposal considers all of these issues in tandem.

7.8 *RATE DESIGN PROPOSAL*

FEI recommends a residential rate design which accomplishes the following:

1. Maintains the current flat rate structure with a fixed Basic Charge and a flat volumetric Delivery Charge; and
2. Improves the alignment between the fixed costs allocated to the residential rate schedule and the fixed charges recovered from residential customers by a one-time 5% increase to Basic Charge and corresponding decrease in the volumetric Delivery Charge.

The following provides a bill impact analysis of the proposed option and a discussion of the impact on low income customers in particular.

7.8.1 Bill Impact Analysis for Proposed Option

Any rate design proposal should consider the bill impact to customers and should be implemented in a way that avoids rate shock to customers.

The table below provides the Basic Charge and the volumetric Delivery Charge before rebalancing[115], after rebalancing (including changes caused by rate design proposals in other rate schedules)[116], and with rebalancing and also a 5% increase in the daily Basic Charge.

Table 7-7: Different Rate Scenarios for Residential Rate Schedule

Title	COSA before Rebalancing	COSA after Rebalancing	5% Increase in Basic Charge and offsetting Decrease in Delivery Charge
Daily Basic Charge ($/day)	0.3890	0.3890	0.4085
Delivery Charge ($/GJ)	4.821	4.848	4.762

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[115] Including known and measurable changes.
[116] As set out in Section 12.

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As seen in the table above, the volumetric Delivery Charge after rebalancing (including the changes caused by rate design proposals in other rate schedules) is estimated to be approximately $4.848/GJ (based on a final 96.6% R:C ratio). The impact on customers' bills due to changes caused by rate design proposals in other rate schedules and rebalancing R:C ratios depends on the individual customers' consumption level (i.e., the higher the consumption, the higher the impact will be). For instance, the impact on the delivery portion of the annual bill amount of this change for an average use residential customer, who uses 82 GJ per year, is estimated to be around 0.4%.[117] The annual impact for all RS 1 customers for the rate design proposals and rebalancing is 0.3% (see Section 1, Table 1-1).

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The impact from changes in the ratio of basic and variable charges is different because the changes are revenue neutral for RS 1. Implementing the proposed 5% increase in Basic Charge results in an increase in the daily Basic Charge from $0.3890 to $0.4085 per day and a corresponding decrease in the volumetric Delivery Charge from the $4.848 per GJ to $4.762 per GJ.

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The annual consumption at which customers would experience no bill impact due to changes in the Basic Charge and the volumetric Delivery Charge is within the 80 to 85 GJ range (the average of the rate schedule). Customers with consumption above this range will experience a decrease of 0.04% to 0.64% in their annual bill amounts. Customers with consumption below this range will experience an increase of 0.06% to 5.0% in their annual bills depending on their consumption level. Lower use customers (customers with annual consumption less than 30 GJ per year) will experience a slightly higher bill impact (ranging from approximately $5 to $7 annually depending on the level of annual consumption). In all cases, customers will pay rates more closely matched to their allocated cost of service. The bill impact analysis for the recommended rate structure and fixed versus volumetric charges is demonstrated in Figure 7-11 and summarized in Table 7-8 below.

[117] (4.848-4.821)*82 GJ / (4.821*82+11.84*12).

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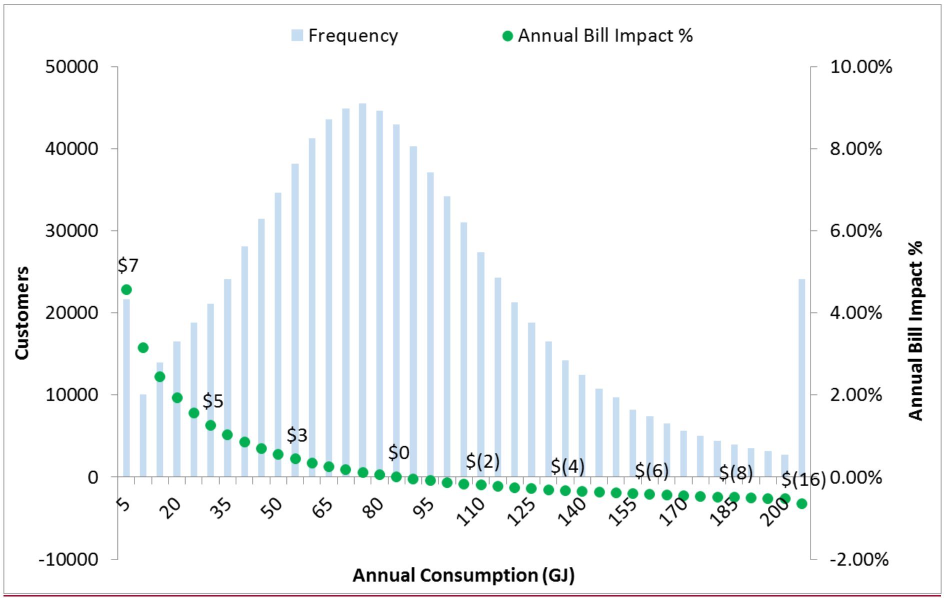
Figure 7-11: Customer Bill Impact[118]



The following table describes the results that are shown in Figure 7-11 above.

Table 7-8: Bill Impact Explanations

Graph Item	Description
Frequency	These columns show the number of customers whose annual consumption falls within each 5 GJ increment. The number of customers is on the y-axis and the Annual Consumption (GJ) of each 5 GJ increment is on the x-axis.
Annual Bill Impact %	The dots on the graph show the approximate annual bill impact percent that customers will experience from the rate structure change, based on their annual consumption (at each 5 GJ increment into which they fit). The dots line up with the Annual Bill Impact % which is the y-axis. Some of the dots also include the annual dollar impact that customers will experience at the various consumption levels.

Table 7-9 below provides the dollar amount and percentage of annual bill impact of the recommended rates for various annual consumption levels:

[118] Customer Bill Impact from changes in ratio of basic to volumetric charges based on 2016 COSA model with known and measurable changes included and after rebalancing.

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These facts, combined with R:C ratios for RS 2, RS 3 and RS 23 that are well within the 95% to 105% range of reasonableness, suggest that the existing commercial rate design strikes a reasonable balance on the rate design principles set out in Section 5.3. However, FEI identified two potential and related issues with the current commercial rate design: the economic cross-over point between RS 2 and RS 3/RS 23, and the customer segmentation threshold. Each of these issues is discussed below.

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- **Economic Crossover Point:** As shown above in Section 8.3.3 and Figure 8-11, the economic cross-over point between RS 2 and RS 3/RS 23 is at approximately 1,400 GJ/year. Therefore, the current rates in these rate schedules provide inappropriate price signals for small commercial customers consuming between 1,400 GJ and the 2,000 GJ threshold. This misalignment gives an incentive to customers on RS 2 to consume more energy so they can move above the 2,000 GJ threshold to achieve a lower rate and bill. The misalignment might also cause rate instability for customers whose year-to-year fluctuations in annual demand may occasionally cause them to move back and forth between these rate schedules. This can also cause revenue instability for the utility.
- **Customer Segmentation Threshold:** As shown above in Section 8.2.6 and Figure 8-10, the commercial customer load factor starts at a low of about 25% at around the 500 GJ/year level and increases to about 35% at the 2,000 GJ/year level where it remains fairly constant through to higher levels of annual demand. Based upon load factor, the customer segmentation threshold could conceivably range from 1,000 to 2,000 GJ/year. At 2,000 GJ/year the load factor in Figure 8-10 indicates that 2,000 GJ/year remains an appropriate threshold between small and large commercial customers because the load factor flattens out after this level of consumption. FEI currently uses a 2,000 GJ/year threshold to segment the commercial customers into small and large rate schedules – RS 2 and RS 3/RS 23, respectively.

The existing inter-class rate economics for commercial customers and the customer segmentation threshold are rate design issues since they suggest that there is room to improve the alignment with the following rate design principles:

- Principle 2 – Fair apportionment of costs among customers (appropriate cost recovery should be reflected in rates),
- Principle 3 – Price signals that encourage efficient use,
- Principle 6 – Rate stability,
- Principle 7 – Revenue stability, and
- Principle 8 – Avoidance of undue discrimination (specifically regarding interclass equity)

To revise the rate design to better align with rate design principles, FEI has evaluated three rate design options in Section 8.6 below.

Section No.	Section Heading	Page No.
19	Back-Billing	19-1
20	Equal Payment Plan	20-1
21	Late Payment Charge	21-1
22	Returned Cheque Charge	22-1
23	Discontinuance of Service and Refusal of Service	23-1
24	Limitations on Liability	24-1
25	Miscellaneous Provisions	25-1
26	Direct Purchase Agreements	26-1
27	Commodity Unbundling Service	27-1
28	Biomethane Service	28-1
N/A	*Standard Fees and Charges Schedule*	*S-1*

***Note**: Sections 12A and 18 are Reserved for Future Use.*

FEI is proposing amendments to all sections of the GT&Cs. FEI notes that only minor housekeeping amendments are being proposed to Sections 10 (Service Lines) and 12 (Main Extensions), which were recently amended as part of the FEI 2015 System Extension Application and Decision (Order G-147-16, dated September 16, 2016). Pursuant to Order G-147-16, the amendments were made effective September 16, 2016.

11.1.2 Summary of Proposed Amendments

In this Application, a number of substantive amendments are being proposed to the GT&Cs, effective Q4 of 2018:

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- In the GT&C Definitions, a number of new definitions have been proposed or moved from the rate schedules into the GT&Cs to reduce repetition in multiple rate schedules. These include definitions for Business Day[188] CNG, CNG Service, Delivery Charge, Fort Nelson, LNG, LNG Service, and Service Line Cost Allowance.
- FEI is proposing to further combine service areas. The proposed GT&Cs have combined all of the service areas, with the exception of Fort Nelson, into one service area, which has been referred to as the Mainland and Vancouver Island Service Area.

[188] To avoid repetition, the capitalized terms used in this Section are the same terms defined in the GT&Cs.

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Section 24 (Limitations on Liability)

No substantive changes have been proposed.

Section 25 (Miscellaneous Provisions)

No changes have been proposed.

Section 26 (Direct Purchase Agreements)

No substantive changes have been proposed.

Section 27 (Commodity Unbundling Service)

Paragraph (a) of Section 27.1 (Unbundling Service Terms and Conditions) has been revised to make it clear that a notice of appointment of marketer must be made in a form acceptable to FEI.

No other substantive changes have been proposed to this Section.

Section 28 (Biomethane Service)

No substantive changes have been proposed.

Table 11-2 below provides a summary of the proposed amendments to the GT&Cs, effective Q4 of 2018.

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Table 11-2: Summary of Proposed Amendments to the FEI General Terms and Conditions

Section	Page No.	Proposed Amendments	Rationale
Table of Contents	i	Replaced “Fee” with “Charge” and added “Other”.	The proposed new title of Section 5 is Application Charge and Other Charges.
Table of Contents	i	Replaced “&” with “and”.	For stylistic consistency with other section titles. This same change has been made elsewhere in the document.
Table of Contents	ii	Changed “Equal” with “Monthly”.	The proposed new title of Section 20 is Monthly Payment Plan.
Table of Contents	ii	Replaced “Cheque” with “Payment”.	The proposed new title of Section 22 is Returned Payment Charge.
Table of Contents	ii	Removed phrase “Fees And”.	Amendment made to mirror the proposed new title of the Standard Charges Schedule.
Definition: “Application Fee”	D-1	Changed “Application Fee” to “Application Charge”.	Amendment made to mirror changes in the Standard Charges Schedule.

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Section	Page No.	Proposed Amendments	Rationale
Standard Fees and Charges Schedule	S-1	Added an "s" to "FortisBC Energy".	Amendment provides clarity.
Standard Fees and Charges Schedule	S-1	Changed "Disputed Meter Testing Fees" to "Meter Testing Charges".	New title of the schedule is "Standard Charges Schedule".

FEI has provided in Appendix 11-1 a blacklined version of the proposed changes to FEI's GT&Cs effective Q4 of 2018.

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11.1.2.2 Proposed Amendments to the FEI GT&Cs – Standard Fees and Charges Schedule

FEI has reviewed its rates for the Standard Fees and Charges Schedule both in a jurisdictional review of other Canadian utilities, as well as an internal cost review. In its jurisdictional review, FEI considered the fees and charges of the following other Canadian utilities:

- BC Hydro;
- PNG;
- ATCO Gas and Pipelines Ltd. – Alberta-North and South (ATCO);
- Direct Energy Regulated Services – Alberta-North and South (Direct Energy);
- AltaGas Utilities Inc. (AltaGas);
- SaskEnergy Incorporated (SaskEnergy);
- Manitoba Hydro;
- Union Gas Ltd. (Union); and
- Enbridge Gas Distribution Inc. (Enbridge).

FEI conducted this jurisdictional research in order to determine whether FEI's rates for its Standard Fees and Charges were reasonable when compared with other Canadian utilities. FEI's internal cost review research was conducted in order to determine whether the current rates charged continue to reflect the costs to perform the services the fee is intended to recover.

Standard Fees and Charges Schedule – Proposed Name Changes:

During FEI's jurisdictional review, FEI also considered whether to propose a new name for its standard fee or charge in order to better reflect the nature of the fee or to be more consistent with other utilities' naming conventions for similar fees.

FEI is proposing to simplify the name of the Standard Fees and Charges Schedule by renaming it the "Standard Charges Schedule". FEI is also proposing the following changes:

11.1.3 Conclusion

FEI proposes that the changes to the Standard Charges Schedule be approved, effective Q4 of 2018.

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11.2 FEI RATE SCHEDULES FOR SERVICE

11.2.1 Introduction

The FEI rate schedules set out Commission approved specific terms, conditions, and applicable charges for each of FEI's different service offerings.

Table 11-5 below outlines the current FEI rate schedules and provides a description of the applicable service offering under each rate schedule.

Table 11-5: The Current FEI Rate Schedules for Service

Rate Schedule	Rate Schedule Title	General Description of Service Offering
1	Residential Service	• Residential firm service
1B	Residential Biomethane Service	• Residential firm biomethane service
1U	Residential Service	• Residential firm unbundled service
1X	Residential Service	• Residential firm unbundled service ○ *In the event of marketer failure, customers served under RS 1U may be served under RS 1X*
2	Small Commercial Service	• Small commercial firm service • Normalized annual consumption is less than 2,000 GJ per year
2B	Small Commercial Biomethane Service	• Small commercial firm biomethane service • Normalized annual consumption is less than 2,000 GJ per year
2U	Small Commercial Service	• Small commercial firm unbundled service • Normalized annual consumption is less than 2,000 GJ per year
2X	Small Commercial Service	• Small commercial firm unbundled service • Normalized annual consumption is less than 2,000 GJ per year ○ *In the event of marketer failure, customers served under RS 2U may be served under RS 2X*

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Rate Schedule	Rate Schedule Title	General Description of Service Offering
50	Large Volume Industrial Transportation	• Large volume firm and interruptible transportation service • Customers must enter into a transportation agreement for a minimum period of 15 years and require firm transportation service of at least 45 TJ per day

11.2.1.1 Scope of Review

The scope of the rate schedule review in this Application includes all of FEI's rate schedules outlined in Table 11-5, except for the following:

- RS 30;
- RS 36;
- RS 46; and
- RS 50.

Amendments to RS 30 are not proposed in the Application because this rate schedule reflects the current standard provisions used for GasEDI contracts with third parties for off-system natural gas sales and purchases. As such, there are no proposed amendments required at this time. Typically, changes to RS 30 are generally of a housekeeping nature, and addressed as required. With respect to RS 36, consistent with past practice, any amendments to this rate schedule are handled through the Customer Choice Program Annual General Meeting regulatory proceeding. Finally, as outlined in Section 1 of the Application, RS 46 and RS 50 are not included in the scope of this Application; therefore, no amendments have been proposed, as these rate schedules are approved by Orders in Council and not subject to change in this proceeding.[189]

In addition to the rate schedules outlined in Table 11-5 above, FEI has a number of tariff supplements and Bypass agreements (filed with and approved by the Commission in the form of tariff supplements) currently in place. These tariff supplements have been negotiated and approved by the Commission and, as such, FEI is not proposing any changes to existing tariff supplements in this Application.[190]

FEI will be making a supplemental filing on February 2, 2017, which will include Appendices 11-3 and 11-4. Appendix 11-3 will provide the blacklined changes to each rate schedule reflecting the rate design proposals in the Application, and will also include any housekeeping changes FEI is proposing. Appendix 11-4 will provide supporting calculations for the proposed decrease

[189] OIC No. 557/2013 and OIC No. 749/2014 (refer to Appendix 2).

[190] With the exception of the proposed cancellation effective Q4 of 2018, of FEI Tariff Supplement G-21 between Creative Energy Vancouver Platforms Inc. and FEI. Please refer to Section 9 of the Application for more information.

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to the Administration Charge per Month for RS 22, RS 22A, RS 22B, RS 23, RS 25, RS 26 and RS 27.

11.2.2 Conclusion

FEI proposes that the changes to the rate schedules, being filed in the supplemental filing on February 2, 2017, be approved, effective Q4 of 2018.

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11.3 OVERHEAD AND MARKETING CHARGE FOR CNG AND LNG STATION CUSTOMERS

11.3.1 Introduction

The OH&M charge is intended to recover an appropriate portion of overhead and marketing expenses directly from CNG and LNG station customers. The methodology and amount of the OH&M charge was set by the Commission in Order G-78-13, dated May 14, 2013. Order G-78-13 set the OH&M charge at $0.52/GJ. On June 18, 2015, the Commission issued Order G-105-15, which, among other things, directed FEI to:

> Recalculate the Overhead and Marketing (OH&M) Charge, using the most recent cost and volume forecast, and the same methodology as Order G-78-13, to determine if the $0.52/GJ OH&M Charge continues to be appropriate.

On August 21, 2015, FEI submitted its Order G-105-15 compliance filing, recalculating the OH&M charge based on the methodology of Order G-78-13, using total NGT forecast volumes. At that time, the results of the recalculation supported maintaining the OH&M charge at $0.52/GJ. FEI also indicated in its compliance filing that a further review of the OH&M charge would be appropriate as part of the Rate Design Application, since the direct allocation of overhead and marketing dollars would be considered at that time and may affect the OH&M charge applicable to CNG and LNG fueling station services.

11.3.2 OH&M Charge Updated Calculation

FEI is not proposing any changes to how overhead and marketing dollars are currently directly allocated. As a result, there is no change to the methodology for the inputs to the OH&M charge calculation. Table 11-6 below provides an updated calculation of the OH&M charge using the forecast of 2016 and 2017 costs and NGT volumes based on the methodology of Order G-7-13.

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- Decrease the Delivery Charge by $0.012/GJ as discussed in Section 9.6 and shown in Table 9-20 of the Application.

4. For RS 4:

- Change rates due to the proposed changes to RS 5 and RS 7 as shown in Table 9-21 of the Application by increasing the off-peak delivery rate by $0.114/GJ and by decreasing the extension period by $0.018/GJ.

5. For RS 6:

- Decrease the Delivery Charge per GJ by $1.318/GJ as a result of the rebalancing of rates discussed in Section 12.2.2 below.

6. For RS 6P:

- Set the Delivery Charge per GJ to equal the Delivery Charge per GJ of RS 6 as discussed below in Section 12.2.2.

7. For RS 22:

- Set the RS 22 charges on a cost of service basis as discussed in Section 9.8.5 of the Application, as follows:
    i. Firm Demand Charge of $25.000/Month/GJ.
    ii. Firm MTQ Delivery Charge of $0.150/GJ.
    iii. Interruptible MTQ Delivery Charge of $0.972/GJ.

FEI's proposal for RS 5 and RS 25 is to decrease the multiplier in the peak Daily Demand formula to 110% from 125% and to increase the Demand Charge by $3.00/Month/GJ. These two changes are offsetting, resulting in only a small increase in revenue from RS 5/25 collectively. The net increase in revenue is $45.2 thousand, which does not change the R:C ratio for RS 5/25.

FEI's proposal for an increase in the Demand Charge for RS 5 and RS 25 has an effect on the calculation of the RS 7/RS 27 charges, as discussed in Section 9.6. The adjusted rate for RS 7/RS 27 results in approximately $90.7 thousand less from this customer group. The $90.7 thousand is shifted to RS 1. The net decrease in revenue of $90.7 thousand decreases the R:C ratio for RS 7/RS 27 by 0.3%. This impact is reflected in the final COSA results in Section 12.2 below.

FEI's proposal for RS 22 results in a $754 thousand decrease in revenue from RS 22 customers. As a group, the R:C ratio for RS 22 customers is 103.5% before any adjustments. As the RS 22 firm offering is a new service offering, FEI is proposing to set the new offering at a 100% R:C ratio, in the middle of the 95% to 105% range of reasonableness. When comparing the firm revenues for the current RS 22 customers and VIGJV using the rates derived in Section 9.8 to the revenues embedded in the test year, FEI will collect $473 thousand less revenue. In addition, BC Hydro IG has contract rates in place until 2022 that are marginally lower than they

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rate design proposals changes the R:C ratio of rate schedules because the same revenue is divided by different allocated costs.

As shown in Table 12-2, all rate schedules are within the range of reasonableness of 95% to 105%, except for RS 5/RS25, RS 22A, and RS 6/RS 6P.

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FEI is not proposing to rebalance RS 22A this is a closed rate schedule. RS 22A and RS 22B are not allocated costs in a postage stamp manner in the COSA as they are not allocated a portion of FEI's distribution system costs. FEI has continued to allocate costs in this manner to be consistent with past practice and the rate schedules' grandfathered status. Rebalancing the charges under RS 22A would be inconsistent with continuing to grandfather the terms and conditions of service under this rate schedule. Since RS 22 is available for all large industrial customers, grandfathered RS 22A (and RS 22B) customers may elect this rate schedule as an alternative. FEI's proposed rebalancing for RS 5/25 and RS 6/RS 6P is discussed below.

12.2.2 Rebalancing of RS 5/25 to be within the Range of Reasonableness

After Rate Design proposals, the R:C ratio for RS 5/25 is 106.3%, which is outside the range of reasonableness established by Order G-4-18. To rebalance within the range of reasonableness, FEI proposes for the following reasons to decrease RS 5/25 revenues by reducing the basic charge:

- By decreasing the basic charge for RS 5/25, FEI's proposals for RS 7, RS 27 and RS 4 remain unchanged and there will be no additional revenue shift from RS 7, RS 27 and RS 4 to RS 1.
- Changing only the basic charge, and not the demand or delivery charge, supports rates that continue to attract customers with at least a 40% Load Factor. With the proposed rates, including rebalancing, a customer in RS 5/25 consuming 15,000 GJ would need to have a load factor of approximately 40% to be better off (when compared to RS 3 and RS 23), which is the intent of the General Firm Service offering.

FEI is therefore proposing to decrease the RS 5/25 Basic Charge by $118 per month to $469 per month.

Decreasing the basic charge by $118 per month creates a revenue responsibility decrease of $1.093 million for RS 5/25. Recognizing that RS 1 is within the approved range of reasonableness, but at the lower bound, FEI proposes to shift this revenue responsibility to RS 1, which results in an annual average bill impact for all RS 1 of approximately 0.15%.

12.2.3 Rebalancing of RS 6/RS 6P to be within the Range of Reasonableness

Based on FEI's Final COSA model results above, RS 6/RS 6P has an R:C ratio of 131.7%. There are 15 customers who take service under RS 6. These customers operate public CNG refueling stations. RS 6P is for public natural gas vehicle refueling at FEI's Surrey Operation Centre.

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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. FEI is proposing to reduce the revenue to bring the R:C ratio in alignment with the upper end of the range of reasonableness and decrease the Delivery Charge to match the reduction in revenue.

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The decrease to the Delivery Charge supports the government's policy goal of reducing GHG emissions by making natural gas more affordable as a vehicle fuel substituting for gasoline or diesel for those members of the public and fleets that are using the RS 6/RS 6P stations. After the proposed adjustment, RS 6/RS 6P will have an R:C ratio of 105% and RS 6 customers will experience approximately a 20% decrease in their annual bills from this adjustment. As RS 6P is for public natural gas vehicle fueling stations, it is not possible for FEI to calculate an annual bill impact for customers using RS 6P because the volume by customer using the public fueling station is not tracked. As RS 1 is the only rate schedule with an R:C ratio of less than 100%, FEI proposes to shift the $75.9 thousand deficit to RS 1. The shift represents an approximate annual bill impact of 0.01% (rounding to 0.0%) for RS 1 customers.

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RS 6P for CNG fueling services to customers at FEI's Surrey Operations Centre was approved by Order G-165-11A. 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. Since the approval of RS 6P, 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. 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. This proposal is included in the rebalancing results for RS 6 below.

12.3 *FINAL COSA RESULTS AFTER REBALANCING*

Table 12-4 below shows FEI's final COSA results before and after rebalancing, along with the proposed rebalancing amounts. As seen in Table 12-3, with the exception of RS 22A, the R:C ratios for all rate schedules are within the range of reasonableness after rebalancing.

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Table 12-3: R:C and M:C Results after Rate Design Proposals and Rebalancing

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

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

FEI notes that RS 22 was excluded from the COSA results in Table 6-11 because customers in RS 22 were predominantly interruptible. However, as discussed in Section 9.8, FEI is proposing a new firm service rate under RS 22. As such, FEI includes the R:C and M:C ratios for RS 22 in Table 12-3 above. FEI further notes that the COSA results from Section 6 include interruptible revenues for RS 22, while the Final COSA results are based only on allocated costs and firm revenue. In the Final COSA, RS 22 Interruptible revenue is treated as a credit to the cost of service and allocated to all non-bypass rate schedules (except RS 22) based on margin.

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Detailed Final COSA schedules are included as Appendix 12.

12.4 *COMPARISON OF FEI'S CURRENT RATES AND PROPOSED RATES*

Table 12-4 below summarizes FEI's proposed rate changes, by showing the estimated COSA-based 2018 rates, the proposed rate changes and the estimated 2018 rates after the proposed changes. It is important to note that the proposed rate changes will be made to 2018 approved rates, not the estimated COSA-based rates. Therefore, the estimated 2018 rates below will not be the rates that are actually approved for 2018.

Table 12-4: FEI Rate Proposal Summary

Rate Schedule	Estimated COSA-Based 2018 Rates[191]	Proposed Rate Changes	Estimated 2018 Rates After Proposed Changes
RS 1 – Residential			
Basic Charge (daily)	$0.3890	$0.0195	$0.4085
Delivery Charge ($/GJ)	$4.821	($0.059)	$4.762
RS 2 – Small Commercial			
Basic Charge (daily)	$0.8161	$0.1324	$0.9485
Delivery Charge ($/GJ)	3.850	($0.186)	3.664
RS 3/RS 23 – Large Commercial			
Basic Charge (daily)	$4.3538	$0.4357	$4.7895
Delivery Charge ($/GJ)	$3.189	$0.001	$3.190
RS 4			
Basic Charge (Monthly)	$439	Nil	$439
Delivery Charge ($/GJ) Off Peak	$1.278	$0.114	$1.392
Delivery Charge ($/GJ) Extended Period	$2.183	($0.018)	$2.165
RS 5/RS 25			
Basic Charge (Monthly)	$587.00	($118.00)	$469.00
Delivery Charge ($/GJ)	$0.887	Nil	$0.887
Demand Charge ($/Month/GJ)	$21.596	$3.00	$24.596
RS 6/RS 26			
Basic Charge (Monthly)	$61	Nil	$61
Delivery Charge ($/GJ)	$4.873	($1.622)	$3.251
RS 7/RS 27			
Basic Charge (Monthly)	$880.00	Nil	$880.00

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[191] The COSA rates shown are 2016 approved rates plus known and measureable changes discussed above in Section 6.

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Rate Schedule	Estimated COSA-Based 2018 Rates[191]	Proposed Rate Changes	Estimated 2018 Rates After Proposed Changes
Delivery Charge ($/GJ)	$1.455	($0.012)	$1.443
RS 22			
Basic Charge (Monthly)	$3,664.00	Nil	$3.664.00
Firm Demand Charge ($/Month/GJ)	n/a		$25.000
Firm MTQ ($/GJ)	n/a		$0.150
Interruptible MTQ ($/GJ)	$1.060	($0.088)	$0.972

12.5 *CONCLUSION*

Based on the analysis and considerations set out in the Application, FEI believes that its rate design proposals will result in a reasonable balance of rate design principles, are just and reasonable and should be approved as proposed.

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13. RATE DESIGN FOR FORT NELSON

UPDATES ARISING FROM ORDER G-4-18 TO BE FILED ON FEBRUARY 6, 2018 AS PART OF A SEPARATE SUPPLEMENTAL FILING

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13. RATE DESIGN FOR THE FORT NELSON SERVICE AREA

In this section, FEI discusses the rate design for the Fort Nelson Service Area (Fort Nelson). The rates for Fort Nelson are established separately from the rates for FEI's other service areas.

Fort Nelson's rate design proposals are set out below under approvals sought and discussed in additional detail in the following subsections. Based on the analysis and rate design considerations set out in the Application, FEI believes that its rate design proposals for Fort Nelson are just and reasonable, and should be approved as proposed.

This section is organized as follows:

- Section 13.1 sets out the approvals sought by FEI for Fort Nelson;
- Section 13.2 provides a brief overview of Fort Nelson customers, gas supply background and the regulatory history of Fort Nelson rates and rate setting methodologies since 1992;
- Section 13.3 summarizes the stakeholder engagement process for Fort Nelson, including the residential customer survey, undertaken to gather stakeholder and customer feedback, comments and questions, that assisted in compiling a key issues list and were taken into account in the Fort Nelson rate design proposals;
- Section 13.4 describes the cost of service allocation methodology and study for Fort Nelson;
- Section 13.5 presents the proposed changes to the existing rate design for residential, commercial and industrial customers rates;
- Section 13.6 summarizes the changes to the Fort Nelson Gas Tariff; and
- Section 13.7 summarizes the rate design proposals, including rebalancing of rates and associated bill impacts, postage stamp rate analysis and concludes the section.

13.1 *APPROVALS SOUGHT*

Pursuant to section 58 to 61 of the UCA, FEI seeks the Commission's approval of the following for Fort Nelson, to be effective in the fourth quarter (Q4) of 2018:

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Cancellation of Rates

1. Approval to cancel the following Fort Nelson Rates, each of which has no customers:
    - Rate 1 Option A - Domestic Service for Primary space heating equipment purchased from FEI Fort Nelson
    - Rate 2.4 - Compression/Dispensing Service

- To set a Storage and Transport Charge based on classifying midstream costs as demand-related and allocating those costs to all sales customers based on their load factor adjusted volume, as discussed in section 13.4.2.

Residential Rates

6. Approval of the following for Rate Schedule 1 (formerly Rate 1):

   - To set the Basic Charge per Day at $0.3701 and the Delivery Charge at $3.512 per GJ as a result of (i) unbundling the rate structure in a way that minimizes the bill increase for any individual customer as discussed in sections 13.5.4 and 13.7, and (ii) rebalancing as discussed in section 13.7.1.4.

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Commercial Rates

7. Approval to change the annual volume threshold between small and large commercial customers from 6,000 GJ to 2,000 GJ and to set the Basic, Delivery, Commodity, and Storage and Transport Charges for commercial customers to align with the 2,000 GJ threshold for FEI customers as discussed in sections 13.5.5 and 13.7, as follows:

   - For Rate Schedule 2 (formerly Rate 2.1 – customers whose normal annual consumption is less than 2,000 GJ):
     - To set the Basic Charge per Day at $1.2151 and Delivery Charge at $3.781 per GJ as a result of (i) unbundling the rate structure as discussed in sections 13.5.5 and 13.7, and (ii) rebalancing as discussed in section 13.7.1.4.

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   - For Rate Schedule 3 (formerly Rate 2.2, and Rate 2.1 customers whose normal annual consumption is greater than 2,000 GJ):
     - To set the Basic Charge per Day at $3.6845 and Delivery Charge at $3.330 per GJ as a result of (i) unbundling the rate structure as discussed in sections 13.5.5 and 13.7, and (ii) rebalancing as discussed in section 13.7.1.4.

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   - For Rate Schedule 6 (formerly Rate 2.3):
     - To set the Basic Charge per Day and Delivery Charge equal to FEI's approved January 1, 2018 RS 6 rates, as a result of unbundling the rate structure.

Industrial Rates

8. Approval of the following for Rate Schedule 5 (formerly Rate 3.1):

   - To set the Daily Demand equal to 1.10 multiplied by the greater of:

     i. The customer's highest average daily consumption of any month during the winter period (November 1 to March 31); or

ii. One half of the Customer's highest average daily consumption of any month during the summer period (April 1 to October 31).

The calculation of Daily Demand will be based on the Customer's actual gas use during the preceding Contract Year.

- To set the Basic Charge at $600.00 per Month, the Demand Charge per Month per GJ of Daily Demand at $30.350, the Delivery Charge per GJ at $1.000.

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- To phase-out the Rate Revenue Stabilization Adjustment Mechanism Charge (Rate Rider 5) over two years as discussed in Section 13.5.6.

9. Approval of the following for Rate Schedule 25:

- To set the Daily Demand equal to 1.10 multiplied by the greater of:

i. The customer's highest average daily consumption of any month during the winter period (November 1 to March 31); or

ii. One half of the Customer's highest average daily consumption of any month during the summer period (April 1 to October 31).

The calculation of Daily Demand will be based on the Customer's actual gas use during the preceding Contract Year.

- Amendments to implement daily balancing, as discussed in Section 10.6 of the Application.
- Amendments to reduce the daily balancing tolerance to a 10% threshold and to introduce a balancing charge of $0.25/GJ for gas supply shortfalls within a 10% to 20% tolerance level, as discussed in Section 10.7 of the Application.
- To set the Basic Charge at $600.00 per Month, the Demand Charge per Month per GJ of Daily Demand at $30.350, the Delivery Charge per GJ at $1.000, and the Administrative Charge per Month at $39.00.

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- To phase-out the Rate Revenue Stabilization Adjustment Mechanism Charge (Rate Rider 5) over two years as discussed in Section 13.5.6.

The Fort Nelson Gas Tariff

10. Approval of the housekeeping and other amendments to the Fort Nelson Gas Tariff as set out in Appendix 13-6. The proposed amendments to the Fort Nelson Gas Tariff include the following:

- Approval of the amendments to the terms and conditions for Rate Schedules 1, 2, 3, 5, 6 (until these changes are approved these have been Rates 1, 2.1, 2.2, 3.1, and 2.3) and Rate Schedule 25.

Table 13-2: Action Items, Key Discussion Topics and FEI Response

Action Items	Action / Response	Reference
Physical flow and commercial transactions contributing to gas costs	FEI has provided a background on gas supply arrangement to understand the physical flow and commercial transactions contributing to the gas costs.	Section 13.2.1.2
Estimated costs to unbundle Fort Nelson bills	Costs are estimated at approximately $70 thousand to unbundle and restructure the rates for Fort Nelson	Section 13.5.2
Efficiencies gained from unbundling	Fort Nelson customers sum to approximately 0.2% of FEI's total customers. Unbundling Gas and Delivery Charges for Fort Nelson bills will simplify the discussion for FEI's Customer Service Representatives but will not result in a reduction of employees.	
Key Discussion Topics	**Action / Response**	**Reference**
Bundled or Unbundled Rates	FEI is proposing to unbundle the rates which will make rate changes more transparent.	Section 13.5.2
Gas Cost Allocation Methodology	FEI is proposing to allocate midstream costs based on a load factor volume adjusted basis and allocate commodity costs based on sales volumes.	Section 13.4.2
Customer Segmentation – Commercial Customers	FEI is proposing to change the customer segmentation threshold between small and large commercial customers from 6,000 GJ/year to 2,000 GJ/year.	Section 13.5.5
Revenue to Cost Ratio and Rebalancing	FEI is proposing to rebalance Rate 2.1, Rate 2.2 and RS 25 to bring their R:C ratios within the range of reasonableness. The revenue responsibility would be shifted to Rate 1 with an average bill impact of approximately +5.5% for Rate 1 customers, -2.2% for Rate 2.1 customers, -8.5% for Rate 2.2 customers and +4.9% for the RS 25 customer.	Section 13.7.1.4
Common Rates	FEI is not proposing the adoption of postage stamp rates for Fort Nelson at this time.	Section 13.7.3

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FEI received feedback from stakeholders and customers regarding FEI's explanation of the context of Fort Nelson's rate design provided in the workshop. Specific feedback on the key discussion topics and issues mentioned above is included in the relevant sections below as set out in the table above.

13.3.2 Residential Customer Survey

As explained in Section 4.6, FEI retained the services of Sentis to conduct an online survey to measure residential customers' knowledge of Fort Nelson's existing rate structure and bill components and to better understand customers' preference regarding various rate design considerations. The detailed version of this study can be found in Appendix 4-5 to this Application. A brief summary of the survey results is presented below.

13.4.1.3 Adjustment to Test Year Inputs

FEI has made one adjustment to the 2018 approved forecast for the number of customers and revenue as one of the RS 25 customers has moved from RS 25 to Rate 2.1. There was no volume forecast for this customer in the 2018 Teat Year so that the revenue shown below is only related to the fixed charges. The impact of this move is presented in the following table:

Table 13-6: Adjustment to 2018 Test Year from Movement of RS 25 Customer

	RS 25	Rate 2.1	Total
Revenue ($000)	-$24.3	+$0.5	-$23.8
Customers	-1	+1	0

Moving this RS 25 customer to Rate 2.1 in the COSA creates a revenue deficiency of $23.8 thousand for which an adjustment to the Test Year margin is required. To make up for the lost revenue, the margin for each rate in the COSA model is increased by approximately 1%. On average Fort Nelson customers will experience a 0.8% increase in their annual bills from this customer migration.

13.4.1.4 Customers, Annual Volume, Load Factor and Peak Day

The number of customers and annual volume by rate schedule from Fort Nelson's 2018 test year, as adjusted, are used to develop many of the allocators within the Fort Nelson COSA Model. Generally, the Fort Nelson delivery system has been designed and constructed to meet peak day (coldest day) demand of all its firm service customers. The customer load from the Fort Nelson test year is adjusted by the load factor of each rate category to estimate the peak day demand for each rate schedule. The peak day demand is used to allocate much of Fort Nelson's system costs that are classified as demand. Currently, there is one customer that is taking service in Fort Nelson under RS 25 and that customer has a load factor of 27%. This low load factor is a result of the customer scaling back on its operations and only using gas for space heating purposes. As in FEI, Fort Nelson's Rate Schedule 25 is intended to serve process load customers. Generally, process load customers have higher annual throughput and are less heat sensitive than large commercial customers. As described in Section 9.5.1, customers with load factors less than 40% are more heat sensitive than a typical process load and should be taking service under the large commercial rate. As per the Reasons for Decision, page 21, for Commission Order G-4-18, FEI updated the COSA model using the actual load factor of 27% for RS 25.

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In addition to system costs in place to meet peak day demand, Fort Nelson has costs caused by connecting customers to the delivery system. The number of customers in each rate category is used to allocate the customer costs that are caused from a customer joining Fort Nelson's delivery system. The following table summarizes the values used in the Fort Nelson COSA Model for allocation purposes.

Table 13-7: Customers, Annual Volume, Load Factor and Peak Day by Rate

Rate	Customers	Annual Volume (TJ)	Load Factor	Peak Day Demand (TJ)
1	1,961	259.9	35.7%	2.0
2.1	480	203.7	33.4%	1.7
2.2	7	56.7	40.5%	0.4
RS 25	1	39.5	27.0%	0.4
Total	**2,449**	**559.8**		**4.5**

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13.4.1.5 Delivery Cost Allocation Results

The following section summarizes the above COSA analysis into the three key steps of cost allocation: functionalization, classification and allocation. A full set of COSA schedules can be found in Appendix 13-4.

13.4.1.5.1 FUNCTIONALIZATION SUMMARY

The functional categories used for Fort Nelson for the Application are consistent with those used for FEI with the exception of the Storage function. As described in Sections 6.3.4.3 and 6.3.4.4, FEI has two LNG storage facilities; however, Fort Nelson does not have LNG or other storage facilities. Table 13-8 provides a summary of the delivery cost of service functionalization from the Fort Nelson COSA Model.

Table 13-8: Delivery Cost of Service Functionalization Summary

Function	($000s)	% of total
Gas Supply Operations	$8	0.3%
Transmission	$831	33.4%
Distribution	$1,491	59.9%
Marketing	$94	3.8%
Customer Accounting	$65	2.6%
Total	**$2,489**	**100.0%**

13.4.1.5.2 CLASSIFICATION SUMMARY

Table 13-9 summarizes the results of the delivery cost of service classification from the Fort Nelson COSA Model.

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Table 13-9: Delivery Cost of Service Classification Summary

Classification	($000s)	%of total
Energy	$19	0.8%
Demand	$1,363	54.8%
Customer	$1,107	44.4%
Total	**$2,489**	**100.0%**

13.4.1.5.3 COST ALLOCATION SUMMARY

Table 13-10 summarizes the results of the delivery cost of service allocation to rates from the Fort Nelson COSA Model.

Table 13-10: Delivery Cost of Service Allocation to Rates Summary

Rate	($000s)	% of total
1	$1,233	49.5%
2.1	$902	36.3%
2.2	$191	7.7%
RS 25	$162	6.5%
Total	**$2,489**	**100.0%**

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13.4.2 Gas Cost Allocation

For Fort Nelson sales customers, the gas cost is currently bundled with the delivery cost. This means that the Gas Cost Recovery Charge is not shown separately on Fort Nelson customers' bills. However, each sales customer (Rate 1, Rate 2.1 and Rate 2.2) has an allocation of FEI's cost of gas included in the charges shown on their bill, including the commodity cost and the midstream cost, which is named the Gas Cost Recovery Charge in the Fort Nelson Tariff. FEI does not allocate any storage or LNG costs to Fort Nelson in its midstream costs, but does include T-North Short-Haul capacity cost on the Spectra pipeline system as a midstream cost.

Customers on RS 25 are required to arrange their own gas supply to be delivered to Fort Nelson's interconnecting point through a shipper agent and so are not charged for either of the commodity or upstream pipeline transportation (midstream) costs.

Details regarding what gas supply resources are included in the commodity and midstream (storage and transport) costs for Fort Nelson are provided in section 13.2.1.2. Below, FEI describes the current and proposed gas cost allocation approach.

13.4.2.1 Current Gas Cost Allocation Methodology

Fort Nelson's current gas cost allocation methodology allocates gas costs (both commodity and midstream) to sales customers using forecast annual consumption. For Rates 3.1, 3.2 and 3.3 which have no customers, the cost of gas in these rates is the Fort Nelson average cost of gas

13.4.3 Revenue to Cost and Margin to Cost Ratios

As directed by Commission Order G-4-18, FEI is using a range of reasonableness of 95% to 105%. For further discussion of Revenue to Cost ratios and the range of reasonableness, please see Section 6.5.1 of the Application.

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The table below provides the R:C and M:C ratios for each of Fort Nelson's rates based on the Fort Nelson 2018 RRA, plus the adjustment discussed in section 13.4.1.3 and utilizing a 27% load factor for the RS 25 customer. The results are from Fort Nelson's COSA Model before rebalancing and rate design proposals.

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Table 13-12: Revenue to Cost and Margin to Cost Ratios

Rate	R:C	M:C
Rate 1 Domestic (Residential) Service	91.4%	89.0%
Rate 2.1 General (Small Commercial) Service	109.4%	112.2%
Rate 2.2 General (Large Commercial) Service	114.4%	119.8%
Rate Schedule 25 General Firm Transportation Service	92.4%	92.4%

Table 13-12 shows that R:C ratios for all rates are outside the 95% - 105% range of reasonableness. FEI's proposal for rebalancing is discussed in Section 13.7.1.4.

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13.5 *FORT NELSON RATE DESIGN*

13.5.1 Introduction

FEI reviewed the rate design for Fort Nelson residential, commercial and industrial customers that take service under Rate 1, Rate 2.1, Rate 2.2 and Rate Schedule 25. FEI discusses unbundling the rates for Fort Nelson customers and also the potential delivery rate structure options for Fort Nelson customers (i.e. flat, declining or inclining block).

As shown in Table 13-1, FEI is proposing to change the classification of Fort Nelson rates as outlined in the Fort Nelson Tariff to be consistent with FEI's rate schedules. FEI is also proposing to change Fort Nelson's current bundled declining block rates to unbundled flat rates for residential, commercial and industrial customers. This means that Fort Nelson residential and commercial customers will see a separate volumetric Commodity Cost Recovery Charge per GJ, Storage and Transport Charge per GJ, Basic Charge per Day and Delivery Charge per GJ in the Fort Nelson Tariff and on their bill. Fort Nelson transportation customers taking service under Rate Schedule 25 will see a separate Basic Charge per Month, Administration Charge per Month, Demand Charge per GJ per Month and Delivery Charge per GJ. The proposed Rate

13.5.5.3.3 LEVEL OF CHARGES FOR SMALL AND LARGE COMMERCIAL CUSTOMERS

There are differences in the cost to serve Fort Nelson small and large commercial customers, and there are differences in the load characteristics that justify having a differentiated daily Basic Charge and Delivery Charge.

The following table compares the small and large commercial customers of Fort Nelson based on the existing volume threshold of 6,000.GJ/year and based on the rate under which they are currently served.

Table 13-20: Comparison between Small & Large Commercial using 6000 GJ Threshold

	Rate 2.1	Rate 2.2
Customer Weighting Factor	1.6	5.7
Use per Customer	425 GJ	8,103 GJ
Load Factor	34.4%	40.5%
Average Customer-related Cost / Customer / Day	$1.403	$3.693
Average Demand-Related & Energy-related Cost / GJ	$3.222	$3.207

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The customer weighting factor is the relative cost of metering/measurement devices and service lines to serve commercial customers compared to residential customers. The higher weighting factor for Rate 2.2 compared to Rate 2.1 coupled with the average customer-related cost of service per customer per month leads to the expectation that large commercial customers should have a higher Basic Charge than small commercial customers.

The higher load factor of Rate 2.2 compared to the Rate 2.1 load factor means that large commercial customers will have a lower average demand-related cost per GJ, which is the result in the table above, this in turn leads to the expectation that the proposed Delivery Charge for large commercial customers will be lower than the Delivery Charge for small commercial customers.

In determining the proposed rates before rebalancing and taking into consideration the 2,000 GJ economic crossover, FEI has sought, as one of its objectives, to align the basic charge of both Rate 2.1 and Rate 2.2 proportionally to the customer classified costs from the COSA model and to limit the bill impact that individual customers in the two rate classes will experience. These observations must be coupled with the objective that at 2,000 GJ/year small and large commercial customers would have the same annual bill.

Changing the proposed threshold between Rate 2.1 and 2.2 to 2,000 GJ per year will result in 9 customers that would be moved to large commercial from small commercial, as these 9 customers' normalized annual consumption exceeds 2,000 GJ, but is less than the current 6,000 GJ threshold. The number of customers in Rate 2.1 will decrease from 479 customers to 471, with a net reduction of 23 TJ, and the average use per customer will decrease from 426 GJ per year to 384 GJ per year. Rate 2.2 average use per customer of 8,000 GJ per year will decrease to 5,267 GJ per year.

Table 13-23: Fort Nelson Industrial Rate Structure

Charge	Rate 3.1	RS 25
Administration Charge (per Month)	n/a	$202
Delivery Charge First 20 GJ/Month ($/GJ)	$4.552	$4.552
Delivery Charge Next 260 GJ/Month ($/GJ)	$4.201	$4.201
Delivery Charge Excess over 280 GJ/Month ($/GJ)	$3.450	$3.450
Minimum Monthly Charge ($/Month)	$1,826	$1,826
Gas Cost Recovery Charge ($/GJ)	$1.294	n/a

13.5.6.2 Customer Characteristics

Fort Nelson has only one industrial customer taking service under RS 25 as of November 1, 2016 and, as stated above, no customers in Rates 3.1, 3.2 or 3.3. The customer is no longer operating its production facility, but is still using natural gas for space heating to protect facilities and equipment from extreme cold weather damage. The customer's 2018 forecast demand is 40 TJ and its three year average load factor is 27%.

13.5.6.3 Fort Nelson Industrial Rate Design

For consistency, FEI is proposing to adopt the same rate structure for Fort Nelson as exists in FEI's other service areas. The charges included for the two industrial rate schedules would be: a Basic Charge, Demand Charge, and a Delivery Charge. Rate 3.1 would have a Commodity Cost Recovery Charge and a Storage and Transport Charge and RS 25 would have an Administration Charge.

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.

FEI's proposed rates before rebalancing are set out in the table below.

Table 13-24: Fort Nelson Proposed Rate Structure Before Rebalancing

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

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Rate Schedule 1: Residential Service

Fort Nelson RS 1, consistent with FEI RS 1, is applicable for all Residential Customers and now includes a common table of charges. FEI has removed details regarding an optional rate previously available for customers whose primary heating was from equipment installed with the assistance of a promotional incentive which is no longer applicable.

Rate Schedule 2: Small Commercial Service

Fort Nelson RS 2, consistent with FEI RS 2, is applicable for small Commercial Customers with normalized annual consumption of less than 2,000 GJs. Fort Nelson RS 2 now includes a common table of charges for applicable small Commercial Customers. Previously, two rates existed for Commercial Customers, (formerly named General Service Customers), depending on their annual consumption: those who consumed less than 6,000 GJs or those who consumed 6,000 GJs or higher during the previous gas year (which runs from their first bill in November to their final bill the following October each year).

Rate Schedule 3: Large Commercial Service

Fort Nelson RS 3 is a new rate schedule for large Commercial Customers, which is consistent with FEI RS 3. Fort Nelson RS 3 is applicable for large Commercial Customers with normalized annual consumption of more than 2,000 GJs. Fort Nelson RS 3 also has a common table of charges for applicable large Commercial Customers.

Rate Schedule 5: General Firm Service

Fort Nelson RS 5 is a new rate schedule for Fort Nelson General Firm Service customers, which is substantially consistent with FEI RS 5.

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 RS 6.

Rate Schedule 25: General Firm Transportation Service

Fort Nelson RS 25 has been revised to mirror the terms and conditions of FEI RS 25. Similarly, the form of Transportation Agreement and Schedule A in Fort Nelson RS 25 (Shipper Agent Agreement) has been revised to mirror the proposed amendments made to FEI RS 25. In addition, an Appendix A (Notice of Appointment of Shipper Agent) has been added to the Transportation Agreement.

For additional information regarding the amendments made to the existing terms and conditions for FEI RS 25, please refer to Section 9.5 of the Application and Appendix 11-3 for a blacklined version.

FEI proposes that the changes to the Fort Nelson Tariff be approved effective Q4 of 2018.

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13.7 SUMMARY AND CONCLUSIONS

Fort Nelson's rate design proposals described in section 13.5.5.4 above have an impact on the COSA results presented in section 13.4.3. In addition, the COSA results as presented in section 13.4.3 show that all of the Fort Nelson rates are outside the range of reasonableness. As directed by Order G-4-18, FEI is using a range of reasonableness of 95% to 105%. Therefore, FEI is proposing to rebalance rates to bring Fort Nelson's Rate 1, Rate 2.1, Rate 2.2 and RS 25 to the boundaries of the range of reasonableness. With this rebalancing, FEI believes that its rate design proposals will result in a reasonable balance of rate design principles, are just and reasonable and should be approved as proposed.

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This section is organized as follows:

- Section 13.7.1 summarizes the impact of Fort Nelson's rate design proposals on the COSA, presents Fort Nelson's final COSA results after taking into account revenue changes due to rate design proposals, shows Fort Nelson's final COSA results after rebalancing to bring rates within the range of reasonableness and presents the associated bill impacts to Fort Nelson customers.
- Section 13.7.2 provides a summary of Fort Nelson's proposed changes to rates, comparing the 2018 rates resulting from the COSA before and after the proposed changes.
- Section 13.7.3 reviews whether or not postage stamping FEI rates to Fort Nelson is suitable.
- Section 13.7.4 concludes this section.

13.7.1 COSA Adjustments from Rate Design Proposals

FEI has included in Fort Nelson's COSA the changes based on the rate design proposals set out above. A summary of the rate design proposals and resulting changes included in the COSA Model are outlined below.

13.7.1.1 Rate 1 – Residential

FEI's proposal for residential rates is to unbundle the delivery cost from gas costs by removing the declining block rate structure and adopting the following charges: Basic Charge per day, Delivery Charge per GJ, Cost of Gas Charge per GJ and Storage and Transport Charge per GJ (plus applicable riders).

The charges that FEI derived are expected to collect the same amount of revenue from Rate 1 as are currently collected, resulting in no changes to the COSA.

13.7.1.2 Rate 2.1 and Rate 2.2 – Commercial

FEI's proposal for Rate 2.1 and Rate 2.2 is as follows:

1. Unbundle the delivery cost from the cost of gas by removing the declining block rate structure and adopting the following charges: Basic Charge per day, Delivery Charge per GJ, Commodity Cost Recovery Charge per GJ and Storage and Transport Charge per GJ (plus applicable riders).
2. Move the small to large commercial customer threshold to an annual demand of 2,000 GJ.
3. Establish the Daily Basic and volumetric Delivery Charges to have an equal annual bill for Rate 2.1 and Rate 2.2 at the economic crossover point of 2,000 GJ.

By changing the threshold from 6,000 GJ/year to 2,000 GJ/year, nine Rate 2.1 customers consuming more than 2,000 GJ/year would be moved to Rate 2.2 and one Rate 2.2 customer consuming less than 2,000 GJ/year would be moved to Rate 2.1. The movement of these customers is reflected in the COSA by shifting their annual volume, revenue and cost of gas in the COSA Model. The following table illustrates the resulting changes.

Table 13-25: Commercial Customer Shifting in the COSA

	Rate 2.1	Rate 2.2
Customers	-8	+8
Volume (TJ)	-23.3	+23.3
Revenue ($000)	-126.7	+126.7
Cost of Gas ($000)	-30.1	+30.1

The shifting of customers between Rate 2.1 and Rate 2.2 is revenue neutral between the two commercial rates. When included in the COSA the R:C ratio for Rate 2.1 decreases by 1.2 % and the R:C for Rate 2.2 increases by 1.4 %.

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13.7.1.3 Rate Schedule 25 and Rate 3.1 – Industrial

FEI's proposal for RS 25 and Rate 3.1 is to eliminate the block rate structure and adopt FEI's rate structure as follows:

Rate 25

1. Remove the declining block rate structure.
2. Adopt the following charges: Basic Charge per Month, Administrative Charge per Month, Demand Charge per Month per GJ of Daily Demand, and Delivery Charger per GJ (plus applicable riders).

Rate 3.1

1. Remove the declining block rate structure.
2. Adopt the following charges: Basic Charge per Month, Demand Charge per Month per GJ of Daily Demand, Delivery Charger per GJ, Commodity Cost Recovery Charge per GJ, Storage and Transport Charge per GJ (plus applicable riders).

Neither RS 25 nor Rate 3.1 would contribute to the RSAM due to variances in the forecast use rate versus actual use rate. The industrial customers would continue to contribute to the recovery / refund of the December 31, 2017 RSAM balance in 2018 and 2019, On January 1, 2020 the RSAM Rate Rider would be eliminated for industrial customers.

By adopting FEI's Rate Schedule 5 and 25 rate structure and setting the charges to collect the existing RS 25 revenue there is no impact to the COSA.

In addition, FEI proposes to decrease the Administration Charge per Month for RS 25 from $202.00 to $39.00 as set out in Appendix 11-3, Section 1.4 and Appendix 11-4. The reduction in the Administration Charge decreases the revenue collected from RS 25 by $1,956 annually. When reflected in the COSA, this change causes an annual bill increase for Rate 1, Rate 2.1 and Rate 2.2 of 0.08%, while RS 25 receives an annual bill decrease of 1.2%.

13.7.1.4 Final COSA Results and Rebalancing

The table below presents the R:C and M:C ratios before rebalancing and after the rate design proposal changes discussed above.

Table 13-26: Revenue to Cost and Margin to Cost Ratios before rebalancing

Rate Schedule	Initial COSA R:C	Initial COSA M:C	Revenue Shift ($000)	Approximate Annual Bill Change	COSA after Rate Design Proposals R:C	COSA after Rate Design Proposals M:C
Rate 1 *Domestic (Residential) Service*	91.4%	89.0%	0.8	0.1%	91.7%	89.4%
Rate 2.1 *General (Small Commercial) Service*	109.4%	112.2%	(126.0)	0.1%	108.2%	110.8%
Rate 2.2 *General (Large Commercial) Service*	114.4%	119.8%	127.0	0.1%	115.8%	120.0%
Rate Schedule 25 *General Firm Transportation Service*	92.4%	92.4%	(1.8)	-1.2%	91.5%	91.5%

As directed by Order G-4-18, FEI is using the range of reasonableness of 95% to 105% to inform rate design and rebalancing proposals.

The table above shows that Rate 1, Rate 2.1, Rate 2.2 and RS 25 are outside the 95% to 105% range of reasonableness. FEI is therefore proposing to adjust revenue responsibility as follows:

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- 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 and the increase in revenue from RS 25.

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The following table presents the rebalancing amounts and Revenue to Cost (and Margin to Cost) ratios after rebalancing.

Table 13-27: Revenue to Cost and Margin to Cost Ratios after rebalancing

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

13.7.1.5 Rate Design and Rebalancing Proposal Implementation

Fort Nelson rates must be adjusted to account for the shift in revenue responsibility as shown in Table 13-27 above. 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. FEI chose to collect all of the revenue shift through the Rate 1 Basic Charge because the lowest consuming customers receive the greatest rate reductions to their annual bills through the unbundling of Fort Nelson residential rates. 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. Fort Nelson will collect approximately 22% of its revenue from Rate 1 through the Basic Charge; the customer-related costs in the COSA equal 63%.

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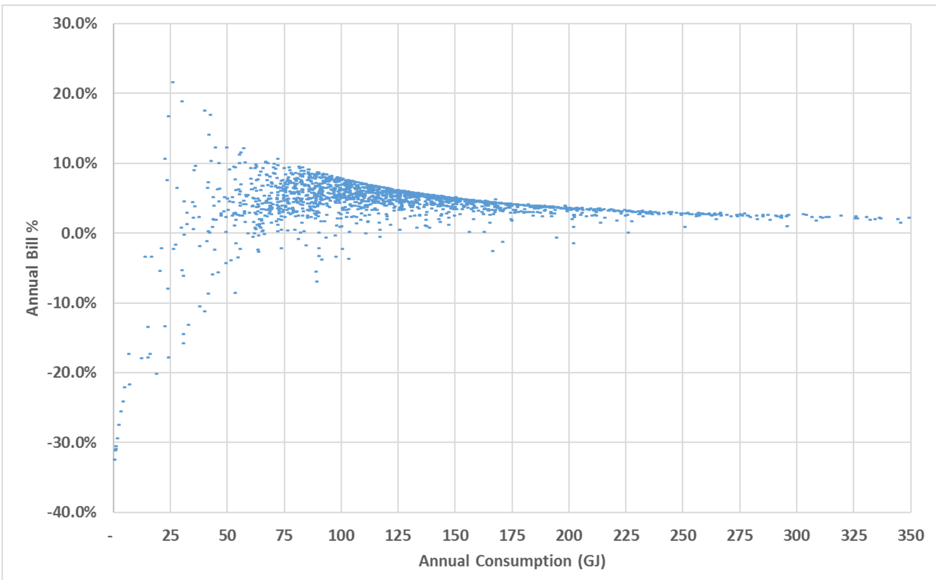
For Rate 2.1 and Rate 2.2, FEI adjusted rates to account for the decrease in revenue responsibility of $35.0 thousand and $37.2 thousand, respectively. This adjustment was made to maintain an economic breakeven threshold of 2,000 GJ /year as discussed in section

13.5.5.4, to align the basic charge of both Rate 2.1 and Rate 2.2 proportionally to the customer classified costs from the COSA model, and to limit any individual customer's annual bill impact.

For Rate Schedule 25, FEI adjusted the Demand Charge to account for the increase in revenue responsibility of $5.7 thousand.

The following figure illustrates Rate 1 customer bill impacts from all changes including unbundling and rebalancing. Each point on the graph is an individual customer.

Figure 13-18: Rate 1 Bill Impacts from all Rate Design Proposals



The following table shows the rates for the daily Basic Charge and the volumetric Delivery Charge for Rate 2.1 and 2.2.

Table 13-28: Rate 2.1 and 2.2 Charges after all Rate Design Proposals

	Rate 2.1	Rate 2.2
Daily Basic Charge ($/Day)	1.2151	3.6845
Delivery Charge ($/GJ)	3.781	3.330

The following figure compares the effective rates per GJ for Rate 2.1 and 2.2 after unbundling and removing declining block, set (including rebalancing) to attain a 2,000 GJ/year breakeven point and minimizing individual customer bill impacts.

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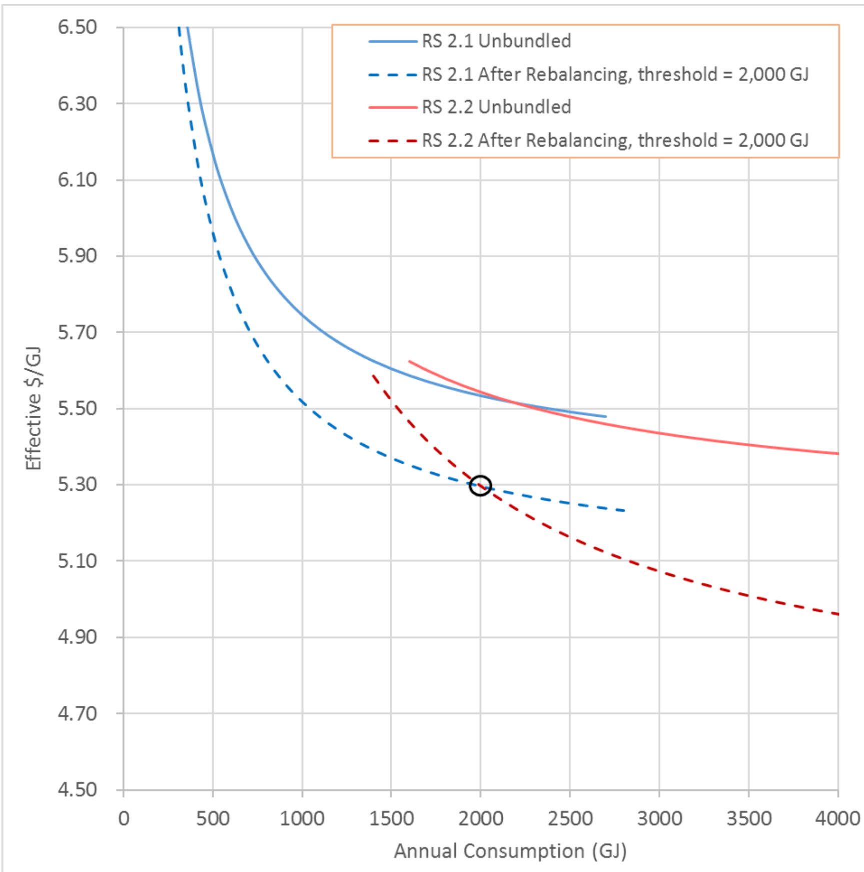
Figure 13-19: Rate 2.1 and 2.2 Effective $/GJ



The two solid lines are the effective delivery rates ($/GJ) after Rate 2.1 and Rate 2.2 are unbundled, where the charges are set to collect the existing revenue responsibility of each Rate and so that the bill impact to any one customer is minimized. The two dotted lines are the effective delivery rates ($/GJ) after Rate 2.1 and Rate 2.2 are unbundled, Rate 2.1 and Rate 2.2 are rebalanced, the breakeven threshold is set to 2,000 GJ per year, the bill impact to any one customer is limited and charges are set so that the basic charges of Rate 2.1 and Rate 2.2 are proportionately aligned to the customer classified costs from the COSA.

The following two figures show Rate 2.1 and Rate 2.2 customer bill impacts from all changes including unbundling, setting the breakeven to 2,000 GJ per year and rebalancing.

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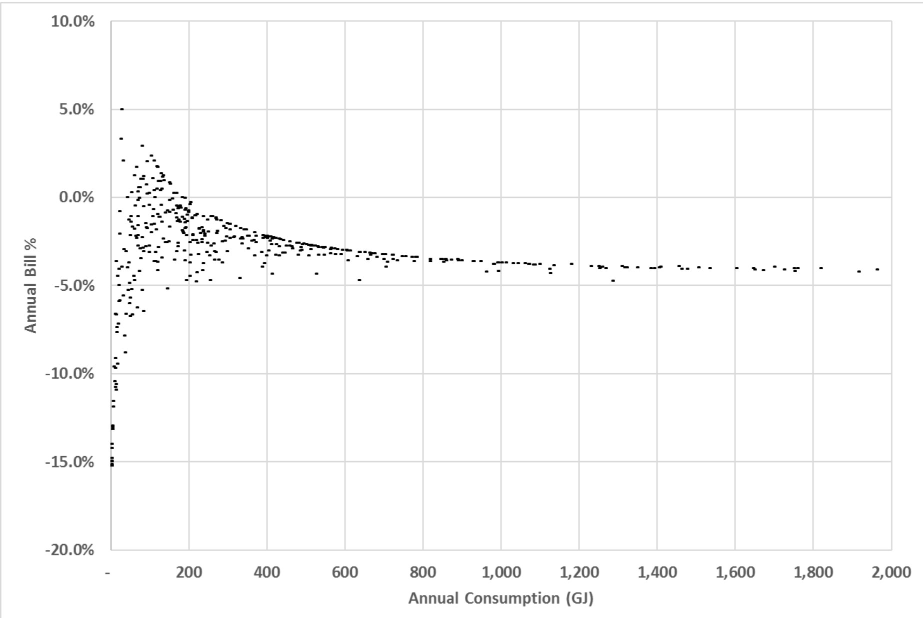
Figure 13-20: Rate 2.1 Bill Impacts from all Rate Design Proposals



The figure above shows Rate 2.1 customers' bill impacts after unbundling and rebalancing, setting the breakeven threshold between Rate 2.1 and Rate 2.2 to 2,000 GJ/year and limiting any one customer's bill impact. Each point is an individual customer. Rate 2.1 customers experience between a 5% increase and 15% decrease in their annual bills.

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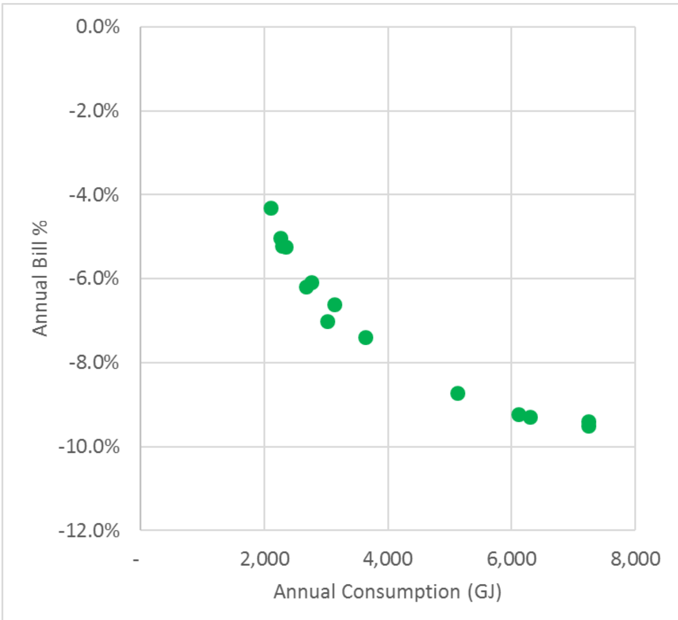
Figure 13-21: Rate 2.2 Bill Impacts from all Rate Design Proposals



The figure above shows Rate 2.2 customers' bill impacts after unbundling and rebalancing, setting the breakeven threshold between Rate 2.1 and Rate 2.2 to 2,000 GJ/year and limiting any one customer's bill impact. Each point is an individual customer. Rate 2.2 customers experience about a 4.0% or greater decrease in their annual bills.

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For Rate Schedule 25, FEI adjusted the Demand Charge to account for the increase in revenue responsibility of $5.7 thousand. FEI increased the demand charge per month per GJ of daily demand from $28.727 to $30.350 resulting in an annual bill increase of approximately 4%.

Detailed Final COSA schedules are included as Appendix 13-5.

13.7.2 Summary of Rate Proposals

Table 13-29 below presents a summary of FEI's rate design proposals for Fort Nelson.

Table 13-29: Fort Nelson Rate Proposal Summary

Rate Component	Rate 1	Rate 2.1	Rate 2.2	Rate 3.1	RS 25
***Existing COSA Rates*[27]**					
Minimum daily Charge incl. 1st 2 GJ/month	$0.5483	$1.4337	$1.4337		
Administration Charge (/month)					$202
Next 28 GJ/month	$4.885				
Excess over 30 GJ/month	$4.782				
Next 298 GJ/ month		$5.336	$5.336		
Excess over 300 GJ/month		$5.210	$5.210		
Delivery Charge First 20 GJ/month				$4.522	$4.522
Delivery Charge Next 260 GJ/month				$4.201	$4.201
Excess over 280 GJ/month				$3.450	$3.450
Minimum Delivery Charge/month				$1,826	$1,826
Total Annual Bill:[28]	**$742**	**$2,433**	**$28,546**	**n/a[29]**	**$148,664**
Proposed Rates					
Basic Charge/Day	$0.3701	$1.2151	$3.6845		
Basic Charge (/Month)				$600.00	$600.00
Administration Charge (/Month)					$39.00
Demand Charge (/GJ/Month)				$30.350	$30.350
Delivery Charge ($/GJ)	$3.512	$3.781	$3.330	$1.000	$1.000
Commodity Cost Recovery Charge ($/GJ)	$1.275	$1.275	$1.275	$1.275	
Storage and Transport Charge ($/GJ)	$0.019	$0.020	$0.017	$0.019	
Total Annual Bill:	**$784**	**$2,383**	**$25,989**	**n/a[30]**	**$153,943**

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Deleted: $758
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13.7.3 Annual Bill Impact and Phase-in Period Discussion for Rate 1 Customers

As explained in FEI's response to BCUC-FEI IR 2.84.1.1, when considering the 2018 revenue requirement increases and using a 95 percent to 105 percent range of reasonableness, the total percentage increase in 2018 from 2017 exceeds the 10 percent rate impact threshold. The table below provides the percentage of bill increases for residential customers when considering for 2018 revenue requirement increases:

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[27] The COSA rates shown are 2018 approved rates, $1.294 Gas Cost Recovery Charge, and test year adjustments discussed above in Section 13.4.1.3.
[28] Based on an average annual demand per customer of 135 GJ for Rate 1, 382 GJ for Rate 2.1 and 5,332 GJ for Rate 2.2 and 39,500 GJ for RS 25.
[29] There are no customers taking service under Rate 3.1, therefore Total Annual Bill shows as n/a.
[30] Ibid.

Table 13-30: Percentage Annual Bill Increase for Residential Customers

Bill Impact Items	Percentage annual bill impact for Rate 1
2018 Revenue requirement increases	5.10 %
2018 Rate design proposal	0.10 %
2018 Rate design rebalancing to 95% to 105% range of reasonableness (based on Order G-4-18)	5.40 %
Total year 2018 percentage increase	10.60%

In response to BCUC-FEI IR 2.84.2, FEI discussed the potential option of phasing-in the rate changes for Rate 1 customers over two years with rate changes for this period to apply in the form of revenue shifts in dollar amounts.

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FEI has re-examined the two year phase-in period option, and does not recommend a phase-in for the following reasons:

- The timing and overall bill impact of 2018 revenue requirement increases: The 2018 delivery margin increases were applied to the rates effective January 1, 2018. The delivery margin increases were more than offset by commodity cost decreases, mitigating the overall bill impact on Rate 1 customers.
- The timing of rate design and rebalancing implementation: FEI believes that the initial target date of June 1, 2018 to implement rate design changes is no longer achievable. The rate design implementation target date is now in the fourth quarter of 2018 (the actual implementation date depends on the timing of the Commission's rate design decision for entire Application). As such, the rate design and rebalancing related revenue responsibility changes will only apply to the last months of 2018 and their overall impact on customers' 2018 annual bills would be minimal.

It is not known at this time what, if any, the 2019 revenue requirement changes may be on the overall bill impact experience for Rate 1 customers. FEI will review the 2019 revenue requirement changes and may propose a phase in of the potential revenue requirement increases for 2019 in its revenue requirement filing.

13.7.4 Postage Stamp Rates

In this section FEI shows the rate impacts to Fort Nelson customers if delivery rates and gas costs were to be postage stamped with the rest of FEI's service areas. Due to the potential rate impacts from postage stamp rates, and in consideration of the impacts from the proposed rebalancing and already approved rate changes for 2017 and 2018, FEI is not proposing to postage stamp Fort Nelson rates at this time.

Table 13-31 below shows a comparison between FEI and Fort Nelson effective delivery rates for residential, commercial and industrial customers.

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Table 13-31: Comparison between FEI and Fort Nelson Delivery Rates

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Fort Nelson Rate Design
Postage Stamp Comparison - *Effective Delivery Rate*

	FEI Proposed Rates		Fort Nelson Proposed Rates		Difference	FN/FEI
Rate Schedule 1 (1b)						
Basic Charge/Day	$	0.4085	$	0.3701	$	(0.0384)	
Delivery Charge/GJ	$	4.762	$	3.512	$	(1.250)	
Annual Usage (GJ)		132.53		132.53			
Effective Rate/GJ	**$**	**5.89**	**$**	**4.53**	**$**	**(1.36)**	-23%
Rate Schedule 2 (2.1)							
Basic Charge/Day	$	0.9485	$	1.2151	$	0.2666	
Delivery Charge/GJ	$	3.664	$	3.781	$	0.117	
Annual Usage (GJ)		382.2		382.2			
Effective Rate/GJ	**$**	**4.57**	**$**	**4.94**	**$**	**0.37**	8%
Rate Schedule 3 (2.2)							
Basic Charge/Day	$	4.7895	$	3.6845	$	(1.1050)	
Delivery Charge/GJ	$	3.190	$	3.330	$	0.140	
Annual Usage (GJ)		5,332.1		5,332.1			
Effective Rate/GJ	**$**	**3.52**	**$**	**3.58**	**$**	**0.06**	2%
Rate Schedule 25							
Admin Charge/Mth	$	39	$	39	$	-	
Basic Charge/Mth	$	469	$	600	$	131	
Demand Charge/GJ/Mth	$	24.596	$	28.727	$	4.131	
Delivery Charge/GJ	$	0.887	$	1.000	$	0.113	
Contract Demand		292.7		292.7			
Annual Usage (GJ)		39,500.0		39,500.0			
Effective Rate/GJ	**$**	**3.23**	**$**	**3.75**	**$**	**0.52**	16%

As shown above, the proposed Fort Nelson residential customers' effective delivery rate is 23% lower than the delivery rates proposed for FEI residential customers. The effective delivery rate of commercial customers served under Rate Schedule 2 (formerly Rate 2.1) is 8% higher under Fort Nelson proposed changes compared to FEI RS 2 customers. With the proposed changes discussed above, Rate Schedule 3 (formerly Rate 2.2) customers' effective delivery rate is 2% higher than FEI proposed rates for RS 3 customers, while Rate Schedule 25 Fort Nelson customers' effective delivery rate will be 16% higher than FEI's RS 25 rates.

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The following table compares the gas cost recovery for Fort Nelson and FEI for residential, small commercial and large commercial as of July 1, 2016 and January 1, 2017.

Table 13-32: Comparison of Gas Cost Recovery FEI and Fort Nelson Residential and Commercial Customers

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Line				
As of July 1, 2016				
	Fort Nelson	**Rate 1**	**Rate 2.1**	**Rate 2.2**
1	**Total:**	**$1.294**	**$1.294**	**$1.294**
	FEI	**RS 1**	**RS 2**	**RS 3**
2	Commodity Cost Recovery rates	$1.719	$1.719	$1.719
3	Storage & Transport rates	$1.117	$1.133	$0.940
4	**Total:**	**$2.836**	**$2.852**	**$2.659**
5	Variance (Line 4 – Line 1)	$1.542	$1.558	$1.365
As of January 1, 2017				
	Fort Nelson	**Rate 1**	**Rate 2.1**	**Rate 2.2**
6	**Total:**	**$2.086**	**$2.086**	**$2.086**
	FEI	**RS 1**	**RS 2**	**RS 3**
7	Commodity Cost Recovery rates	$2.050	$2.050	$2.050
8	Storage & Transport rates	$1.009	$1.020	$0.851
9	**Total:**	**$3.059**	**$3.070**	**$2.901**
10	Variance (Line 9 – Line 6)	$0.973	$0.984	$0.815

Whether looking at the variance of the gas cost as of July 1, 2016 or January 1, 2017, there is a substantive difference in the gas costs for Fort Nelson customers compared to the postage stamp rates for FEI's other customers. The primary reason for this difference is that the transport costs for delivery to Fort Nelson on Spectra's T-North Short Haul is only approximately two cents (see Table 13-11, Line 13).

Table 13-33 below shows the result if the effective delivery rate difference for residential and commercial classes in Table 13-31 is added to the gas cost variance in Table 13-32 (based on January 1, 2017 gas costs embedded in customers' bundled rates). The table shows that residential and commercial customers have lower rates in Fort Nelson than in FEI's other service areas.

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Table 13-33: Summation of Effective Delivery Variance and Cost of Gas Variance $ / GJ

	Residential	Small Commercial	Large Commercial
Effective Delivery Rate Difference	$1.36	$(0.37)	$(0.06)
Total Cost of Gas Variance	$0.97	$0.98	$0.82
Total Variance	$2.33	$0.61	$0.76
Total Variance %	-26%	-7%	-12%

In addition to the rate differences summarized in Table 13-33 above, and in consideration of the proposed rebalancing discussed in section 13.7.1.4 of the Application and the delivery rate changes approved for 2017 and 2018 by Order G-162-16 related to Fort Nelson's revenue requirements and rates application, FEI is not proposing to postage stamp rates for Fort Nelson customers at this time.

13.7.5 Conclusion

Based on the analysis and considerations set out above in this section, FEI believes that its 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 proposed.

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Order G-4-18 Update, February 6, 2018

Appendix 1-2

DRAFT FINAL ORDER
ORDER G-4-18 UPDATE, FEBRUARY 6, 2018
BLACKLINED

British Columbia Utilities Commission

Sixth floor, 900 Howe Street
Vancouver, BC Canada V6Z 2N3
TEL: (604) 660-4700
BC Toll Free: 1-800-663-1385
FAX: (604) 660-1102

ORDER NUMBER
G-xx-xx

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

FortisBC Energy Inc.
2016 Rate Design Application

BEFORE:
Panel Chair/Commissioner
Commissioner
Commissioner

on Date

ORDER

WHEREAS:

A. On December 19, 2016, FortisBC Energy Inc. (FEI or the Company) filed an Application with the British Columbia Utilities Commission (Commission) seeking the necessary approvals, pursuant to sections 58 to 61 of the *Utilities Commission Act* (Act), to adjust its rate design and terms and conditions of service for all service areas to improve the alignment with accepted rate design principles (Application);

B. On January 20, 2017, the Commission commenced its review of the Application and issued Order G-6-17 establishing a Regulatory Timetable;

C. On February 2, 2017, in accordance with the Regulatory Timetable, FEI submitted its supplemental filing which included FEI's revisions to its rate schedules reflecting the proposals in the Application and the proposed rate design for the Fort Nelson Service Area;

D. On March 2, 2017, a Workshop was held to review the information provided to stakeholders at the May 19, 2016, Education & Background Information Session;

E. On March 9, 2017, a second Workshop was held to review the COSA Model, Proposals in the Application, and Approvals Sought;

F. On [DATE, 2017], the Commission held a procedural conference to address, among other things, the process and timetable for the remainder of the review of the Application;

G. On [DATE, 2017], the Commission issued Order G-XX-2017 establishing a written/oral hearing process; and

H. The Commission has reviewed and considered the Application, the evidence filed, and the submissions provided by all participants, and has determined that the requested changes, as outlined in the Application, should be approved.

…/2

NOW THEREFORE pursuant to sections 59 to 61 of the *Utilities Commission Act*, the British Columbia Utilities Commission orders as follows:

Midstream Cost Allocation Methodology

1. The use of a three-year average load factor in RS 5 to allocate midstream costs when setting FEI's Storage and Transport Charges for RS 5, as discussed in Section 6.4.2.1 of the Application, is approved.

FEI Residential Rate Schedules

2. The following rate design proposals for Rate Schedules 1, 1U, 1X, and 1B are approved:
   - An increase to the Basic Charge per Day by $0.0195 from $0.3890/Day to $0.4085/Day to increase the proportion of fixed costs recovered by the Basic Charge, as discussed in Section 7.8 of the Application.
   - A decrease to the Delivery Charge per GJ by $0.086/GJ to maintain revenue neutrality with the Basic Charge increase, as discussed in Section 7.8 of the Application.
   - The housekeeping and other amendments as set out in Appendix 11-3, and discussed in the supplemental filing to the Application.
   - An increase the Delivery Charge per GJ by $0.027/GJ as a result of the revenue shifts and rebalancing of rates discussed in Section 12.2 of the Application.

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FEI Commercial Rate Schedules

3. The adjustments to the basic charges and delivery charges of the commercial rate schedules to align with the 2,000 GJ threshold between small and large commercial customers, as discussed in Section 8.7 of the Application, are approved, as follows:
   - For Rate Schedules 2, 2B, 2U, and 2X:
     - Increase the Basic Charge per Day by $0.1324 from $0.8161/Day to $0.9485/Day.
     - Decrease the Delivery Charge per GJ by $0.186/GJ.
   - For Rate Schedules 3, 3B, 3U, 3X, and 23:
     - Increase the Basic Charge per Day by $0.4357 from $4.3538/Day to $4.7895/Day.
     - Increase the Delivery Charge per GJ by $0.001/GJ.
   - For RS 23:
     - Decrease the Administration Charge per Month from $78.00 to $39.00, set out in Appendices 11-3 and 11-4, and discussed in the supplemental filing to the Application.
4. The proposed housekeeping and other amendments to Rate Schedules 2, 2U, 2X, 2B, 3, 3U, 3X, 3B, and 23, as set out in Appendix 11-3, and discussed in the supplemental filing to the Application, are approved.

FEI Industrial Rate Schedules

5. The revision to the multiplier in the Daily Demand formula in RS 5 and RS 25 from 1.25 to 1.10 and the increase in the Demand Charge in RS 5 and RS 25 by $3.00/GJ/Month, as discussed in Section 9.5, are approved.

6. The decrease to 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, is approved.

7. The decrease in 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, is approved.

8. The increase to 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, by increasing the Off-Peak Delivery Rate by $0.114/GJ and by decreasing the Extension Period by $0.018/GJ, is approved.

9. Setting the charges for RS 22 on a cost of service basis for all large industrial customers, as discussed in Section 9.8.5 and set out below, is approved:
   - Firm Demand Charge of $25.000/GJ/Month.
   - Firm MTQ Delivery Charge of $0.015/GJ.
   - Interruptible MTQ Delivery Charge of $0.972/GJ.

10. Termination of Tariff Supplement G-21, FEI's contract with Creative Energy Vancouver Platforms Inc., effective in the fourth quarter of 2018, as discussed in Section 9.8.5 of the Application, is approved.

11. The following adjustments to the transportation model are approved:
    - Amendments to Rate Schedules 22, 22A, 22B, 23, 25, 26, and 27 to implement daily balancing for all transportation customers, as discussed in Section 10.6.
    - Amendments to Rate Schedules 22, 22A, 22B, 23, 25, 26, and 27 to reduce the daily balancing tolerance to a 10% threshold and to introduce a balancing charge of $0.25/GJ for transportation customers for gas supply shortfalls within a 10% to 20% tolerance level, as discussed in Section 10.7.

12. The proposed housekeeping and other amendments to Rate Schedules 5, 7, 11B, 14A, 22, 22A, 22B, 25, 26, and 27 as set out in Appendices 11-3 and 11-4, and discussed in the supplemental filing to the Application, are approved.

13. The decrease to the Delivery Charge per GJ of RS 6 by $1.622/GJ to address rebalancing, as discussed in Section 12.2.2 of the Application, is approved.

14. Setting the Delivery Charge per GJ for RS 6P to equal the Delivery Charge per GJ of RS 6, as discussed in Section 12.2.2 of the Application, is approved.

General Terms and Conditions

15. The housekeeping and other amendments to FEI's General Terms and Conditions, as set out in Appendices 11-1 and 11-2 and discussed in Section 11 of the Application, are approved.

16. The proposed amendments to the FEI Rate Schedules as set out and discussed in Appendix 11-3 of the Application are approved.

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Fort Nelson Service Area

17. The cancellation of the following Fort Nelson Rates, each of which has no customers, is approved:
    - Rate 1 Option A - Domestic Service for Primary space heating equipment purchased from FEI Fort Nelson
    - Rate 2.4 - Compression/Dispensing Service
    - Rate 3.2 – Industrial Service
    - Rate 3.3 – Industrial Service
18. The proposal to rename Fort Nelson's existing Rates to align with FEI's Rate Schedule naming convention, as set out in Table 13-1 of Section 13.2.1.1 of the Application, is approved.
19. The proposal to unbundle Fort Nelson's residential and commercial rates, as discussed in Section 13.5.2 of the Application, is approved.
20. The proposal to record the cost of changes to the billing system in a deferral account on a net-of tax basis and amortized over 5 years beginning in 2019, as discussed in Section 13.5.2 of the Application, is approved.
21. The following rate design proposals for Rate Schedules 1, 2, 3, 5, and 6 are approved
    - To set a Commodity Cost Recovery Charge based on classifying commodity costs as energy-related and allocating those costs to all sales customers based on throughput, as discussed in section 13.4.2 of the Application.
    - To set a Storage and Transport Charge based on classifying midstream costs as demand-related and allocating those costs to all sales customers based on their load factor adjusted volume, as discussed in section 13.4.2 of the Application.
22. The following rate design proposal for Rate Schedule 1 is approved
    - To set the Basic Charge per Day at $0.3701 and the Delivery Charge at $3.512 per GJ as a result of (i) unbundling the rate structure in a way that minimizes the bill increase for any individual customer as discussed in sections 13.5.4 and 13.7 of the Application, and (ii) rebalancing as discussed in section 13.7.1.4.
23. The following rate design proposals for Rate Schedules 2 and 3 are approved
    - To change the annual volume threshold between small and large commercial customers from 6,000 GJ to 2,000 GJ.
    - To set the Basic, Delivery, Commodity, and Storage and Transport Charges for commercial customers to align with the 2,000 GJ threshold as discussed in Sections 13.5.5 and 13.7 of the Application, as follows:
        - For Rate Schedule 2 (formerly Rate 2.1 – customers whose normal annual consumption is less than 2,000 GJ): set the Basic Charge per Day at $1.2151 and Delivery Charge at $3.781 per GJ as a result of (i) unbundling the rate structure as discussed in Sections 13.5.5 and 13.7 of the Application, and (ii) rebalancing as discussed in section 13.7.1.4.
        - For Rate Schedule 3 (formerly Rate 2.2, and Rate 2.1 customers whose normal annual consumption is greater than 2,000 GJ): set the Basic Charge per Day at $3.6845 and Delivery Charge at $3.330 per GJ as a result of (i) unbundling the rate structure as discussed in sections 13.5.5 and 13.7 of the Application, and (ii) rebalancing as discussed in section 13.7.1.4.
        - For Rate Schedule 6 (formerly Rate 2.3): set the Basic Charge per Day and Delivery Charge equal to FEI's approved January 1, 2018 RS 6 rates, as a result of unbundling the rate structure.

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24. The following rate design proposals for Rate Schedule 5 and 25 as discussed in Section 13.5.5.3 of the Application are approved
    - To set the Daily Demand equal to 1.10 multiplied by the greater of:
        i. The customer's highest average daily consumption of any month during the winter period (November 1 to March 31); or
        ii. One half of the Customer's highest average daily consumption of any month during the summer period (April 1 to October 31).

    The calculation of Daily Demand will be based on the Customer's actual gas use during the preceding Contract Year.

25. The following rate design proposals for Rate Schedule 5 as discussed in Section 13.5.5.3 of the Application are approved:
    - To set the Basic Charge at $600.00 per Month, the Demand Charge per Month per GJ of Daily Demand at $30.350, the Delivery Charge per GJ at $1.000.
    - To phase-out the Rate Revenue Stabilization Adjustment Mechanism Charge (Rate Rider 5) over two years as discussed in Section 13.5.6 of the Application.

26. The following rate design proposals for Rate Schedule 25 as discussed in Section 13.5.5.3 of the Application are approved:
    - Amendments to implement daily balancing, as discussed in Section 10.6 of the Application.
    - Amendments to reduce the daily balancing tolerance to a 10% threshold and to introduce a balancing charge of $0.25/GJ for gas supply shortfalls within a 10% to 20% tolerance level, as discussed in Section 10.7 of the Application.
    - To set the Basic Charge at $600.00 per Month, the Demand Charge per Month per GJ of Daily Demand at $30.350, the Delivery Charge per GJ at $1.000, and the Administrative Charge per Month at $39.00.
    - To phase-out the Rate Revenue Stabilization Adjustment Mechanism Charge (Rate Rider 5) over two years as discussed in Section 13.5.6 of the Application.

27. The housekeeping and other amendments to the Fort Nelson Gas Tariff, as set out in Appendix 13-6 and the amendments to the terms and conditions for Rate Schedules 1, 2, 3, 5, 6 and 25, are approved

Implementation

28. FEI is directed to file with the Commission amended tariff pages in accordance with the terms of this order to be effective in the fourth quarter of 2018.

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DATED at the City of Vancouver, in the Province of British Columbia, this (XX) day of (Month Year).

BY ORDER

(X. X. last name)
Commissioner

Appendix 13-6

PROPOSED FORT NELSON GAS TARIFF
G-4-18 UPDATE, FEBRUARY 6, 2018
BLACKLINED

Rate Schedule 1: Residential Service

Available

This Rate Schedule is available to Customers in the Fort Nelson Service Area only.

Applicable

This Rate Schedule is applicable to firm Gas supplied at one Premise for use in approved appliances for all residential applications in single-family residences, separately metered single-family townhouses, rowhouses, condominiums, duplexes and apartments and single metered apartment blocks with four or less apartments. This Rate Schedule is also applicable to thermal energy supplied by a Gas fired hydronic heating system (where a Hydronic Heating System is the primary heating source) and measured by a thermal meter for one Premise of a Vertical Subdivision where the thermal meters are used to apportion the Gigajoules of Gas consumed for hydronic heating.

Table of Charges

	Fort Nelson Service Area
Delivery Margin Related Charges	
1. **Basic Charge** per Day	**$ 0.3701**
2. Delivery Charge per Gigajoule	$ 3.512
3. Rider 5 per Gigajoule	$ X.XXX
Subtotal of per Gigajoule **Delivery** Margin Related Charges	**$ X.XXX**
Commodity Related Charges	
4. Storage and Transport Charge per Gigajoule	$ X.XXX
5. **Cost of Gas** (Commodity Cost Recovery Charge) per Gigajoule	**$ X.XXX**
Subtotal of per Gigajoule **Commodity** Related Charges	**$ X.XXX**

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Deleted: Classification and Rates
Domestic

Deleted: (a) Availability
To

Deleted: gas

Deleted: One (1) point of delivery and through One (1) meter for

Deleted: uses

Deleted: common areas serving strata lot owners of residential condominium complexes.

Option A

Deleted: any customer qualifying for Domestic Service

Deleted: space heating equipment utilized on the premises was purchased and installed with the assistance of a promotional incentive provided by Company. Subsequent to providing the promotional incentive, Option A is applicable:

<#>for a term of 120 Months,

to all gas bills with

Deleted: billing period of approximately 30 days.

Option B is applicable to any customer qualifying for Domestic Service

Deleted: primary space heating equipment utilized on the premises was not purchased and installed with the assistance of a promotional incentive provided by Company.

(b) Monthly Rate
Rate 1
Option A: Where the customer's primary space

Deleted: equipment utilized on the premises was purchased and installed with the assistance of a promotional incentive provided by the Company:

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<object>the first 2 Gigajoules/month prorated
on a daily basis $0.5868[1] plus $0.0391
times the amount of the
promotional incentive
divided by $100.
<object>
Next 28 Gigajoules in any month @ $5.704[1] per Gigajoule
Excess of 30 Gigajoules in any month @ $5.608[1] per Gigajoule
... [1]

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Deleted: December 20, 2016

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Deleted: Fourteenth Revision of

Order G-4-18 Updates, February 6, 2018

Rate Schedule 2: Small Commercial Service

Available

This Rate Schedule is available to Customers in the Fort Nelson Service Area only.

Applicable

This Rate Schedule is applicable to Customers with a normalized annual consumption at one Premises of less than 2,000 Gigajoules of firm Gas, for use in approved appliances in commercial, institutional or small industrial operations.

Table of Charges

	Fort Nelson Service Area
Delivery Margin Related Charges	
1. **Basic Charge** per Day	**$ 1.2151**
2. Delivery Charge per Gigajoule	$ 3.781
3. Rider 5 per Gigajoule	$ X.XXX
Subtotal of per Gigajoule **Delivery** Margin Related Charges	**$ X.XXX**
Commodity Related Charges	
4. Storage and Transport Charge per Gigajoule	$ X.XXX
5. **Cost of Gas** (Commodity Cost Recovery Charge) per Gigajoule	**$ X.XXX**
Subtotal of per Gigajoule **Commodity** Related Charges	**$ X.XXX**

Order No.: Issued By: Diane Roy, Vice President, Regulatory Affairs

Effective Date: June 1, 2018 Accepted for Filing: ____________________

BCUC Secretary: ____________________________

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Deleted: (a) Availability¶

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(b) Monthly Rate¶
General Service¶

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Minimum daily service charge¶
<object>to include the first 2 Gigajoules/month prorated¶
on a daily basis $1.4113[1]¶
<object>¶
Next 298 Gigajoules in any month @ $6.130[1] per Gigajoule¶
Excess of 300 Gigajoules in any month @ $6.003[1] per Gigajoule¶
¶
Rate 2.2: Applicable to customers who have consumed a quantity of gas equal to or greater than 6,000 Gigajoules in the twelve months ended with the most recent October billing.¶
¶
Minimum monthly service charge¶
<object>to include the first 2 Gigajoules/month prorated¶
on a daily basis $1.4113[1]¶
<object><object>¶
Next 298 Gigajoules in any month @ $6.130[1] per Gigajoule¶
Excess of 300 Gigajoules in any month @ $6.003[1] per Gigajoule¶
¶
With respect to customers who do not have a twelve-month consumption record, the Company shall assign the applicable rate based on a mutually agreed upon annual volume forecast.¶
<object>¶
¶
¶
Notes:¶
¶
<object>1. Rate includes the Revenue Stabilization Adjustment Amount applicable to Fort Nelson Service Area Rate 2.1 and 2.2 Customers. For the period January 1, 2017 to December 31, 2017, the Revenue Stabilization Adjustment Amount is a charge of $0.268 per Gigajoule.¶

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Order G-4-18 Updates, February 6, 2018

Rate Schedule 3: Large Commercial Service

Available

This Rate Schedule is available to Customers in the Fort Nelson Service Area only.

Applicable

This Rate Schedule is applicable to Customers with a normalized annual consumption at one Premises of greater than 2,000 Gigajoules of firm Gas, for use in approved appliances in commercial, institutional or small industrial operations.

Table of Charges

	Fort Nelson Service Area
Delivery Margin Related Charges	
1. **Basic Charge** per Day	**$ 3.6845**
2. Delivery Charge per Gigajoule	$ 3.330
3. Rider 5 per Gigajoule	$ X.XXX
Subtotal of per Gigajoule **Delivery** Margin Related Charges	**$ X.XXX**
Commodity Related Charges	
4. Storage and Transport Charge per Gigajoule	$ X.XXX
5. **Cost of Gas** (Commodity Cost Recovery Charge) per Gigajoule	**$ X.XXX**
Subtotal of per Gigajoule **Commodity** Related Charges	**$ X.XXX**

Deleted: General Terms and Conditions

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**Deleted: (a) Availability¶
For industrial use only. To firm gas, no portion of which shall be re-sold, supplied at one point of delivery and through one meter.¶
¶
It may be supplied to tenants of the consumer on the consumer's premises through the consumer's system. Consumers under this rate may be restricted by the Company to a total of 790 GJ per day, at the discretion of the Company.¶
¶
(b) Monthly Rate¶**

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<object>¶
First 20 Gigajoules in any month @ $4.186¶
Next 260 Gigajoules in any month @ $3.884¶
Excess over 280 Gigajoules in any month @ $3.179¶
<object>¶
<#>Gas Cost Recovery Charge per Gigajoule @ $ 2.086¶
¶
<#>Minimum Monthly Delivery Charge $ 1,826.00¶
<object>¶
<#>Rider 5 per Gigajoule $ 0.268¶
¶
Rate 3.2: Applicable to customers with forecasted consumption for the ensuing calendar year of a quantity of gas equal to or in excess of 96,000 Gigajoules, but less than 360,000 Gigajoules.¶
¶
<#>Delivery Charge per Gigajoule¶
<object>¶
First 20 Gigajoules in any month @ $4.186¶
Next 260 Gigajoules in any month @ $3.884¶
Excess over 280 Gigajoules in any month @ $3.179¶
<object>¶
<#>Gas Cost Recovery Charge per Gigajoule @ $ 2.086¶
¶ ... [2]

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Order G-4-18 Updates, February 6, 2018

Table of Charges

	Fort Nelson Service Area
Delivery Margin Related Charges	
1. **Basic Charge** per Month	$ 600.00
2. **Demand Charge** per Month per Gigajoule of Daily Demand	$ 30.350[1]
3. **Delivery Charge** per Gigajoule	$ 1.000
4. Rider 5 per Gigajoule	$ X.XXX
Commodity Related Charges	
5. **Commodity Cost Recovery Charge** per Gigajoule	$ X.XXX
6. **Storage and Transport Charge** per Gigajoule	$ X.XXX
Subtotal of per Gigajoule Commodity Related Charges	**$ X.XXX**

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Notes:

1. Daily Demand is equal to 1.10 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
   (b) one half of the Customer's highest average daily consumption of any month during the summer period (April 1 to October 31).

   The calculation of Daily Demand will be based on the Customer's actual gas use during the preceding Contract Year.

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Table of Charges

	Fort Nelson Service Area
Transportation	
1. Basic Charge per Month	$ 600.00
2. Demand Charge per Month per Gigajoule of Daily Demand	$ 30.350[2]
3. Delivery Charge per Gigajoule	$ 1.000
4. Administrative Charge per Month	$ 39.00
5. Rider 5 per Gigajoule	$ X.XXX
Sales	
6. **Unauthorized Overrun Gas charges**	
(a) Per Gigajoule on first 5 percent of specified quantity	Station 2 Daily Price[1]
(b) Per Gigajoule on all Gas over 5 percent of specified quantity	The greater of $20.00/GJ or 1.5 x the Station 2 Daily Price[1]
7. **Charge per Gigajoule of Balancing Service provided**	
(a) Quantities of Gas less than 10% of the Rate Schedule 25 Authorized Quantity	
(i) between and including April 1 and October 31	No charge
(ii) between and including November 1 and March 31	No charge
(b) Quantities of Gas over the greater of 100 Gigajoules **or** equal to or in excess of 10% or less than 20% of the Rate Schedule 25 Authorized Quantity	
(i) between and including April 1 and October 31	$ 0.25
(ii) between and including November 1 and March 31	$ 0.25
(c) Quantities of Gas over the greater of 100 Gigajoules **or** equal to or in excess of 20% of the Rate Schedule 25 Authorized Quantity	
(i) between and including April 1 and October 31	$ 0.30
(ii) between and including November 1 and March 31	$ 1.10
8. **Charge per Gigajoule of Balancing and Backstopping Gas**	Station 2 Daily Price[1]

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<#>**<object>**(a) Delivery Charge per Gigajoule of MTQ ¶
<#>(i) First 20 Gigajoules $ 4.186¶
<#>(ii) Next 260 Gigajoules $ 3.884¶
<#>(iii) Excess over 280 Gigajoules $ 3.179¶
<#>(iv) Minimum Delivery Charge per Month $ 1,826.00¶
<#>¶
<#>(b) Administration Charge per Month $ 202.00¶
<#>¶
<#>**<object>**(c) Rider 5 per Gigajoule $ 0.268¶
<#>¶
<#>**2.** ¶

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<#>(a) Charge per Gigajoule of Authorized Overrun Gas Station 2 Daily Price[1]¶
<#>Average for Month¶
<#>(b) Charges for Unauthorized Overrun Gas¶
<#>(i) Per Gigajoule on first 5 percent of specified Station 2 Daily Price[1]¶
<#>quantity Average for Month¶
<#>¶
<#>(ii) Per Gigajoule on all gas over 5 percent of the Greater of¶
<#>specified quantity $20.00/GJ or 1.5 X the Station 2 Daily Price[1]¶

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