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November 7, 2017

Catalyst Paper Corporation 2<sup>nd</sup> Floor, 3600 Lysander Lane Richmond, BC V7B 1C3

Attention: Mr. Jouni Martiskainen, Energy Specialist

Dear Mr. Martiskainen:

Re: FortisBC Energy Inc. (FEI) Project No. 3698899 2016 Rate Design Application (the Application) Response to Catalyst Paper Corporation (Catalyst) Information Request (IR) No. 2

On December 19, 2016, FEI filed the Application referenced above. In accordance with the British Columbia Utilities Commission Order G-109-17 setting out the Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to Catalyst IR No. 2.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary Registered Parties



# 1Topic 1:FEI Obfuscation of Amalgamated Transmission Cost of Service for Large2Industrial Customer Firm Service and Current R:C Ratio Significance in3Rate Design

4 FEI is proposing to combine the VIGJV, BCH IG, and Creative Energy under a new proposed

5 RS22. In FEI's opinion these 3 customers are similar and in BCUC's IR No. 1 the Commission

- 6 asked the following [1],
  - 34.3 Please produce a table to discuss the similarities and differences between (a) the average RS 22 customer, (b) Creative Energy, (c) VIGJV and (d) BC Hydro IG. Please use figures where necessary and include a discussion for each on the:
    - i. annual throughput and expected changes in throughput over time;
    - existing R:C ratios and M:C ratios before rate design proposals and rebalancing;
    - iii. nature of the service (firm/interruptible) and the ability of the customer(s) to manage interruptions in FEI's service;
    - iv. customer attributes (including load factor);
    - v. location on FEI's system and any special circumstances unique to that customer or group of customers; and
    - vi. the incremental cost to FEI in providing service.
- 7

8 The Commission's question was asking for FEI's opinion on the similarities and differences 9 amongst 3 distinct customers and the average RS22 customer. The Commission was also 10 asking FEI for the "existing R:C ratios and M:C ratios before rate design proposals and 11 rebalancing". FEI's response was that the VIGJV and BCH IG R:C and M:C ratios were "not 12 applicable". Previous utilities have disclosed VIGJV's R:C ratio [2], so it follows VIGJV's R:C 13 ratios have been historically applicable to rate design. It appears that FEI is communicating the 14 VIGJV R:C ratio "after" rate design proposals, but appears to be silent on the current R:C ratio 15 for the VIGJV.

- What is the current R:C ratio for the VIGJV, calculated as per the past practice of other utilities that have served the VIGJV (namely exclusion of distribution plant costs for the VIGJV)? In your response please use the current amalgamated utility cost of transmission service, not the regional cost of transmission service.
- 20
- 21 Response:

22 While FEI disagrees with the premise that the cost allocation in the question is appropriate, the

R:C ratios for the VIGJV and BC Hydro IG with distribution plant costs excluded are presented
 below.



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	Revenue (\$000)	Allocated Costs (\$000)	R:C Ratio
VIGJV	4,572	2,794	163.6%
BCH	15,735	8,591	183.2%

2 It is important to note that VIGJV does not take gas at transmission pressure, rather the VIGJV

3 facilities take gas at distribution pressure or intermediate pressure and, like other customers,

4 FEI has facilities in place to step down the pressure at the various VIGJV sites to serve them 5 and the surrounding businesses and communities.

6 The above cost allocation is also inappropriate because it is inconsistent with FEI's customer 7 segmentation. FEI does not segregate its customers based on the pressure of gas it delivers, 8 and therefore has no distribution pressure or transmission pressure service. Rather, FEI 9 segregates its customers based on load characteristics of annual consumption and load factor 10 (i.e., how much the customer consumes on average as compared to its peak demand) and 11 nature of the service (i.e., sales or transportation). Based on FEI's customer segmentation, the 12 VIGJV is similar to other large industrial customers served by FEI under Rate Schedule 22 and

13 should be allocated distribution costs similarly.

The question also assumes that the VIGJV will be eligible to carry on taking service as a single entity going forward. However, in order for the individual mills in the VIGJV to be treated like all other industrial customers of FEI, it would be necessary to disaggregate the group into five separate customers after the current VIGJV agreement ends, each of which would have to have

- 18 an individual transportation agreement with FEI with individual firm service contract quantities.
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 What is the current R:C ratio for the BCH IG, calculated as per the past practice of other utilities that have served BCH IG (namely exclusion of distribution plant costs for the BCH IG)? In your response please use the current amalgamated utility cost of transmission service, not the regional cost of transmission service.

Catalyst Paper asks that FEI exclude distribution demand costs in answering the two
 questions above so that a reader will be informed of how the VIGJV's current R:C ratio
 before rate design proposals and rebalancing compares to historical R:C ratios.



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RA 10 T	SEN GAS (VANC) GVI RATE DESIGN JUE, SURPLUS and	OUVER ISLANE	)) IN	IC. OPOSED RAT	ES														Ju	ne 29, 2009 Filing	Schedule 34E of TGVI Rate Des
ne lo.	Rate Class	Volume (GJ)		Proposed Revenue	Pr	Effective roposed Rate	All	ocated COS (LNG)	A	located COS	A	Illocated COS	A	Illocated COS (Total)	RS	DA** Surplus (Gross)	T	ax on RSDA Surplus	R:	3DA Surplus net-of-Tax)	R/C Ratio @ Proposed Ra
								(2.10)						(1010.)	-	(0.000,		o di pica			
1	RGS	4,891,762	5	81,286,270	\$	16.617	\$	194,290	\$	10,550,398	S	70,284,639	5	81,029,327	S	256,943	5	73,208	S	183,735	1.00
2	AGS	1,110,284		14,159,981	\$	12.753	\$	35,880	\$	1,999,523	S	7,404,988	\$	9,440,391	S	4,719,590	5	1,344,709	S	3,374,881	1.50
3	SCS-1	406,152		7,461,421	\$	18.371	\$	17,319	\$	952,634	S	4,935,767	\$	5,905,720	S	1,555,701	5	443,252	S	1,112,449	1.26
4	SCS-2	483,663		8,518,453	\$	17.612	\$	18,784	\$	1,047,429	S	3,803,267	\$	4,869,479	S	3,648,974	5	1,039,669	\$	2,609,305	1.75
ò	LCS-1	1,329,403		18,743,809	\$	14.099	\$	45,398	\$	2,532,326	S	9,106,736	\$	11,684,460	S	7,059,349	5	2,011,355	\$	5,047,994	1.60
1	LCS-2	1,383,519		17,645,541	\$	12.754	\$	40,989	\$	2,280,993	\$	8,812,253	\$	11,134,235	S	6,511,306	\$	1,855,206	\$	4,656,099	1.58
5	LCS-3	2,383,517		28,930,548	\$	12.138	\$	73,249	\$	4,083,264	S	14,974,221	\$	19,130,734	S	9,799,814	S	2,792,171	S	7,007,643	1.51
,	HLF	132,366		1,458,772	\$	11.021	\$	1,571	\$	83,990	S	715,099	\$	800,661	S	658,111	S	187,510	\$	470,602	1.82
0	ILF	120,496		1,240,648	\$	10.296	\$	611	\$	29,598	S	613,923	\$	644,132	S	596,517	S	169,960	\$	426,557	1.93
1							_		_		_				_						
2	Total Core	12,241,162	\$	179,445,444	\$	14.659	\$	428,091	\$	23,560,155	\$	120,650,893	\$	144,639,139	\$	34,806,304	\$	9,917,040	\$	24,889,264	1.24
3	DO LININ	10 250 000		45 052 447	r	0.000		250 404		12 021 200				12 200 704		2 562 202	-	700.070		1 022 207	1.10
4	BC Hydro	18,250,000	Э	15,853,147	¢	0.009	2	259,404	÷	13,031,200	D.	20	9 6	13,290,704	2	2,562,303	0	/30,076	3	1,832,507	1.19
5	VIGJV	2,920,000		2,728,153	\$	0.934	5	41,517	\$	2,388,501	3	-	3	2,430,018	5	298,135	3	84,945	5	213,190	1.12
5	TGI (Squamisn)	413,300		434,049	\$	1.050	3	21,075	Þ	1,060,300	Ð	-	3	1,089,461	3	(655,412)	3	(186,741)	3	(468,672)	0.40
7	TGW	2,536,750		2,479,038	\$	0.977	\$	36,068	\$	2,055,649	\$	-	\$	2,091,717	S	387,321	5	110,356	\$	276,965	1.19
9	Firm Service	24,120,130	\$	21,494,387	\$	0.891	\$	358,144	\$	18,543,815	\$	2	\$	18,901,960	s	2,592,427	\$	738,636	\$	1,853,791	1.14
5	Total System	36,361,292	\$	200,939,831	\$	5.526	\$	786,236	\$	42,103,971	s	120,650,893	\$	163,541,099	s	37,398,731	s	10,655,677	\$	26,743,055	1.23

## 3 Response:

4 Please refer to the response to Catalyst-FEI IR 2.1.

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9 The recent process of amalgamation and postage stamp rate design resulted in a rate reduction 10 because the amalgamated utility's average cost of service was less than the equivalent cost of 11 service within the smaller utility, FEVI [3]. The same should apply to the VIGJV, where 12 previously FEVI's cost of transmission demand on a volumetric basis was higher than the 13 amalgamated utility's average cost of transmission demand. From this it follows that the VIGJV 14 should see a lower cost of service under the amalgamated utility.

# 153.Please confirm that VIGJV's current and proposed RS22 rates have benefitted16from FEI's amalgamation.

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# 18 **Response:**

FEI interprets the question to be asking what the impact of amalgamation has been on theVIGJV rates, current and proposed.

The common rates application stated that the VIGJV was not impacted by the common rates proposal. Prior to filing the common rates application, FEI representatives met with and had discussions with each of the individual members of the VIGJV to discuss the proposal for amalgamation and the appropriate approach for the agreement between FEI and the VIGJV going forward under the Amalgamated Entity. At the time of consultation, the Transportation Service Agreement (TSA) with the VIGJV was set to expire on December 31, 2012, subject to a



1 five-year extension as mutually agreed to by both parties, with notification to FEVI prior to 2 October 1, 2011. Given the timing of the application to amalgamate, the VIGJV and FEI agreed 3 to extend the TSA for a five year term with VIGJV having the right to terminate the extension 4 without penalty if amalgamation was approved. If the VIGJV chose to terminate the TSA upon 5 amalgamation, the VIGJV would have the option to receive transportation service pursuant to 6 one of FEI's rate schedules available to large industrial customers. This gave the VIGJV the 7 option to choose to stay with the terms of the TSA post amalgamation, so that the VIGJV's 8 current rates to December 31, 2017 would not change as a result of amalgamation, as the rates 9 within the TSA have an annual adjustment tied back to a consumer price index.

As discussed in the common rates proposal, in the absence of amalgamation FEVI customers were facing possible significant rate increases. If the common rates proposal was not approved, the RSDA balance was expected to be depleted by 2017 at which time FEVI customers were estimated to see rate increases in the range of 20 percent. Therefore, after December 31, 2017, the VIGJV, or the individual members within it, would have likely faced rate increases if the common rates proposal was not approved.

FEI's proposed firm RS 22 rate of \$0.972/GJ is only slightly lower than he VIGJV attracts
distribution costs based on their firm demand of 13 TJ/Day and based on 5 customers (5 mills).
Overall, this amounts to approximately 1.27 percent of Distribution demand-related costs and
0.58 percent of the Distribution customer-related costs totaling \$2.2 million and \$1.7 million,
respectively.

- 21 FEI does not define a separate transmission service area or rate.
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- 24 25
- 26 FEI supported all FEVI core customers receiving a rate reduction from amalgamation [6].

# 275.Please confirm if FEI supports similar treatment for the VIGJV and BCH IG under28amalgamation? If not please explain.

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## 30 Response:

31 FEI supports similar treatment of RS 22, VIGJV and BCH IG under amalgamation in the manner 32 proposed in the Application. As explained in Section 9.8.5.2 of the Application, FEI supports 33 establishing a postage stamp, cost of service-based firm rate for large industrial customers 34 under amalgamation. FEI has proposed that RS 22, VIGJV and BC Hydro IG be grouped 35 together to derive firm rates based on the allocated cost of service results. FEI believes that this 36 option is consistent with the rate design principles of fair apportionment of costs and avoidance 37 of undue discrimination among similar types of customers. Similar treatment of all large 38 industrial customers is also consistent with government policy in favor of postage stamp rates.



1 Please refer to FEI's response to Catalyst-FEI IR 2.3 for a discussion of the benefits to the 2 VIGJV under the proposed firm rate for RS 22.

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  6 6. Please confirm that the VIGJV's current cost of service on a volumetric basis is
  7 less than it has been in historical COSA such as footnote [2]. If this is not the
  8 case, please explain.
- 9

# 10 Response:

Not confirmed. The VIGJV's volumetric allocated cost of service from Schedule 34B-10 included in Exhibit B-1-0 in TGVI's Application for Approval of 2010 and 2011 Revenue Requirements equals \$0.832 per GJ (\$2,430,018 / 2,920,000 GJ). The VIGJV does not have a separately allocated cost of service in this Application, as the VIGJV is included as a customer in RS 22 Firm whose volumetric allocated cost of service is \$0.978 per GJ (\$21,429<sup>1</sup> thousand/ 21,900<sup>2</sup>

16 TJ).

In the Common Rates Application, referenced in the footnote included in the preamble, FEI
 treated VIGJV revenues (among other customers' revenues) as credits to the cost of service:

19 therefore no costs were allocated to the VIGJV in that application.

20 Comparing VIGJV's historical (pre-2012) allocated cost of service with the allocated cost of 21 service in this Application is inappropriate. Historical COSAs were based on FEVI prior to 22 amalgamation and so are not readily comparable, as the utility rate base, cost of service, total 23 consumption, peak day demand and total customers are materially different between FEVI as a 24 standalone utility and as part of the amalgamated utility.

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29 FEI's Written Reply Argument on COSA and revenue to cost ratios stated, "Catalyst disagrees

30 that it should be allocated distribution costs under the proposed Rate Schedule 22, especially in

comparison to the grandfathered treatment of Rate Schedules 22A and 22B." [7].

<sup>&</sup>lt;sup>1</sup> Appendix 12, Schedule 1.

 <sup>&</sup>lt;sup>2</sup> 21,900 TJ = (13 TJ/Day VIGJV Firm + 45 TJ/Day BCH IG Firm + 2 TJ/Day Creative Energy Firm) x 365 Days.



1 The VIGJV has not had distribution demand costs allocated to it in any COSA since 1991 and 2 RS 22A and 22B have not had distribution costs allocated since at least 1993. There is no 3 precedent or history to justify adding distribution demand costs to the VIGJV, nor 22A and 22B.

# Please confirm that FEI believes all transmission customers should be allocated a portion of distribution demand costs.

6

# 7 Response:

8 Not confirmed as FEI does not have a transmission service nor transmission customers as 9 described in the question. It is also important to note that VIGJV facilities do not take gas at 10 transmission pressure. The VIGJV facilities take gas at distribution pressure and, as it does for 11 other distribution pressure customers, FEI has facilities in place to step down the pressure at 12 the various VIGJV sites.

13 Close proximity of any customer to a transmission pressure pipeline should not be a reason to 14 avoid allocating distribution related costs to that customer. Many of FEI's residential, 15 commercial and industrial customers are located in close proximity to transmission pressure 16 pipelines; however, if the customers are in the same rate schedule (i.e. they have similar 17 characteristics) then they are allocated costs as a group. If the group causes a certain type of 18 costs (e.g. distribution costs), then all customers in that group are allocated those costs and 19 consequently those costs affect their rates.

As indicated in response to BCUC IRs 1.34.3 and BCUC 1.34.4, the VIGJV mills have similar characteristics to other FEI industrial customers; accordingly, these customers are treated as one group in the COSA and allocated costs based on the costs caused by the entire group of customers.

As identified in the Application, if the closed RS 22A and RS 22B were not grandfathered, they would also be grouped with the VIGJV, BCHydro IG and RS 22 customers into one customer group and be allocated costs based on cost causation, which would include distribution-related costs.

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# 318.Please confirm that FEI believes distribution customers and transmission32customers should be charged the same rate.

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# 34 <u>Response:</u>

Not Confirmed. FEI does not distinguish its customers based on whether they are connected to the distribution system or transmission system. As explained in response to FEI-Catalyst IR 2.5,



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FEI believes that under amalgamation all similar types of customers should be charged postage
 stamp rates irrespective of their location on FEI's system.

As explained in FEI's written reply argument on COSA and revenue to cost ratios (refer to PART Two, page 13), FEI's treatment of RS 22A and RS 22B customers is consistent with the Commission determination to close these rate schedules in its 1993 Phase B Rate Design Decision. Therefore, RS 22A and RS 22B are grandfathered with respect to their terms and conditions of service and how FEI allocates costs to them in COSA.

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12 In previous Commission decisions, the Commission has explicitly acknowledged a distinction 13 between "distribution" and "transmission" customers when it stated, "*The Commission is* 14 *cognizant both of fairness considerations and the possible disincentives to potential new* 15 *transmission customers. Therefore, it intends to monitor Centra's rates for both distribution and* 16 *transmission service to ensure that no undue burden is placed on any one customer class.*" [8]

# Please confirm that FEI acknowledges the existence of transmission customers within the amalgamated utility.

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# 20 **Response:**

Not confirmed. As explained in response to Catalyst-FEI IR 2.1, FEI does not have a
 transmission pressure service nor a distribution pressure service.

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- 2610.If there are no transmission customers within the utility, please provide the date27when FEI's last transmission customer stopped operating.
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- 29 Response:
- 30 Please refer to the response to Catalyst-FEI IR 2.9.

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- In the previous Commission decision, the accepted cost allocation for "transmission" customers 1 2 was a fully allocated cost of service [FACOS] for Firm Transportation [FT] and the utility's cost 3 allocation was described by the Commission as, "Centra allocates transmission capacity costs 4 using a one coincident peak methodology. Centra defines this method as the allocation of 5 demand (transmission capacity) cost on the basis of a single demand value for each class at the 6 time of the transmission system peak demand. Specifically, Centra proposes to allocate 7 transmission capacity costs based on the firm contract demands of customers and the physical 8 design capacity of the system. Centra allocates transmission capacity for the CDS [Centra 9 Distribution System] as the residual of total system capacity less the contract demands of the 10 Joint Venture, BC Hydro and Squamish Gas." [9]
- The Commission's determination was that the full cost of service for "transmission" customers
  was \$ 0.749/GJ (not including RDDA amortization), as proposed by the utility [10].

# 1311.Please confirm that FEI's proposed RS22, which allocates distribution costs to the14VIGJV and BCH IG is consistent with previous Commission approved cost15allocation methodologies for transmission customers.

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# 17 <u>Response:</u>

18 In the FEI 2001 Rate Design there was no firm load from the RS 22 customers, and therefore no 19 demand-related costs of the transmission function or distribution function were allocated to 20 these customers. However, distribution function customer-related costs were allocated to RS 22 21 customers. The basis for setting the interruptible Delivery Charge for RS 22 was on a value of 22 service basis using the RS 5/25 Demand Charge and Delivery Charge discounted using a 100% 23 Load Factor. This resulted in a lower interruptible Delivery Rate for RS 22 than for RS 27. Also, for RS 22 there was a further adjustment to the Delivery Charge as a result of the negotiated 24 25 settlement. There was no firm Delivery Rate or Demand Charge approved by the Commission; 26 consistent with the Phase B Rate Design Decision, a new or existing large industrial customer 27 wanting firm service would have to negotiate rates, which would have to be approved by the 28 Commission.

29 FEI's proposed RS 22 has not followed the COSA or rate design methodologies of FEVI prior to 30 amalgamation. The Cost of Service Allocations for FEVI prior to amalgamation did not allocate 31 distribution plant nor distribution O&M related costs to VIGJV or BCH IG. Transmission related 32 costs were allocated first to the transport service customers (VIGV, BC Hydro IG, Squamish and 33 Whistler) based on their capacity requirements, and the residual transmission related costs 34 were then allocated to all other FEVI customers based on their peak day demand. While FEI 35 has allocated distribution-related costs to the VIGJV and BC Hydro IG in this Application, 36 transmission-related costs are not allocated first to transport service customers with the residual 37 to all other customers, but rather are allocated impartially based on a customer group's 38 contribution to peak day demand.



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For the large industrial customers that are not served under grandfathered RS 22A and RS 22B, 1 2 FEI is proposing a COSA methodology that can be used to determine firm and interruptible 3 rates on a postage stamp basis. As explained in the response to Catalyst-FEI IR 2.5 and 4 Section 9.8.5.2 of the Application, FEI believes that establishing postage stamp rates for large 5 industrial customers as proposed in the Application is consistent with the rate design principles of fair apportionment of costs and avoidance of undue discrimination among similar types of 6 7 customers. Similar treatment of all large industrial customers is also consistent with government 8 policy in favor of postage stamp rates.

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# 12 12. If not, please detail differences between the proposed RS22 and previous 13 methodologies.

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- 15 **Response:**
- 16 Please refer to the response to Catalyst-FEI IR 2.11.



## 1 Topic 2: "Postage Stamp Rate Design" of Large Industrial Firm Service

FEI is proposing to combine the VIGJV, BCH IG, and Creative Energy under a new proposed RS22. In FEI's opinion these 3 customers are similar, should be combined, and that by combining these 3 customers a valid cost of firm service for <u>all</u> large industrial customers in the amalgamated service area can be established.

- 6 FEI also has 14 other similar large industrial customers (non-bypass) in the same amalgamated 7 service area that have identical requirements in terms of high volume, firm service.
- 8 FEI in this application has justified the combination of the VIGJV, BCH IG, and Creative Energy
- 9 as following from amalgamation and common rates design [11]. In FEI's 2012 Common Rates,
- 10 Amalgamation and Rate Design Application [12], FEI states the following,

## 1.10 Conclusion

The FEU are applying to amalgamate and implement postage stamp rates. Postage stamp rates will be equitable for all customers and eliminate the rate discrepancies across the FEU service areas. Postage stamp rates will result in rate reductions to FEVI and FEW and long-term rate stability to FEVI, FEW and Fort Nelson. Amalgamation and postage stamp rates will also facilitate customer access to all natural gas services and realize the last remaining efficiencies to be gained from common ownership. The FEU have proposed rates for the Amalgamated Entity based on the cost of service of the existing utilities, adjusted for the effects of amalgamation. The rate design employed is based on FEI rate structures and a COSA study

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Since FEI is now proposing to have similar large volume, firm transportation customers in the amalgamated service area with wildly varying rates (22A, 22B, and 22 proposed), it appears that FEI is not following their own stated goal that, "*Postage stamp rates will be equitable for all customers and eliminate the rate discrepancies across FEU service areas.*" (emphasis added).

16 If FEI were to combine all 17 non-bypass similar Large Volume Firm Transportation (LVFT) 17 customers across the common service area, and apply transmission costs only for cost 18 allocation (RS22A, RS22B, VIGJV, and BC Hydro IG footnotes [2],[8],[9],[10] and [13]), this 19 would represent a true cost of providing this service across the region.

As Mr. Todd explained during the SRP, "... you may want to consider picking different classes if there is customers who cannot be served at distribution pressures.", "... you don't want to differentiate customers by how they're served because of location, <u>but how they're served</u> <u>because of what their requirements are</u>.", and "this becomes what we call classification, how we structure our rate classes and it's not really a cost allocation issue, because the way you structure rate classes then has an effect on the way you do cost allocation." [14] (emphasis added).

From this it follows that LVFT customers should be grouped together in a common rate class.
This common rate class should be treated equally irrespective of where they are located on the
Fortis transmission system.



# Please confirm that FEI agrees with Mr. Todd's assertion that customers should be served on the basis of what their requirements, rather than where they are physically located within the service area.

# 5 **Response:**

6 FEI does not agree with the assertions made by Catalyst in the preamble to their guestion and 7 believes that its rate design proposal and customer segmentation for RS 22 is aligned with Mr. 8 Todd's comments that customers should be served on the basis of what their requirements are, 9 rather than where they are physically located within the service area. As noted in response to 10 Catalyst-FEI IR 2.1, the VIGJV facilities do not take gas at transmission pressure; rather, they 11 take gas at distribution pressure or intermediate pressure and FEI has facilities in place to step 12 down the pressure at the various VIGJV sites to serve them and the surrounding businesses 13 and communities. In any case, FEI does not segregate its customers based on the pressure of 14 gas they receive and therefore, has no distribution pressure or transmission pressure service. 15 Rather, consistent with Mr. Todd's comments, FEI segregates its customers based on load 16 characteristics of annual consumption and load factor (i.e., how much the customer consumes 17 on average as compared to its peak demand) and the nature of the service (i.e., sales or 18 transportation).

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- 2214.Please confirm that FEI agrees with Mr. Todd that customers that cannot be23served with distribution pressures/mains may be treated differently than24distribution customers that have lower requirements for pressure and volume.
- 25
- 26 **Response:**
- 27 Please refer to the response to Catalyst-FEI IR 2.13.
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- 3115.Please confirm and detail if FEI has explored the option, has performed any<br/>calculations, of a LVFT rate class across the amalgamated service area. If yes,<br/>please provide the data.
- 34

# 35 Response:

FEI's RS 22 proposal, based upon Option 2: Postage Stamp Cost-Based Rates for Large
Volume Industrial Transportation, is a postage stamp rate across the amalgamated service
area. In the early stages of its rate design process, FEI explored in a preliminary way the



potential to include RS 22A and RS 22B customers in the proposed RS 22, but concluded that RS 22A and 22B should not be part of this group as these rate schedules are grandfathered and are closed to new entrants. Any new large industrial customer in the Interior or Columbia regions would be required to take service under RS 22. There is no data from FEI's preliminary consideration that FEI has to provide.

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According to FEI's table below [16] the total firm demand of all 17 high volume, industrial
 transmission customers is 37,008 TJ/year.

# 1216.Please state the total cost of service for the combined group in total dollars per13year excluding distribution demand costs in \$ per year.

14

# 15 **Response:**

- 16 The total allocated cost of service for the group of customers referenced in the preamble 17 excluding distribution demand costs is \$21,427 thousand per year.
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# 2117.Please calculate the average volumetric cost of transmission service (\$/GJ) for22this group of 17 large, firm industrial customers.

23

# 24 <u>Response:</u>

As mentioned in the response to Catalyst-FEI IRs 2.7 and 2.13, FEI does not have a transmission rate, transmission service or transmission region. The VIGJV takes gas at distribution pressure.

FEI notes that the total customer count in the referenced table is 42, rather than 17.

However, to be responsive to this question when the allocated cost of \$21,427 thousand from the response to Catalyst-FEI IR 2.16 is divided by the firm volume of 37,008 TJ referenced in

- 31 the preamble above, the results equal an allocated cost based firm rate of \$0.579 per GJ.
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# 1 **18.** Please summarize in a table the variance between the cost of service calculated in 2 (17) and the cost of service for each of RS22A, RS22B, VIGJV, and BCH IG.

Rate Schedule	Customers	Firm Demand	Interruptible Demand	Total Annual Demand
RS 22	26	732	12,457	13,189
RS 22A	RS 22A 9		0	9,030
RS 22B	5	4,215	1,061	5,277
Subtotal	40	15,825	13,518	27,496
Joint Venture	1	4,758	0	4,758
BC Hydro IG	1	16,425	0	16,425
Total	42	37,008	13,518	48,679

3

Units in the Demand Columns are all in TJ

# 4

# 5 **Response:**

6 FEI does not have a transmission service, a transmission rate nor a transmission region and

7 does not agree that rates calculated on the basis proposed in the question are appropriate.

8 However, FEI has provided the requested information below. FEI cannot produce a separate

9 allocated cost of service for BCH IG, VIGJV and RS 22 Firm from Exhibit B-1, Appendix 12,

10 pages 1771-1781 as the customers were grouped together for cost allocation purposes. FEI has

11 included a total column for comparison.

Rate Schedule	Allocated Cost of Service from Catalyst- FEI IR Response 2.16 (\$000)	Allocated Cost of Service from Exhibit B-1 (\$000)	Variance (\$000)
RS 22A	6,717	6,977	(260)
RS 22B	2,556	2,415	141
BCH IG	8,591		
VIGJV	2,794		
RS 22 Firm	768		
Total	12,153	22,183	(10,030)

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- 1 In FEI's 2012 Common Rates, Amalgamation and Rate Design Application, FEI stated the 2 following about postage stamp rates [19]
- 2 following about postage stamp rates [19],

The rationale for common rates exists even though it means higher rates for some customers. For customers of FEI, it may be argued that the current differential in rates between the service areas reflects regional differences in cost of service. However, it is difficult to justify the continued rate disparity given the precedent of postage stamp rates in the Province and the variations in cost of service within postage-stamped service areas of the FEU already. As stated by EES Consulting:<sup>95</sup>

In reality, each customer on the system has a slightly different cost of service based on when they were connected, the location of the customer, the overall energy use, the load profile of the customer, etc. However, it would be impossible to set separate rates for each individual customer. For that reason customers are grouped into rate classes to reflect differences in usage patterns and connection costs. The question then becomes how far to carry the averaging of costs between customers on the basis of location. While there may be regional differences in costs, there are also differences in costs based on each customer's unique location on the system. We do not find it to be equitable to differentiate customer rates on the basis of broad regional differences while not differentiating on the basis of a more specific location or other factors.

3 4

5 As FEI and EES Consulting state, "... it is difficult to justify the continued rate disparity given the 6 precedent of postage stamp rates in the Province and the variations in cost of service within

- 7 postage-stamped service areas of the FEU already", and " ... customers are grouped into rate
- 8 <u>classes to reflect differences in usage patterns and connection costs.</u>" [19] (emphasis added).

9 Additionally, in FEI 2016 RDA, FEI highlighted the government's support for postage stamp rate
10 design with letters to the Commission noting [20],

From a public policy perspective, the Ministry is of the opinion that a common rate resulting from the proposed amalgamation of FortisBC Energy Utilities will have benefits for all Fortis BC Energy customers in British Columbia.

Government policy has been to promote access to energy services on a postage stamp rate basis so that all British Columbians benefit from access to services at the lowest average cost.<sup>55</sup>

Postage stamp rates provide access to services at the lowest average cost, promote investment equality across BC Hydro's service area, streamline regulatory requirements and effective utility management, and minimize potential regional rate impacts as BC Hydro invests in its infrastructure.<sup>56</sup>

11

12 The government stressed, and FEI endorsed, that common rates benefit all customers and

13 provide access to services at the <u>lowest average cost</u> and promote investment equality across

14 common service areas.



# 119.Please describe and justify whether the proposed RS22 reflects the postage2stamp rate design principles as described in the quotes above.

3

## 4 Response:

5 FEI believes the proposed RS 22 reflects the postage stamp rates design principles described6 in the preamble quotes.

As explained in Section 9.8.5.2 of the Application, FEI supports establishing a postage stamp, cost of service based firm rate for large industrial customers under amalgamation. In FEI's opinion, RS 22, VIGJV and BC Hydro IG should be grouped together to derive firm rates based on the allocated cost of service results. FEI believes that this option is consistent with the rate design principles of fair apportionment of costs and avoidance of undue discrimination among similar types of customers. Similar treatment of all large industrial customers is also consistent with government policy in favor of postage stamp rates.

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1720.What type of roadblocks to implementing a single LVFT rate class would FEI18expect?

19

## 20 Response:

Please refer to the response to Catalyst-FEI IR 2.15. Assuming the Commission approves
 FEI's proposed RS 22, FEI does not foresee any roadblocks in implementing the proposed RS
 22 postage stamp cost-based rates for large volume industrial transportation customers.

- 24
- 25
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# Would these roadblocks differ significantly from the roadblocks FEI encountered in proposing postage stamp rates in FEI's 2012 Common Rates, Amalgamation and Rate Design for all core customers? If so, how would they differ?

- 30
- 31 Response:

As indicated in the response to Catalyst-FEI IR 2.20, FEI does not expect any roadblocks to implementing its proposed RS 22 if approved by the Commission. FEI similarly did not encounter any roadblocks to implementing common rates after they were approved by the Commission.





# 1 Topic 3: Alternatives to the Proposed RS22

If the RS22 proposal is accepted, the cost of service for all future industrial firm transmission customers would not be the lowest average cost of service at \$ 0.972/GJ, and that may hinder

- 4 future investment.
- 522.Please confirm if FEI believes the proposed RS22 promotes future investment at<br/>the average cost of service for all LVFT customers? If yes, please explain.

# 8 **Response:**

7

9 FEI disagrees with the statement in the preamble. FEI's proposed RS 22 rate is based on the 10 allocated cost of service of RS 22 customers, BC Hydro IG and VIGJV (as there is only one 11 such rate proposed, it is also the lowest). FEI has explained that it excluded RS 22A and RS 12 22B customers from the proposed RS 22 as these are closed, grandfathered rate schedules.

FEI's proposed firm rate for RS 22 customers will not hinder future investment, as the proposed firm rate is very similar to the existing firm rates for VIGJV, BC Hydro IG and Creative Energy. Natural gas will continue to be a convenient, readily available and cost-effective energy source for industrial purposes in BC under the proposed rates and terms of service. FEI believes that the proposed rate for RS 22 firm customers is fair, just and reasonable and should be approved as applied for in the Application.

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# 2223.Please confirm whether FEI is open to considering modifications to RS22 as23proposed.

- 24
- 25 **Response:**

Not confirmed. FEI believes that the proposed rate for RS 22 firm customers is fair, just and reasonable and should be approved as applied for in the Application.



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## 1 Topic 4: VIGJV Firm and Interruptible Revenue in Rate Design

The treatment of VIGJV's revenue has varied over time. During the SRP when Mr. Gosselin was asked about the treatment of VIGJV revenue in the 2012 COSA, and Mr. Gosselin stated, "*I* believe all of the JV's revenues, *IT*, firm, were brought as credits to the cost of service and allocated across." [21]

6 24. Please fill in the table below to indicate where the VIGJV revenue has been 7 accrued and allocated. This will enable the reader to understand the historical and 8 current treatment of VIGJV revenue with respect to rate design and how the 9 revenue has been allocated into deferral and surplus accounts that have had 10 material impact on system wide rate design decisions. (Numbers shown in the table 11 are not real, they are for illustrative purposes only).

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
VIGJV Firm Revenue Actual ('\$000,000s)	11.5	11.5	11.5	11.5	11.5	11.5	2.5	2.5	2.5	2.5	4.5	4.5	4.5	4.5	97.0
VIGJV Firm Revnue Surplus to RRDA, 2009 Surplus Account, or RSDA	1.0	1.0	1.0	1.0	1.0	1.0	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	9.8
VIGJV IT Revenue Actual (\$000,000s)	1.5	1.5	1.5	1.5	1.5	1.5	3	3	3	3	3	3	3	3	29.0
VIGJV IT Revenue Surplus to RRDA, 2009 Surplus Account, or RSDA	1.5	1.5	1.5	1.5	1.5	1.5	3	3	3	3	3	3	3	3	29.0
VIGJV IT allocated to other	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.4

#### 12 13

## 14 Response:

15 The VIGJV firm and interruptible revenue is not allocated to cover any one particular cost: 16 rather, the revenue collected is intended to recover the revenue requirement of the Utility. Since 17 revenues are not allocated to cover any particular cost, it is not possible to know how much of 18 the revenue from any of FEVI's rate schedules, prior to amalgamation, contributed to the 19 accumulated deficiency in the Revenue Deficiency Deferral Account (RDDA), contributed to 20 paying off the accumulated deficiency in the RDDA or contributed to the surplus in the RSDA. 21 FEI has, however, included a table below that shows the firm and interruptible revenue for the 22 VIGJV since 2003.

\$000	2003	2004	2005	2006	2007
VIGJV Firm Revenue	11,917	12,211	6,519	4,089	3,296
VIGJV Interruptible Revenue	-	-	128	875	2,719
\$000	2008	2009	2010	2011	2012
VIGJV Firm Revenue	2,919	2,724	2,714	2,740	2,772
VIGJV Interruptible Revenue	2,015	2,358	2,287	3,158	3,970
\$000	2013	2014	2015	2016	Total
VIGJV Firm Revenue	4,213	3,818	4,183	4,219	68,335
VIGJV Interruptible Revenue	1,694	2,836	2,335	2,876	27,252

23

For historical context regarding the nature of the RSDA, FEI has included some information

drawn from FEI's 2012 Amalgamation Application.



- In order to bring natural gas service to Vancouver Island residents, the Vancouver Island Gas 1 2 Pipeline Project was initiated in February 1988. Construction began in 1989 and was completed 3 in 1991. Both the pipeline and distribution facilities received initial financial assistance from the 4 Federal and Provincial Governments, with the VIGJV customers being eligible for conversion 5 grants. Under the Consolidated Rate Stabilization Agreement between Centra Gas (the 6 distribution utility at the time) and the Province, gas rates to distribution customers were 7 decoupled from the cost of providing service and were set at a discount to oil and/or electricity. 8 The Province provided a guarantee that absorbed the shortfall between revenues from 9 customers and the costs of the transmission and distribution facilities.
- By the mid-1990s a financial restructuring of the pipeline and distribution facilities was needed to achieve financial viability. The restructuring was finalized in late 1995, according to which the Consolidated Rate Stabilization Agreement was replaced by the Vancouver Island Natural Gas Pipeline Act (VINGPA) and the Vancouver Island Natural Gas Pipeline Act Special Direction<sup>3</sup> to
- 14 the Commission (Special Direction).

15 As part of the restructuring, the Province made a \$120 million lump sum payment as a 16 contribution to capital costs with a corresponding reduction in Centra Gas' rate base as set out 17 in the Special Direction. The Federal and Provincial Governments had previously provided \$75 18 million to the Pacific Coast Energy Corporation (PCEC) to assist in the construction of the 19 pipeline from Vancouver Island to the Sunshine Coast. Under the Pacific Coast Energy Pipeline 20 Agreement, FEVI's predecessor, as part of the restructuring, agreed to repay the Canada 21 Repayable Contribution (\$50 million) and the British Columbia Repayable Contribution (\$25 22 million).

The VINGPA and Special Direction also contemplated the payment by the Provincial Government of gas royalty revenues (Royalty Revenues) to FEVI through to 2011, which were based on the wellhead price of gas. These Royalty Revenues mitigated fluctuations in the cost of gas to the benefit of FEVI's core market customers.

The Special Direction contemplated accumulated revenue shortfalls (referred to as the Accumulated Revenue Deficiency) being recorded in the RDDA. Within the parameters of the Special Direction, rates continued to be set below the cost of service and the balance in the RDDA increased to an \$87.9 million deficit by 2002, and was forecast to be approximately \$90.2 million by 2003.

Sections 2.8 and 2.10(j) of the Special Direction instructed that beginning January 1, 2003, rates were to be set at a level that would recover the cost of service and also include an amount sufficient to eliminate the RDDA balance in the "shortest period reasonably possible, having regard for Centra's competitive position relative to alternative energy sources and the desirability of reasonable rates." An ever-increasing deficiency was not sustainable.

<sup>&</sup>lt;sup>3</sup> OIC No. 1510 (Dec. 13, 1995) made pursuant to the Vancouver Island Natural Gas Pipeline Act, R.S.B.C. 1996, Chap. 474.



The need to eliminate the balance in the RDDA was addressed in Centra Gas' 2002 Rate 1 2 Design Application. The main objectives of the application were to set rates that would fully 3 recover the overall cost of service, initiate amortization of the accumulated revenue deficiency 4 and maintain the long-term financial sustainability of the entity. To achieve these objectives, a 5 "soft-cap" rate mechanism was proposed to set rates relative to the cost of alternative energy 6 sources, ensuring competitiveness with alternative energy providers. The margin above the cost 7 of service was proposed to be used to pay down the RDDA balance. This methodology was 8 endorsed by the Commission following an oral public hearing, and was determined to be the 9 most reasonable and effective method of setting rates for Vancouver Island.

10 The RDDA balance was amortized sooner than had been anticipated, and was fully eliminated 11 by the end of 2009. Recognizing that the Royalty Revenues would be discontinued at the end of 12 2011 and the repayment of government loans would start in 2012, the 2010-2011 FEVI 13 Revenue Requirements and Rate Design Application recommended and the Commission 14 approved that rates be frozen for 2010 and 2011 for core market customers. The surplus 15 revenue that resulted from this rate freeze was captured in a deferral account called the RSDA. 16 The RSDA was intended to accumulate revenue that would later be used to offset the loss of 17 Royalty Revenues, the cost to repay government loans and mitigate the impact of forecasted 18 rate increases. Together the loss of Royalty Revenues and repayment of government loans was 19 expected to increase the FEVI's cost of service by approximately \$41 million or 38%<sup>4</sup>.

The FEU 2012-2013 RRA further proposed that Vancouver Island rates remain unchanged for 2012 and 2013. This rate freeze would ensure continued rate stability for Vancouver Island 22 customers, and would allow sufficient time to implement an appropriate longer term solution to 23 protect Vancouver Island customers against potential future rate increases.

FEI's 2012 Amalgamation Application proposed that it was appropriate to return the RSDA balance to FEI Mainland customers upon amalgamation. The reasons for proposing this approach were stated in the 2012 application as follows:

27 1. The rationale for accumulating the balance in the RSDA as justified in FEVI's 2009 Rate Design Application was primarily to help transition FEVI's 28 29 customers to the higher rate that would result after the loss of Royalty Revenues. Under amalgamation, FEVI will see no rate increase; in fact as 30 31 shown below in Section 8.4.2, the FEVI 2013 rates would be lower than 32 current rates. Under amalgamation, the impact of the loss of Royalty 33 Revenues would now be shared by one large entity. Therefore, the FEU 34 believe that it is appropriate to return the RSDA to FEI Mainland customers as 35 those customers will incur an increase to their rates as a result of 36 amalgamating with FEVI and FEW customers. The benefits received from

<sup>&</sup>lt;sup>4</sup> Terasen Gas (Vancouver Island) Inc. (TGVI) 2010 and 2011 Revenue Requirements and Rate Design Application, Exhibit B-4, IR response 14.1.1.



adoption of common rates for FEVI equal the benefits they would have derived 1 2 from the RSDA within approximately 1.5 years following amalgamation. 3 2. This allocation methodology meets the overall principles of the rate design, 4 namely, fairness, customer impact, stability and ease of understandability, 5 administration and rate continuity as discussed in Section 9. The FEU believe 6 the proposed RSDA allocation methodology is fair as it helps to offset the 7 increase in FEI Mainland customer rates resulting from amalgamation. 8 Commission Order G-21-14 approved the disposition of the RSDA to FEI Mainland customers. 9 Specifically, Order G-21-14 approved "[t]he use of a Rate Stabilization Deferral Account (RSDA) 10 Rider, to permit the distribution of the balance in the RSDA to non-bypass customers in the current FEI service area over a three year period effective as of the date of the amalgamation". 11 12 13 14 15 16 In FEI 2012 Common Rates, Amalgamation and Rate Design Application, FEI was proposing to 17 set postage stamp rates and the overall impact was that FEVI and FEW rates were to drop and FEI Mainland rates were to increase over time, resulting in a common, flat rate across the 18 19 service area. Surplus funds from FEVI, mainly the \$ 90.3 M surplus in FEVI's RSDA, would be 20 transferred to FEI and used to mitigate the rate increases for other FEI customers [22]. 21 Essentially, FEVI customers were handing over the RSDA surplus to FEI Mainland customers 22 up front to offset some of the rate adjustments resulting from amalgamation. In return for the 23 upfront payment, FEVI core customers received reduced rates under amalgamation. 24 25. Please explain/detail, with the use of the data submitted in the above table, how 25 much VIGJV total revenue went into the RRDA, 2009 Surplus Account, and RSDA. 26 How much of the \$ 90.3 M surplus in FEVI's RSDA transfer to FEI was directly attributed to VIGJV revenue? 27 28 29 **Response:** 30 Please refer to the response to Catalyst-FEI IR 2.24. 31 32 33 Was the VIGJV revenue contribution to the \$ 90.3 M RSDA FEVI transfer to FEI 34 26. 35 considered when FEI was contemplating rate design options for the VIGJV? If yes, please explain what credit was allocated to the VIGJV. If no, why not? 36 37



## 1 Response:

Please refer to the response to Catalyst-FEI IR 2.24. The accumulated RSDA balance has been
returned to FEI (Mainland) customers in rates using the Commission-approved method over the
approved three year phase-in period (Orders G-21-14 and G-131-14). Since the rate design

- 5 proposals in the Application are forward looking beyond the three-year amalgamation phase-in
- 6 period, there is no consideration of RSDA balances in the rate design options.
- 7
- 8
- 9
- 10 **27.** Has any quantity from the FEVI RSDA transfer been allocated to any other rate 11 class? If yes, please detail the amount by rate schedule.
- 12

## 13 **Response:**

14 Please refer to the responses to Catalyst-FEI IRs 2.24 and 2.26.

15 FEI notes that the \$90.3 million referenced in the preamble is the amount of the RSDA projected

16 at the time of filing the amalgamation application. The actual balance for distribution at the time

17 of amalgamation was \$99.2 million<sup>5</sup>. For details regarding the approved distribution of the

- 18 RSDA to Mainland customers, please see the following table. Years 2015 and 2016 are actuals
- and include the full year; 2017 is also actuals but is year to date to the end of September 2017.

## RSDA Distriibution Pre-Tax Mainland Customers Only

\$000	2015	2016	2017 YTD	Total
RS 1	\$21,453	\$25,351	\$9,158	\$55,961
RS 2	\$5,496	\$6,341	\$2,376	\$14,213
RS 3/23	\$4,679	\$5,389	\$1,995	\$12,063
RS 4	\$20	\$27	\$9	\$55
RS 5/25	\$2,007	\$2,341	\$841	\$5,188
RS 6	\$18	\$15	\$3	\$36
RS 7/27	\$647	\$723	\$253	\$1,624
RS 22	\$904	\$1,219	\$344	\$2,468
RS 22A	\$727	\$735	\$248	\$1,710
RS 22B	\$180	\$346	\$87	\$614
Total	\$36,131	\$42,488	\$15,314	\$93,933

<sup>&</sup>lt;sup>5</sup> FEI Annual Review for 2016 Rates, page 70.



- 1 2
- 3 4
- 5 FEVI core customers received a benefit for their contribution to the RSDA, but FEI is proposing 6 to allocate zero benefit to VIGJV for its contribution to the RSDA as the VIGJV's contract is set 7 to expire.

# 8 28. Please provide the rationale for allocating no benefit to the VIGJV for its 9 contribution to the RSDA.

10

# 11 Response:

- 12 Please refer to the responses to Catalyst-FEI IRs 2.24 and 2.26.
- 13
- 14
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FEI/EES have stated numerous times that, "... *interruptible loads cannot be measured in a cost of service* study ..." [23]. However, FEI has many years of historical experience in serving interruptible loads and therefore should have some data from which to extrapolate some estimates.

# 21 29. What is FEI's best estimate for the cost of interruptible transmission service on a 22 \$\\$/GJ basis?

23

# 24 **Response:**

The incremental cost of providing interruptible service to large industrial customers is very low and would typically consist of volumetric costs such as fuel gas, odorant and minor incremental operating and maintenance costs arising from the additional system throughput from the interruptible load.

FEI treats interruptible load as a zero peak load in its system planning. Consequently, FEI does not incur system capital costs to provide interruptible service. Interruptible service is provided on a capacity available basis that is not required to meet the requirements of firm service customers. In the COSA study, the interruptible load is assigned a zero value for allocating demand-related costs as the interruptible load does not cause demand-related costs.

34



In the FEI 2016 RDA, Annual Review for Compliance Filing [24], FEI reported the revenue and
volume as shown in the table below. FEI shows all revenue, including revenue from bypass,
special rates, and RS22 interruptible, but the purported revenue from VIGJV on line 50 excludes

6 VIGJV's interruptible revenue.

# Why does FEI not forecast interruptible revenue from VIGJV and does forecast interruptible revenue for RS22 and RS22B?

9

# 10 **Response:**

In its Annual Reviews for rates under the PBR Plan, FEI has maintained consistency with past
 practice regarding the inclusion or non-inclusion of interruptible (IT) revenue in the annual
 revenue deficiency or surplus calculations.

14 The COSA costs and revenues are based on the latest approved revenue requirement decision, 15 before making adjustments for known and measurable changes. The 2016 Test Year Annual

16 Review did not include interruptible revenue (IT revenue) from the VIGJV. During the PBR

period (2014 – 2019) any VIGJV IT revenues that occur are recorded in the Flow Through
 deferral account and are subsequently credited against revenue requirements in the next annual

19 review. Recognition of IT revenue from the VIGJV is a matter of timing and how it happens.

Prior to the current PBR and amalgamation, IT revenue was not forecast in the FEVI revenue
requirements and IT revenue that did occur was credited to the RDDA / RSDA deferral accounts
in accordance with Commission orders. (Exhibit B-3, Terasen Gas (Vancouver Island) Inc.,
2010-2011 Revenue Requirements and Rate Design, Response to BC Hydro IR Number 1, 2.7,
Page 4, August 28, 2009.) Part of the rationale for this was:

- Forecast revenue requirement (or cost of service) was intended to be met from firm service rates / revenues,
- IT service is supplied only at the request of the transportation shippers (VIGJV and BC
   Hydro IG) and only if both supply and Transmission System capacity are available, as
   stipulated in the transportation contracts with the shippers, and
- FEVI cannot forecast IT requirements with any certainty.

In contrast, consistent with past practice, IT revenue for the Mainland has been forecast for RS
22, RS 22A, RS 22B and RS 7 / 27 and was included in the 2016 Test Year Annual Review.

33

34



In previous determinations with respect to the handling of VIGJV's interruptible revenue, the Commission has acknowledged, "In certain situations IT revenues may be credited to the customer cost of service, …", "The reduction to the RDDA [Revenue Deficiency Deferral Account] balance will substantially benefit the CDS [Centra Distribution System] and other HPTS [High Pressure Transmission System] customers over time.", and "Also recognizing that circumstances change, the Commission directs Centra to review the allocation mechanism in its next Rate Design Application." [25].

# 9 31. Does FEI believe its circumstances are sufficiently different from that of Centra 10 Gas to trigger a review the allocation mechanism for VIGJV's IT revenue?

11

## 12 **Response:**

13 Centra Gas no longer exists as a BCUC-regulated utility and this Rate Design Application 14 includes the review of all of the large industrial customers regarding cost allocation, rate 15 structures and rates.

Please refer to the response to Catalyst-FEI IR 2.30 for an explanation of the treatment of VIGJV IT revenue during the PBR period. FEI's Rate Design proposal does change how IT revenue is determined and priced under RS 22; see Exhibit B-1, Sections 9.8.5.2, 9.8.5.3 and 9.8.5.4.

20

21

22

It appears that the VIGJV IT revenue that was allocated to Centra/TGVI's RDDA was determined by the Commission to, *"benefit the CDS and other HPTS customers over time."* [25] It appears that the definition of CDS and HPTS customers covered <u>all Vancouver Island gas</u> <u>utility customers</u> including the VIGJV and BCH IG, but excluded Mainland, Columbia, and Inland customers. From this it follows that the removal of VIGJV's IT revenue as a credit to its cost of service was not intended to be for the benefit of FEI Mainland customers.

29

# 3032.Please confirm whether the VIGJV has received any benefit for its contribution to31the former Vancouver Island utility's RDDA, 2009 Surplus Account, or RSDA.

32

## 33 Response:

Please refer to the responses to Catalyst-FEI IRs 2.24 and 2.26. The VIGJV has received the
 benefit of reliable natural gas delivery service at Commission-approved contract-based rates
 prior to and after the amalgamation of the three natural gas utilities that now make up FEI.



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#### FORTISBC ENERGY INC.

#### G-193-15 December 11, 2015

VOLUME AND REVENUE FOR THE YEAR ENDING DECEMBER 31, 2016 (\$000s)

Line	-		2015	-	2016	-
NO.	Particulars	Ap	oproved	F	orecast	 Change
	(1)		(2)		(3)	(4)
1	ENERGY VOLUME SOLD (TJ)					
2	Residential					
3	Rate Schedule 1		73 067 8		72 466 1	(601.3
4	Commercial					(001
5	Rate Schedule 2		28 107 6		28 012 1	(95.4
6	Rate Schedule 3		19 210 3		18 121 3	(1 089)
7	Rate Schedule 3		8 255 0		8 968 8	713
	Industrial		0,235.0		0,300.0	115.
õ	Rate Schedule 4		145.7		129.9	(15
10	Rate Schedule 5		3 304 5		2 172 7	(1 221)
11	Rate Schedule 5		50.5		46.8	(1,221.)
12	Rate Schedule 6		30.5		40.0	(3.
12	Rate Schedule 7		41.5		134.0	(704)
13	Rate Schedule 22 - Firm Service		10,603.6		9,0/0.9	(124.)
14	Rate Schedule 22 - Interruptible Service		12,535.4		17,616.4	5,061.
15	Rate Schedule 25		13,267.2		13,490.2	223.
16	Rate Schedule 27		6,636.0		0,530.7	(99.
17	Bypass and Special Rates		7 000 0		0.005.0	4 405
18	Rate Schedule 22 - Firm Service		7,260.0		8,395.8	1,135.
19	Rate Schedule 25		895.2		850.9	(44.
20	Rate Schedule 46		719.2		668.7	(50.
21	Byron Creek		2,940.3		375.4	(2,564.
22	Burrard Thermal		1,276.3		186.4	(1,089.
23	BC Hydro ICP		14,600.0		14,945.0	345.
24	VIGJV		4,380.0	-	4,758.0	 378.
25	Total	-	207,386.3	1	207,774.7	388.
26						
27	REVENUE AT EXISTING RATES					
28	Residential					
29	Rate Schedule 1	\$	814,408	S	722,183	\$ (92,22
30	Commercial					
31	Rate Schedule 2		267,664		232,810	(34,85
32	Rate Schedule 3		159,270		127,933	(31,33)
33	Rate Schedule 23		27,692		30,021	2,32
34	Industrial					
35	Rate Schedule 4		941		689	(25)
36	Rate Schedule 5		24,991		13,435	(11,55
37	Rate Schedule 6		449		354	(9
38	Rate Schedule 7		279		773	49
39	Rate Schedule 22 - Firm Service		9,068		6,149	(2.91
40	Rate Schedule 22 - Interruptible Service		13,211		17,857	4.64
41	Rate Schedule 25		31,453		30.052	(1.40
42	Rate Schedule 27		9 991		9.902	(8)
43	Bypass and Special Rates				-1	10.
			839		846	
44	Rate Schedule 22 - Firm Service				105	(26)
44 45	Rate Schedule 22 - Firm Service Rate Schedule 25		703		4.55	14.01
44 45 46	Rate Schedule 22 - Firm Service Rate Schedule 25 Rate Schedule 46		703		4 739	73
44 45 46 47	Rate Schedule 22 - Firm Service Rate Schedule 25 Rate Schedule 46 Byron Creek		703 4,003		4,739	73
44 45 46 47 48	Rate Schedule 22 - Firm Service Rate Schedule 25 Rate Schedule 46 Byron Creek Burrard Themal		703 4,003 1,560 9,965		435 4,739 44 8,314	73 (1,51) (1,65)
44 45 46 47 48	Rate Schedule 22 - Firm Service Rate Schedule 25 Rate Schedule 46 Byron Creek Burrard Thermal BC Hurto ICP		703 4,003 1,560 9,965		435 4,739 44 8,314	73 (1,51 (1,65
44 45 46 47 48 49 50	Rate Schedule 22 - Firm Service Rate Schedule 25 Rate Schedule 46 Byron Creek Burrard Thermal BC Hydro ICP		703 4,003 1,560 9,965 12,527 4,209		435 4,739 44 8,314 13,097 4,572	73( (1,51) (1,65) 57(



#### Comparison of VIGJV, BCH IG, and Creative Energy in the Proposed RS22 1 Topic 5:

#### 2 33. 3

# Does FEI consider the impact of rate increases on energy intensive trade exposed customers differently than customers that are not (e.g., regulated utilities)

4

#### 5 Response:

6 FEI always considers the potential impact of rate increases on its customers. However, FEI 7 does not segment customers based on whether they are energy intensive trade exposed 8 customers. FEI notes also that the service it provides to transportation customers deals only 9 with the natural gas delivery service. The other components in the delivered cost of natural gas, 10 such as commodity and midstream costs, are beyond FEI's ability to control, being either 11 market-based or under the jurisdiction of other regulatory bodies. As discussed in the response 12 to Catalyst-FEI IR 2.13, FEI segregates its customers based on load characteristics of annual 13 consumption and load factor (i.e., how much the customer consumes on average as compared 14 to its peak demand) and nature of the service (i.e., sales or transportation).

15 In accordance with the requirements of section 59 of the Utilities Commission Act, FEI must uniformly extend service of the same description to all persons under substantially similar 16 17 circumstances and conditions. Just as the Commission has determined that the Utilities 18 Commission Act grants no jurisdiction to approve low income rates in the absence of an 19 economic or cost of service justification, FEI could not legally provide a different rate to 20 customers on the basis that they are exposed to energy intensive trade, in the absence of an 21 economic or cost of service justification.



# 1Topic 6:Vancouver Island Transmission System Capacity, Usage and Implications2for Transportation Balancing Costs

- 3 Historically, gas utilities on Vancouver Island considered the total High Pressure Transmission
- 4 System (HPTS) capacity and allocated peak day demand for customers accordingly [27], see
- 5 below.

62						
63	Note 1: Peak Day Demand Allocation	(GJ/day)	Percent	Note 3: Wheeling Allocation		
64	Core Sales	82,489	54.45%	TGVI Pipeline Capacity	151,500	GJ/day
65	BC Hydro	50,000	33.00%	Less: BCH CD	50,000	GJ/day
66	VIGJV	8,000	5.28%	Less: TGI (Squamish CD)	4,061	GJ/da
67	Squamish	4,061	2.68%	Total to be Allocated	97,439	GJ/da
68	TGW	6,950	4.59%			
69	Total	151,500	100.00%	Core Sales	82,489	GJ/day
70	Reference: Schedule 32			VIGJV CD	8,000	GJ/day
71				TGW	6,950	GJ/day
72	llocated Cost of Service	(\$000)	Percent	Total	97,439	GJ/day
73	rvice before 2009 Revenue Surplus	\$165,022				
74	Less: VIGJV	(\$2,430)		Allocated to Core	84.66%	
75	ss: Squamish Gas	(\$1,089)		Allocated to VIGJV	8.21%	
76	ce before 2009 Revenue Surplus	\$161,503		Allocated to TGW	7.13%	200
77				Total Allocated	100.00%	
78	Core Sales	\$145,978	90.39%			_
79	TGW	\$2,111	1.31%			
80	BC Hydro	\$13,414	8.31%			
81	Reference: Schedule 33R					

# 7 34. Please fill in the table below, as per [27] above, to enable the reader to understand 8 the historical increase in peak day demand and transmission on the Vancouver 9 Island transmission system and how the Mt. Hayes facility has been used to 10 accommodate actual peak day demand.

Peak Day Demand (GJ/day)	2008	2009	2010	2011	2012	2013	2014	2015	2016
Core Sales			82,489						
BC Hydro			50,000						
VIGIV			8,000						13,000
Squamish			4,061						
TGW			6,950						
Other (please specify)									
Other (please specify)									
Total Allocation			151,000						
Actual Core Sales Peak Day									
Actual System Peak Day (@ Eagle Mountain)									
Actual Peak Day Flow West of Squamish (1)									
Actual Peak Day Flow Supplied by Mt. Hayes (2)	0	0	0						

1. Total GJ/day from Squamish towards Port Mellon on the transmission system

2. Total GJ/day supplied by Mt. Hayes on the actual peak day of that year

11 12

6

## 13 Response:

14 Please find the requested information in the table below:



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#### Vancouver Island System

Peak Day Demand (GJ/day)	2008	2009	2010	2011	2012	2013	2014	2015	2016
Core Sales Customers	93,801	89,180	82,489	83,200	Note (3)	Note (3)	Note (4)	Note (4)	Note (6)
BC Hydro	45,000	45,000	50,000	49,164	Note (3)	Note (3)	Note (4)	Note (4)	45,000
VIGIV	8,684	8,000	8,000	8,000	Note (3)	Note (3)	Note (4)	Note (4)	13,000
Squamish	4,015	4,061	4,061	4,106	Note (3)	Note (3)	Note (4)	Note (5)	Note (5)
TGW	n/a	5,259	6,950	7,030	Note (3)	Note (3)	Note (4)	Note (5)	Note (5)
Total Allocation	151,500	151,500	151,500	151,500	n/a	n/a	n/a	n/a	n/a
Actual Core Sales Peak Day	86,228	60,970	85,095	67,084	55,005	67,872	71,553	59,580	68,389
Actual System Peak Day (@ Eagle Mountain)	159,023	153,929	164,757	156,828	135,364	113,587	100,259	96,433	93,397
Actual Peak Day Flow West of Squamish (1)	157,800	153,814	157,800	151,046	138,946	150,461	152,840	93,573	143,758
Actual Peak Day Flow Supplied by Mt. Hayes (2)	-	-	-	-	2,128	49,786	49,061	61	54,009

(1) Total GJ/day from Squamish towards Port Mellon on the transmission system

(2) Total GJ/day supplied by Mt. Hayes on the actual peak day of that year

(3) In FEI's 2012 Amalgamation Application, BCH IG and VIGJV revenues are treated as credits to the cost of service and are not allocated any costs, nor did FEI distinguish between VI and Mainland Core Peak Day Demand requirements in this application, nor were allocations to rate schedules done for the purposes of the revenue requirements application

(4) Allocations to rate schedules was not done in support of the revenue requirements applicaion

(5) Squamish and Whistler Wheeling Agreements ended upon amalgamation of FEVI, FEW and FEI effective January 1, 2015.

1 (6) FEI does not distinguish between VI and Mainland Core Peak Day Demand requirements in FEI's 2016 RDA

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3

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5 The VIGJV delivers its own gas to Huntingdon/Sumas on a daily basis, and expects FEI to 6 transport their gas from point A to point B on a daily basis. VIGJV does not expect FEI to store 7 VIGJV's gas on a daily or weekly basis.

# 8 35. Please explain how the VIGJV's take-or-pay firm contract demand causes FEI to 9 incur daily balancing costs. Please provide an example to show the cost 10 components. If Mt. Hayes is used to supply a portion of this commitment please 11 show how this cost is calculated.

12

## 13 Response:

14 The VIGJV's firm contract demand and interruptible capacity usage has no relation to what may 15 cause FEI to incur daily balancing costs. Some amount of daily balancing would occur when the 16 Shipper's supply does not match the Shipper or customer's demand exactly on any given day. 17 Any over or under deliveries each day are managed when FEI balances the system as a whole 18 to stay within the required tolerances with the upstream pipelines. The following graph below 19 illustrates the daily imbalances of the VIGJV for the calendar year of 2016 through to September 20 2017. As shown, daily imbalances have ranged as widely as 20 TJs both positively (pack) and 21 negatively (draft). These daily imbalances are managed by FEI when it balances the system as 22 a whole with the upstream pipelines.







# 36. Does VIGJV's interruptible service attract balancing costs to FEI, if so please quantify?

## **Response:**

9 Please refer to the response to Catalyst-FEI IR 2.35.

- 1337.What is the forecast balancing cost for VIGJV's interruptible service under FEI's14current proposal?
- 1516 <u>Response:</u>

Balancing costs are incurred on daily imbalances between supply and demand, and are not
 associated with firm or interruptible service; therefore, FEI cannot forecast balancing costs for
 the VIGJV's interruptible service.



# 2 **38.** Please calculate the R:C ratio for VIGJV's IT balancing service.

3

# 4 <u>Response:</u>

5 For the reasons explained in the responses to Catalyst-FEI IRs 2.35, 2.36 and 2.37, it is not

possible to answer this question. An R:C ratio for the VIGJV's IT balancing service does notexist.



# 1 Topic 7: Treatment of RS22 Proposed vs. RS22A and RS22B

As noted in the TGVI 2010 COSA [2], VIGJV and BCH IG have consistently and historically
been allocated solely transmission plant costs (no distribution costs).

This historical treatment of distribution costs by the gas utility for the VIGJV is similar to FEI's historical treatment of distribution costs for RS22A and RS22B as Mr. Gosselin described during the SRP, *"When developing the COSA and making decisions internally to grandfather 22As and B's, terms and conditions, we continued to allocate costs to those two rate groups similarly as we have done in the past. ... So that is the reason why they weren't allocated distributionrelated costs."* [13].

- 10 If it is fair and equitable to continue the past practice of excluding distribution costs from RS22A
- 11 and RS22B when calculating the cost of service, then it would follow that it is fair and equitable
- 12 to exclude the same distribution costs from the VIGJV COSA going forward.

13 The cost causation of all the groups is similar, in that they all use the transmission system for 14 firm transportation service, and do not rely on the extensive, costly distribution network to 15 receive service, but FEI is proposing to "add" distribution costs for the VIGJV.

# **39.** Please explain FEI's justification for including distribution costs to the VIGJV cost allocation.

18

## 19 Response:

20 This response addresses Catalyst-FEI IRs 2.39, 2.40 and 2.41.

FEI believes that similar types of customers (i.e., customers with similar customer load and service characteristics [load factors, volume, types of end use]), should be grouped together in the COSA model for cost allocation purposes. Consequently, FEI has consolidated RS22, VIGJV and BC Hydro IG to derive firm rates based on cost of service allocation results.

25 FEI's proposal for RS 22 as described in Section 9.8.5.2 of the Application includes customers 26 in all of FEI's service regions. These customers may connect to FEI's gas delivery system 27 through distribution pressure pipe, intermediate pressure pipe or transmission pressure pipe. 28 Since these customers, as a group, have caused a portion of all of these costs, FEI has 29 allocated a portion of the distribution system to this group as well. FEI believes that this cost 30 allocation approach is transparent, and consistent with the rate design principles of customer 31 understanding and acceptance, fair apportionment of costs and avoidance of undue 32 discrimination among similar types of customers.

FEI views its proposal with respect to large industrial transportation customers as an expansion
 of the postage stamp rate methodology that resulted from the Reconsideration Decision on
 FEI's Common Rates, Amalgamation and Rate Design Application (Order G-21-14, Decision).
 Section 3.1 of the Amalgamation Reconsideration Decision (pages 12 to 16) cited various
 benefits of amalgamation and postage stamp rates, including accepting or acknowledging the



submissions in the proceeding by the Ministry of Energy and Mines that amalgamation and
postage stamp rates would support the Province's Natural Gas Strategy, economic
development and job creation, regulatory efficiency and rate stability.

As described in Section 9.8.2.2 of the Application, FEI has proposed to retain the grandfathered status approved in the past for RS 22A and RS 22B. Due to the grandfathered status, FEI has continued to allocate costs for these rate schedules similarly to past practice.

- 7 8 9 Please explain FEI's justification for including distribution costs to BCH IG's cost 10 40. 11 allocation. 12 13 Response: 14 Please refer to the response to Catalyst-FEI IR 2.39. 15 16 17 18 41. Please explain FEI's justification for excluding distribution costs for RS22A and 19 **RS22B**. 20 21 **Response:** 22 Please refer to the response to Catalyst-FEI IR 2.40. 23 24 25 26 27 FEI 2016 RDA Tables 9-23 and 9-26 [28], [29] are shown below. This shows the proposed 28 demand charge and firm delivery charge up to 147 % and up to 39 % higher for the proposed
- 29 RS22 (VIGJV included) relative to RS22A and RS22B customers.



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Rate Schedule	Basic Charge Month	Admin Charge /Month	Delivery Demand Charge /Month /GJ of Firm Daily Trans. Quantity (DTQ)	Delivery Charge /GJ of Firm Monthly Trans. Quantity (MTQ)	Delivery Charge per GJ of Interruptible Monthly Trans. Quantity (MTQ)	Firm Delivery Charge of Contract Demand /GJ /Day	Interruptible Delivery Charge /GJ /Day
RS 22 Large Volume Transportation Service	\$3,664.00	\$78.00	n/a	n/a	\$0.9821	n/a	n/a
RS 22A Transportation Service (Closed) Inland Service Area	\$4,810.00	\$78.00	\$15.704	\$0.110	\$1.241	n/a	n/a
RS 22B Transportation Service	3 ortation	\$79.00	\$10.197	\$0.109	\$1.011 Apr 1 – Oct 31	012	
(Closed) Columbia Service Area	\$4,537.00	\$70.00	\$10,137	50,106	\$1.455 Nov 1 – Mar 31	īva	TV d
							Tier 1 13-20 TJ \$0.9665
Vancouver Island Joint Venture	n/a	n/a	n/a	n/a	n/a	\$0.9665 <sup>2</sup>	Tier 2 20-30 TJ \$0.7608
Contract							Tier 3 30+ TJ \$1.0632
BC Hadro IC <sup>3</sup>							Winter \$1.458
Contract	n/a	n/a	n/a	n/a	n/a	\$0,958	Summer \$0.958

#### Table 9-23: Large Volume Transportation and Contract Customers' Charges

#### Table 9-26: Option 2 FEI's Proposed Charges for RS 22

Rate Schedule	Basic Charge /Month	Administration Charge /Month	Delivery Demand Charge /Month /GJ of Firm Daily Transportation Quantity (DTQ)	Delivery Charge /GJ of Firm Monthly Transportation Quantity (MTQ)	Delivery Charge /GJ of Interruptible Monthly Transportation Quantity (MTQ)	Firm Delivery Charge of Contract Demand /GJ /Day	Interruptible Delivery Charge/ GJ /Day
RS 22 Large Volume Transportation Service (including VIGJV)	\$3,664. 00	\$78.00	\$25.00	\$0.15	\$0.972	n/a	n/a
BC Hydro IG <sup>3</sup> Contract	n/a	n/a	n/a	n/a	n/a	\$0.958	\$0.958

2

1

A comparison of the 3 rate schedules is shown below in the table. This analysis clearly shows
 an inequity in the charges for firm service within the large industrial customer groups. Despite

5 this difference in charges the "apparent" R:C ratios for the rate schedules appear "similar" per

6 FEI 2016 RDA Table 12-3, shown below, as 113 %, 103.1 %, and 100 % for RS22A, RS22B,





and RS22 proposed. This discrepancy appears to be the result of FEI's proposal to add 1 2 distribution costs to the VIGJV and BCH in the proposed RS22, but not RS22A or RS22B.

#### 3 42. Does FEI believe a reader would conclude that the treatment of customers in 4 RS22A, RS22B, and RS22 is similar based on the Table 12-3?

	Firm Demand and Delivery Charges (\$/GJ)	% Discount to RS22 Proposed (%)
RS22A	0.6266	36
RS22B	0.4415	55
RS22 Proposed	0.9724	

5

#### 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	96.4%	94.4%	617	0.0%	96.4%	94.4%	
Residential Service	00.470	04.470	01.1	0.070	00.470	04.478	
Rate Schedule 2	102 205	104 195			102.2%	104 195	
Small Commercial Service	102.270	104,170			102.270	104.1%	
Rate Schedule 3/23							
Large Commercial Sales and	103.6%	107.6%			103.6%	107.6%	
Transportation Service							
Rate Schedule 5/25							
General Firm Sales and	106.3%	116.0%			106.3%	116.0%	
Transportation Service							
Rate Schedule 6/6P	121 705	160.4%	(61.7)	16.5%	110.0%	110.0%	
Natural Gas Vehicle Service	131.7%	100.470	(01.7)	-10.5%	110.0%	119.0%	
Rate Schedule 22A							
Transportation Service (Closed)	113.0%	113.4%			113.0%	113.4%	
Inland Service Area							
Rate Schedule 22B							
Transportation Service (Closed)	103.1%	103.1%			103.1%	103.1%	
Columbia Service Area							
Rate Schedule 22							
Large Volume Transportation	100.0%	100.0%			100.0%	100.0%	
Service							

6 7

#### 8 Response:

9 Column 2 of Table 12-3 in the preamble shows revenue to cost ratios of all rate schedules after

10 rate design proposals and does not lead to a conclusion on whether treatment of customers in

11 RS 22, RS 22A and RS 22B is similar or different.



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- 1 Please refer to the response to Catalyst-FEI IR 2.7 explaining why cost allocation treatment to
- 2 RS 22A and RS 22B is not same as firm RS 22 customers including BC Hydro and VIGJV.



## 1 Topic 8: Final COSA

In FEI's Final COSA 2016 test year, Appendix 12, financial schedule 7 [30], shown below, line 2
incorrectly states the firm sales volume for Rate 22 Firm as 34,372 TJ. This sales volume
includes interruptible sales volume, and according to FEI's COSA methodology interruptible
revenue and costs are not allocated in the Final COSA when calculating the cost of service,
revenue, and R:C ratios. The sales volume of 34,372 TJ appears to be the sum of:

- 7 Creative Energy's firm volume;
- 8 the existing RS22's interruptible volume;
- 9 the VIGJV's firm volume; and
- 10 BCH IG's firm volume.

11 This "apparent" Rate 22 Firm value can be calculated from [31] as shown below as the sum of 12 732 + 12,457 + 4,758 + 16,425 = 34,372 TJ. The use of this "apparent" sales volume in the 13 Final COSA financial schedules makes it impossible for a reader to correctly interpret the 14 revenues and costs on a per GJ basis for comparison to other rate classes.

According to FEI's Final COSA, Schedule 7, line 28 [30], shown below, the total utility cost of service for the proposed Rate 22 Firm is \$ 0.623 / GJ. If FEI was proposing a R:C ratio of 100 % with the proposed RS22, then the charge for Rate 22 Firm would be \$ 0.623 / GJ according to FEI's Final COSA, Schedule 7, not \$ 0.972 / GJ as noted by FEI. This Final COSA financial schedule appears to be inconsistent with respect to Rate 22 Firm.

43. Please update Schedule 7 to reflect firm revenue, costs, and volume only or, if it
 does include interruptible volume, please include the corresponding interruptible
 revenue.



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FORTISBC ENERGY INC.

Fully Distributed Cost of Service Allocation Study Rate Design Filing\_Common Rates\_ 2016 Test Year CLASSIFICATION SUMMARY (000's)

in	L.							RATE 22A		RATE 228			
No	. Particulars		Total	RATE 1	RATE 2	RATE 4	RATE 6	NON-BYPASS	RATE 22 FIRM	NON-BYPASS	Rate 3/25	Rate 5/25	Rate 7/2
1	Biling Determinents												
3	Sales Volume (TJ)		198,778	72,466	28.012	130	- 47	9.030	54 372	5.277	27.090	15.663	6.65
4	Midstream Sales Volume (TJ)		120,882	72,399	27,942	130	47				18.037	2,173	15
6	Commodity Sales Volume (T2)		107.522	65 258	24 245	130	47				15.515	2,173	15
6	Average No. of Customers		979,061	886,652	84,737	18	15		7	5	6,709	796	11
2	Cost of Service Margin	5	789.979 \$	504,452	5 126,672	5 51 5	149	5 6.608	\$ 21,429	\$ 2,515	\$ 92,568	\$ 34,011	\$ 1.53
9		Energy 5	11.091 5	6.045 5	2,450	5 35	1	5 52	5 121	5 19	5 2.225	5 H	1
10	Unit Every, Charge (\$151)	11.34 <b>7</b> 4.54	0.060	0.095	0.067	0.022	0.023	6.00	0.004	0.004	0.062	0.006	
11		Demand 5	399,670 5	182,075 1	18,217	5 (B) 5	54	5 5,430	5 19.415	5 2.304	5 #8.542	5 27,760	5
12	Unit Demand Charge (\$1/6/)		2.011	2.651	2.973	-0.007	1.240	0.80	0.565	0.398	1.547	1.072	- ee
13	0.0000000000000000000000000000000000000	Cutoner S	375,475 5	305.510 1	40.915	5 48 5	90	5 1.146	5 1,892	5 382	5 20,004	5 6,155	5 14
14	Unit Customer Drarge (S/Cust/Day)		1.052	0.945	1.529	7.627	38.40	342.50	140.542	214.628	\$ 202	2.793	13.1
16	Unit Cost of Service Margin (5/0.1)		3.674	6.965	+ 522	0.396	3.19	0.75	0.625	0.477	1417	2.171	0.
17	Cost of Gas - Commodity & Midstream	5	475.641 5	287,646	5 111,188	5 433 5	135	5 183	s .	5 41	\$ 67,966	5 7,458	5 64
19		freep 5	475.643 5	207,646 0	111.139	5. 438 5	135	5 105	5 .	5 45	5 67,966	\$ 7.458	5 6
20		Demand 5	- 1			1 - 1		1 .	5 .	4 .	5 4	4 .	\$
21		Cutomer S	- 1		(	5 - 5	8 - 19 <b>8</b>	1 .	1 .	\$ .	5	1 .	\$ C
22	Unit Cost of Gas - Commodity (\$/GJ)		2,393	3.949	3.947	3.535	2.841	6.62	0.000	0.008	2.509	0.476	-
24	Total Utility Cost of Service	5	1,265,620 \$	792,098	\$ 217,805	5 484 5	284	\$ 6,791	\$ 21,429	\$ 2,556	\$ 160,534	5 41,469	\$ 2.13
25		Dargy 5	487,472 \$	294,507 5	111,543	5 436 5	336	\$ 205	5 121	\$ 60	\$ 70,107	\$ 7,854	5 6
26		Demand S	398,670 5	192,079 5	\$3,287	\$ (R) \$	58	\$ 5,430	5 38,435	\$ 2,504	5 69,542	5 27,798	\$
27		Customer S	378,478 5	305,518 3	40.915	5 49 5		5 1.146	5 1,892	\$ \$90	5 20,804	5 6,255	5 2.4
28	Unit Cost of Service (5/03)		6.567	30.933	6.409	3.724	6.075	6.75	0.623	0.454	5.936	2.648	63
30	Total Revenues @ Proposed Rates	5	1.365,206 5	763,754	243,049	5 727 5	318	5 7,675	5 21,429	\$ 2,634	\$ 200,931	\$ 91,486	\$ \$3.10
31	Unit Rate (\$/GI)		6.060	30.540	8.677	5.595	6.603	0.25	0.625	0.499	7.417	5.043	43
33	Total Revenue Margin @ Proposed Rates	5	789.979 5	476.148	5 131.916	5 294 5	178	5 7,492	5 21,429	\$ 2,593	\$ 99.599	\$ 39,452	\$ 10.87
34	Unit Rate (\$/6J)		3.874	\$371	4.708	2.240	8.780	0.23	0.623	0.495	1477	2.518	14

1

Rate Schedule Customers		Firm Demand	Interruptible Demand	Total Annual Demand
RS 22	26	732	12,457	13,189
RS 22A	9	10,878	0	9,030
RS 22B	S 22B 5		1,061	5,277
Subtotal	40	15,825	13,518	27,496
Joint Venture	1	4,758	0	4,758
BC Hydro IG	1	16,425	0	16,425
Total	42	37,008	13,518	48,679

Units in the Demand Columns are all in TJ

2 3

# 4 Response:

5 Schedule 7 of the COSA should not be used to determine rates as Catalyst has set out in this 6 question because it ignores other rate design principles such as price signals that encourage 7 efficient use and discourage inefficient use, practical and cost-effective implementation, and rate 8 stability. For example, if Schedule 7 customer cost per day was used, much of the signal to use 9 gas efficiently would be lost because more costs would be recovered through a fixed charge, 10 and less through a volumetric charge. Also, using Schedule 7 exclusively to determine rates

Schedule 7



- would introduce rate instability as most of FEI's customers' existing rate structures are not set in the manner in which costs are portrayed on Schedule 7. Since most of FEI's customers do not have demand meters, it would not be possible (or practically cost-effective) to implement a rate design that includes a demand charge as line 12 on the schedule depicts. Finally, Schedule 7 does not take into consideration the R:C ratio for each rate schedule and the fact that the revenues for each rate schedule do not equal the allocated costs. The costs portrayed on this
- 7 schedule are costs, and not revenue, so cannot be used to set rates.
- 8 Schedule 7, however, does provide a view of the effective costs per unit such as the effective cost per customer and effective cost per GJ. For FEI's RS 22 Firm proposal, the demand-9 10 related costs are caused by firm contract demand so FEI agrees it is appropriate that the firm 11 demand should be used as the denominator when calculating effective rates for the Rate 22 12 Firm column. Consequently, FEI has reproduced Schedule 7 (provided in Attachment 43) using 13 only the firm volume of 10,878 TJ, 21,915 TJ, and 4,215 TJ for RS 22A, RS 22 Firm and RS 14 22B, respectively (in line 3 of the table). Schedule 7 already includes demand-related costs that 15 are based on firm demand, customers for allocation of customer related costs and annual 16 consumption for allocation of energy related costs.



## 1 Topic 9: COSA and R:C ratios

- 2 In response to the BCUC's question from IR No. 1 [32],
  - 35.1 Please provide a table showing the (i) Actual 2016 Revenues, (ii) Costs determined through the COSA, (iii) the corresponding R:C Ratio and (iv) the corresponding M:C Ratio for each of (a) Creative Energy, (b) VIGJV and (c) BC Hydro IG:
    - i. Under the existing rates and rate structure; and

2

ii. Using FEI's proposed rates and rate structures.

# 3

## 4 FEI provided the following table,

\$000	Column 1	Column 2	Column 3	Column 4	Column 5
Customer	Total Revenue	Cost of Gas	Allocated Costs	R:C ratio	M:C Ratio
BC Hydro IG	13,097	0	14,530	90.1%	90.1%
Joint Venture	7,106	0	5,837	121.7%	121.7%
Creative Energy	1,648	15	654	246.3%	249.7%

Table 1

# 5

6 Please clarify the response to facilitate a better understanding of the way in which FEI used7 background data to create the message in Table 1.

# 8 44. Is distribution demand cost allocated to each BC Hydro, Joint Venture, and 9 Creative Energy in the table?

10

## 11 Response:

- 12 Confirmed. Distribution demand related costs are allocated to BC Hydro IG, VIGJV and Creative13 Energy.
- 14
- 15
- 16
- Please detail the distribution demand cost allocation for each customer in the
   table.
- 19

## 20 **Response:**

- 21 Please refer to Attachment 45, Schedules 3 and 4 for details of the allocated rate base and cost
- 22 of service to BCH IG and VIGJV. Because FEI does not allocate costs to customers individually,



	FortisBC Energy Inc. (FEI or the Company)	Submission Date:
<b>C</b> <sup>TM</sup>	Response to Catalyst Paper Corporation (Cayalyst) Information Request (IR) No. 2	Page 40

- 1 the allocated costs for Creative Energy are embedded in the allocation to RS 22 Non-Bypass (in
- 2 Attachment 45).

3 For the response to BCUC-FEI IR 1.35.1, FEI determined the allocated costs to Creative Energy 4 in the following way. Since Creative Energy accounts for 13.3 percent of the volume throughput 5 for RS 22 Non-Bypass, FEI allocated Creative Energy 13.3 percent of the RS 22 Non-Bypass energy-related costs. Creative Energy accounts for 100 percent of the demand-related costs 6 7 since they are the only RS 22 Non-Bypass customer with firm demand. Creative Energy is 1 of 8 26 RS 22 Non-Bypass customers; therefore 3.8 percent of customer-related costs are 9 attributable to them. FEI has included the derivation of their allocated costs in the following 10 table.

		()	• •									
	Sales V	olulme (TJ)	Customers									
Creative Energy		1,752	1									
RS 22 Non-Bypass		13,189	26									
Percentage		13.3%	3.8%									
RS 22 Non-Bypass												
Allocated Costs												
Energy	\$	47										
Demand	\$	634										
Customer	\$											
	Creativ	ve Enegv										
	Allocat	ed Costs										
	(\$	000)										
Energy	\$	6	13.3%									
Demand	\$	634	100.0%									
Customer	\$	13	3.8%									
Total	\$	654										

11

- 12
- 13
- 14
- 46. Explain the allocation method for distribution demand cost for each customer, e.g.
   is each customer allocated distribution demand based on contract demand or
   peak day and if so, is the allocation from the amalgamated distribution rate base
   or regional distribution rate base?
- 19

# 20 Response:

FEI used its amalgamated rate base and cost of service for cost allocation purposes in the Application. FEI no longer has a regional rate base or a regional cost of service. Distribution



1 demand-related costs are allocated to each customer noted in Table 1 in the preamble 2 (preceding Catalyst-FEI IR 2.44 above) based on firm demand.

3		
4		
5 6 7	47.	Is the transmission demand cost allocation based on peak day or firm demand for each customer?
8	Poon	
9	<u>Resp</u>	
10 11	The trapream	ansmission demand-related costs are allocated to each customer noted in Table 1 in the ble based on firm demand.
12 13		
14		
15 16 17	48.	Is the transmission rate base used in allocated costs the amalgamated utility transmission rate base or the regional transmission rate base for each customer?
18	Respo	onse:
19 20	FEI's a base c	amalgamated rate base and cost of service is used. FEI no longer has a regional rate or a regional cost of service.
21 22		
23		
24 25	49.	Please provide the reference for BC Hydro IG's allocated cost, i.e., which COSA report is it derived from.
26 27	Respo	onse:
28	Please	e refer to the response to Catalyst-FELIR 2.45
20	1 10000	
29 30		
31 32		
33	FEI sta	ates the costs are "from the COSA" [33].
34	50.	Please clarify which COSA FEI is referring to?



# 2 Response:

3 FEI is referring to the initial COSA schedules included as Appendix 6-4 to the Application.

However, as stated in Section 6.3.1.5 of the Application, FEI credits the cost of service with the revenues of Bypass and Large Industrial Contract customers, so no costs are allocated to the VIGJV and BCH IG in the initial COSA. Therefore, to produce the results for the response to BCUC-FEI IR 1.35.1, FEI used the initial COSA, separated out the VIGJV and BCH IG so that costs could be allocated to them, and eliminated the revenue credits to the cost of service.

- 9
- 10
- 11

# 12 **51.** If it is the Initial COSA, please detail the calculation and cost allocation for each customer.

14

# 15 **Response:**

Please refer to the response to Catalyst-FEI IR 2.45 for the detailed cost allocations for BCHydro IG, VIGJV and Creative Energy.

- 18
- 19

....

# 20

24

# 2152.If it is the Initial COSA with distribution demand cost allocation, can FEI confirm22that the R:C ratio presented in Table 1 is not the current R:C ratio for the Joint23Venture under existing rates and rate structures?

# 25 **Response:**

As described in the response to BCUC-FEI IR 1.35.2, only firm revenues must be included when calculating R:C ratios and cost based rates as it is only the firm volume that attracts demand-related costs. Interruptible rates (and revenues) are generally set at a value of service<sup>6</sup>. However, FEI responded to BCUC-FEI IR 1.35.1 as requested, using <u>actual</u> 2016 revenues which include both firm and interruptible revenue. Therefore, the R:C ratios included in Table 1 are not R:C ratios that FEI would normally calculate to illustrate the revenue and cost relationship.

FEI has provided an R:C ratio for VIGJV and BCH IG in the response to Catalyst-FEI IR 2.4 using the proposed approach and the final COSA (adjusted). It should be noted that there is

<sup>&</sup>lt;sup>6</sup> Application Sections 3.3.2 and 9.8.5.1.



- only a small difference in costs allocated to the VIGJV between the initial COSA (adjusted) used
   to respond to BCUC-FEI IR 1.35.1 and the final COSA (adjusted) used to respond to Catalyst-
- 3 FEI IR 2.4.
- 4
- 4
- 5
- 6
- 53. If it is the Final COSA, can FEI confirm that the R:C ratio presented in Table 1 is
   not the current R:C ratio for the Joint Venture under existing rates and rate
   structures?
- 10

# 11 Response:

- 12 Please also refer to the response to Catalyst-FEI IR 2.52.
- 13
- 14
- 15

# 1654.Are interruptible service costs represented in Table 1? If yes, please detail the<br/>quantity by customer.

18

# 19 Response:

Table 1 could be considered to include the cost of delivering interruptible volume because it includes energy-related costs, which are typically caused by the movement of natural gas through the system. However, determining only an interruptible service cost is not possible. The cost of service to deliver interruptible volumes is not set out in detail in the COSA. As FEI has noted in the response to Catalyst-FEI IR 2.52, interruptible rates are derived based on a value of service and not based on costs<sup>7</sup>.

<sup>&</sup>lt;sup>7</sup> BCUC IR 1.32.5.



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21

### **References:**

- 1. FEI RDA 2016, Exhibit B-5, Letter dated June 9, 2017 FEI Submitting Response to BCUC IR No. 1, pages 170-172.
- TGVI 2010 2011 Revenue Requirements, Exhibit B-1, TGVI Application for Approval of 2010 and 2011 Revenue Requirements, Rates, Cost of Service, Rate Design and Revenue Deficiency Deferral Account Balance as at December 31, 2008, Financial Schedule 43B-10, page 554 of 1487.
  - 3. FEU Common Rates, Amalgamation and Rate Design Application, Exhibit B-3, Executive Summary.
- 11 4. FEI RDA 2016, Exhibit B-1, Appendix 12, pages 1771-1781.
- 12 5. FEI Rate Design Application, Exhibit B-4, Workshop No. 2 Presentation, slides 23-38.
- 13 6. FEU Common Rates, Amalgamation and Rate Design Application, Exhibit B-3.
- FEI 2016 Rate Design Application, FEI Reply Argument on COSA and revenue to cost ratios, page 7.
- 16 8. Centra Gas British Columbia Inc. 2002 Rate Design Application. Order No. G-42-03;
  17 Decision, page 39-40.
  - 9. Centra Gas British Columbia Inc. 2002 Rate Design Application. Order No. G-42-03; Decision, page 32-33.
  - 10. Centra Gas British Columbia Inc. 2002 Rate Design Application. Order No. G-42-03; Decision, page 36.
- 11. FEI 2016 Rate Design Application, Transcript Volume 5, Transcript Streamlined Review
   Process VOLUME 5 September 12, 2017. Page 460, lines 9-12.
- FEU Common Rates, Amalgamation and Rate Design Application, Exhibit B-3, Executive
   Summary, 1.10 Conclusion, page 7.
- 13. FEI 2016 Rate Design Application, Transcript Volume 5, Transcript Streamlined Review
   Process VOLUME 5 September 12, 2017. Page 455, lines 13-24.
- 14. FEI 2016 Rate Design Application, Transcript Volume 5, Transcript Streamlined Review
   Process VOLUME 5 September 12, 2017. Page 546.
- 30 15. FEI 2016 Rate Design Application, Exhibit B-1, Section 1.2 Rate Design Based on
   31 Accepted Principles, page 1-3.
- 32 16. FEI RDA 2016, Exhibit B-5, Letter dated June 9, 2017 FEI Submitting Response to
   33 BCUC IR No. 1, page 167.
- 34 17. FEI RDA 2016, Exhibit B-1, Appendix 12, pages 1771-1781
- 35 18. FEI Rate Design Application, Exhibit B-4, Workshop No. 2 Presentation, slides 23-38.
- 36 19. FEU Common Rates, Amalgamation and Rate Design Application, Exhibit B-3, page 72.
- 37 20. FEI 2016 Rate Design Application, Exhibit B-1, Section 1.2 Rate Design Based on
  38 Accepted Principles, page 5-7.
- 39 21. FEI 2016 Rate Design Application, Transcript Volume 5, Transcript Streamlined Review



1	Process VOLUME 5 September 12, 2017. Page 464, lines 12-14.
2	<ol> <li>FEU Common Rates, Amalgamation and Rate Design Application, Exhibit B-3, Executive</li></ol>
3	Summary, 1.10 Conclusion, page 168.
4	<ol> <li>FEI 2016 Rate Design Application, Transcript Volume 5, Transcript Streamlined Review</li></ol>
5	Process VOLUME 5 September 12, 2017. Page 465, lines 15-17.
6	<ol> <li>FEI RDA 2016, Exhibit B-5, Appendix 6-2, FEI Annual Review for 2016 Rates G-193-15</li></ol>
7	Compliance Filing, Section 11, Schedule 18, page 1272 of 1782.
8 9	25. Centra Gas British Columbia Inc. 2002 Rate Design Application. Order No. G-42-03; Decision, page 37.
10 11	26. Creative Energy 2016-2017 Revenue Requirements and Rate Design for Northeast False Creek Hot Water Service Application ~ Project No. 3698872, Exhibit B-1, page 26, lines 6-7.
12	27. TGVI 2010 – 2011 Revenue Requirements, Exhibit B-1, TGVI Application for Approval of
13	2010 and 2011 Revenue Requirements, Rates, Cost of Service, Rate Design and Revenue
14	Deficiency Deferral Account Balance as at December 31, 2008, Financial Schedule 43B-10,
15	page 550 of 1487.
16	<ol> <li>FEI RDA 2016, Exhibit B-1, Table 9-23: Large Volume Transportation and Contract</li></ol>
17	Customer's Charges.
18	29. FEI RDA 2016, Exhibit B-1, Table 9-26: Option 2 FEI's Proposed Charges for RS22.
19	30. FEI RDA 2016, Exhibit B-1, Appendix 12, Schedule 7, page 1781 of 1782.
20	<ol> <li>FEI RDA 2016, Exhibit B-5, Letter dated June 9, 2017 – FEI Submitting Response to</li></ol>
21	BCUC IR No. 1, page 167, unnamed Table on lines 12-14.
22	<ol> <li>FEI RDA 2016, Exhibit B-5, Letter dated June 9, 2017 – FEI Submitting Response to</li></ol>
23	BCUC IR No. 1, pages 177-178.
24	<ol> <li>FEI RDA 2016, Exhibit B-5, Letter dated June 9, 2017 – FEI Submitting Response to</li></ol>
25	BCUC IR No. 1, pages 177, line 22.
26	

**Attachment 43** 

### FORTISBC ENERGY INC.

Fully Distributed Cost of Service Allocation Study Rate Design Filing\_Common Rates\_ 2016 Test Year

**CLASSIFICATION SUMMARY (000's)** 

Line	2							RATE 22A		RATE 22B			
No	. Particulars		Total	RATE 1	RATE 2	RATE 4	RATE 6	NON-BYPASS	RATE 22 FIRM	NON-BYPASS	Rate 3/23	Rate 5/25	Rate 7/27
1	Billing Determinants												
2	Sales Volume (TJ). Firm Volume for RS 22A. RS 22												
3	FIRM and RS 22B		187,107	72,466	28,012	130	47	10,878	21,915	4,215	27,090	15,663	6,691
4	Midstream Sales Volume (TJ)		120,882	72,399	27,942	130	47	-	-	-	18,037	2,173	155
5	Commodity Sales Volume (TJ)		107,522	65,258	24,245	130	47	-	-	-	15,515	2,173	155
6	Average No. of Customers		979,061	886,652	84,737	18	15	9	7	5	6,709	796	113
7													
8	Cost of Service Margin	Ş	789,979 \$	504,452 \$	126,672	\$	5 149	\$ 6,608	\$ 21,429	\$ 2,515	\$ 92,568	\$ 34,011	\$ 1,524
9		Energy Ş	11,831 \$	6,861 \$	2,450	5 3 \$	1	Ş 32	\$ 121	Ş 19	\$ 2,221	\$ 96	\$ 27
10	Unit Energy Charge (\$/GJ)	Domond C	0.063	0.095	0.087	0.022	0.022	2 U.UU:	с 10.006	0.004	0.082	0.006	0.004
12	Unit Demand Charge (\$/GI)	Demanu Ş	2 136	2 651	2 973	-0.007	1 249	5 5,450 S 0.490	3 13,413 0 886	5 2,104 0.499	5 09,342 2 567	\$ 27,700	\$ - 0.000
13		Customer S	378.478 \$	305.518 \$	40.935	5 49 S	90	\$ 1.146	\$ 1.892	\$ 392	\$ 20.804	\$ 6.155	\$ 1.498
14	Unit Customer Charge (\$/Cust/Day)		1.058	0.943	1.323	7.427	16.407	348.58	7 740.142	214.626	3.101	7.733	13.254
15													
16	Unit Cost of Service Margin (\$/GJ)		4.222	6.961	4.522	0.391	3.191	0.60	7 0.978	0.597	3.417	2.171	0.228
17													
18	Cost of Gas - Commodity & Midstream	\$	475,641 \$	287,646 \$	111,133	\$ 433 \$	5 135	\$ 183	\$-	\$ 41	\$ 67,966	\$ 7,458	\$ 646
19		Energy \$	475,641 \$	287,646 \$	111,133	\$ 433 \$	135	\$ 183	\$-	\$ 41	\$ 67,966	\$ 7,458	\$ 646
20		Demand \$	- \$	- \$	- 5	\$ - \$	-	\$ -	\$ -	\$-	\$ -	\$ -	\$-
21		Customer \$	- \$	- \$		5 - \$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
22	Unit Cost of Gas - Commodity (\$/GJ)		2.542	3.969	3.967	3.333	2.885	5 0.01	7 0.000	0.010	2.509	0.476	0.097
25 24	Total Utility Cost of Service	Ś	1.265.620 Ś	792.098 Ś	237.805	ś 484 Ś	284	Ś 6.791	Ś 21.429	Ś 2.556	\$ 160.534	\$ 41.469	Ś 2.170
25		Energy \$	487,472 \$	294,507 \$	113,583	436 \$	136	\$ 215	\$ 121	\$ 60	\$ 70,187	\$ 7,554	\$ 673
26		Demand \$	399,670 \$	192,073 \$	83,287	\$ (1) \$	58	\$ 5,430	\$ 19,415	\$ 2,104	\$ 69,542	\$ 27,760	\$ -
27		Customer \$	378,478 \$	305,518 \$	40,935	\$ 49 \$	90	\$ 1,146	\$ 1,892	\$ 392	\$ 20,804	\$ 6,155	\$ 1,498
28	Unit Cost of Service (\$/GJ)		6.764	10.931	8.489	3.724	6.075	5 0.624	4 0.978	0.606	5.926	2.648	0.324
29													
30	Total Revenues @ Proposed Rates	\$	1,365,206 \$	763,794 \$	243,049	\$727\$	313	\$ 7,675	\$ 21,429	\$ 2,634	\$ 200,931	\$ 91,486	\$ 33,167
31	Unit Rate (\$/GJ)		7.296	10.540	8.677	5.593	6.683	3 0.706	5 0.978	0.625	7.417	5.841	4.957
32								<u>م</u>	Å	Å		A	A 40.0
33	Iotal Revenue Margin @ Proposed Rates	Ş	789,979 Ş	476,148 \$	131,916	ş 294 ş	178	\$ 7,492	\$ 21,429	\$ 2,593	\$ 99,599	\$ 39,452	\$ 10,877
34	Unit Rate (\$/GJ)		4.222	6.571	4.709	2.260	3.798	3 0.689	→ 0.978	0.615	3.677	2.519	1.626

**Attachment 45** 

#### FORTISBC ENERGY INC.

Fully Distributed Cost of Service Allocation Study Rate Design Filing\_Common Rates\_ 2016 Test Year RATE BASE SUMMARY - CLASSIFICATION (000's)

Lin	e						F	RATE 22 NON-	RATE 22A NON- F	RATE 22B NON-	BC HYDRO	JOINT			
No	o. Particulars		Total	RATE 1	RATE 2	RATE 4	RATE 6	BYPASS	BYPASS	BYPASS	(ICP)	VENTURE	Rate 3/23	Rate 5/25	Rate 7/27
1	Gas Plant in Service														
2	Total Cas Plant in Service	ć	6 170 670 ¢	2 624 726 ¢	1 022 942	267 6	. 727	¢ 7.965	¢ 54 205	¢ 21.040	¢ 129 206	¢ 52.277	¢ 716 579	¢ 270 E04	¢ 7.760
2	Total Gas Flant III Service	J Enormy é	0,470,020 \$	3,034,730 3	1,022,042	5 307 -		÷ 7,805	3 <b>34,303</b>	\$ 21,045	÷ 138,300	<b>ې ۶۲,۵</b> ۲۲ د	\$ /10,5/8	ې 270,504 د	\$ 7,700 c
1		Domand \$	د - ب ۸ 172 666 ف	1 750 442 \$	757 726 6	·		 -	¢ 50.206 9	10.455		¢ 20 566		¢ 250.249	ې - د د
5		Customer \$	2 30/ 962 \$	1 884 203 \$	752,730 \$	367 \$	330	5 0,080 \$ 1.785	\$ 30,200	15,455	\$ 130,905	\$ 39,500 \$ 12,811	\$ 88.346	\$ 200,340	
6		customer 9	2,504,502 5	1,004,255 \$	270,100 9	, 30, 5		, 1,705	, ч,озо ,	,,,,,	,,,,,,,	Ş 12,011	Ş 00,540	20,130	Ş 7,700
7	Total Accumulated Depreciation	\$	(1,812,500) \$	(1,060,641) \$	(295,056)	\$ (107) \$	\$ (225) \$	\$ (2,259)	\$ (16,616)	\$ (6,520)	\$ (39,075)	\$ (14,930)	\$ (207,767)	\$ (78,288	) \$ (2,354)
8		Energy \$	- \$	- \$	- \$	; - \$	; _ <u></u>	\$ -	\$ - 5	÷ -	\$ -	\$-	\$-	\$-	\$-
9		Demand \$	(1,125,078) \$	(503,317) \$	(215,450) \$	; - \$	(114) \$	\$ (1,717)	\$ (14,524) \$	\$ (5,628)	\$ (38,681)	\$ (11,174)	\$ (179,600)	\$ (71,564	4)\$ -
10		Customer \$	(687,421) \$	(557,324) \$	(79,606) \$	(107) \$	(111) \$	\$ (542)	\$ (2,092) \$	\$ (892)	\$ (394)	\$ (3,755)	\$ (28,167)	\$ (6,724	J) \$ (2,354
11															
12	TOTAL Net Plant	\$	4,666,128 \$	2,574,095 \$	727,786	\$ 259 \$	\$ 512 \$	\$ 5,606	\$ 37,689	\$ 14,529	\$ 99,231	\$ 37,447	\$ 508,811	\$ 192,216	\$ 5,407
13		Energy \$	- \$	- \$	- \$	- \$	- 9	\$-	\$ - \$	\$ -	\$-	\$-	\$-	\$-	\$-
14		Demand \$	3,048,588 \$	1,247,126 \$	537,286 \$	- \$	284 \$	\$ 4,363	\$ 35,682 \$	\$ 13,827	\$ 98,283	\$ 28,392	\$ 448,632	\$ 178,784	i\$ -
15		Customer \$	1,617,540 \$	1,326,969 \$	190,500 \$	259 \$	228 \$	\$ 1,243	\$ 2,007 \$	\$ 702	\$ 947	\$ 9,055	\$ 60,179	\$ 13,432	\$ 5,407
16															
17	Contributions In Aid of Construction														
18	Total Gas Plant in Service	\$	(424,193) \$	(257,897) \$	(71,930)	\$ (28) \$	\$ (50) \$	\$ (559)	\$ (3,700)	\$ (1,434)	\$ (9 <i>,</i> 858)	\$ (3,788)	\$ (49,471)	\$ (18,576	)\$ (548)
19		Energy \$	- \$	- \$	- \$	; - \$	; <u>-</u> \$	\$-	\$ - \$	\$ -	\$-	\$ -	\$ -	\$ -	\$-
20		Demand \$	(255,076) \$	(119,318) \$	(51,862) \$	; - \$	(27) \$	\$ (433)	\$ (3,393) \$	\$ (1,315)	\$ (9,757)	\$ (2,818)	\$ (43,403)	\$ (17,299	ı)\$ -
21		Customer \$	(169,117) \$	(138,579) \$	(20,068) \$	(28) \$	(23) \$	\$ (126)	\$ (307) \$	\$ (119)	\$ (101)	\$ (969)	\$ (6,068)	\$ (1,277	) \$ (548)
22															
23	Total Accumulated Depreciation	\$	143,125 \$	87,438 \$	24,211	\$ 10 \$	\$ 17 9	\$ 188	\$ 1,198	\$ 464	\$ 3,283	\$ 1,273	\$ 16,578	\$ 6,214	\$ 189
24		Energy \$	- \$	- \$	- \$	- \$	- \$	\$-	\$ - \$	\$ -	\$-	\$ -	\$ -	\$ -	\$ -
25		Demand \$	84,745 \$	39,601 \$	17,285 \$	- \$	9 \$	\$ 144	\$ 1,092 \$	\$ 423	\$ 3,248	\$ 938	\$ 14,481	\$ 5,772	\$ -
26		Customer \$	58,379 \$	47,836 \$	6,926 \$	10 \$	8 \$	\$ 43	\$ 106 \$	\$ 41	\$ 35	\$ 334	\$ 2,096	\$ 442	\$ 189
27															
28	TOTAL Net Plant	Ş	(281,069) Ş	(170,460) Ş	(47,719)	5 (18) <b>5</b>	5 (33) s	\$ (371)	\$ (2,502)	\$ (969)	\$ (6 <i>,</i> 575)	\$ (2,515)	\$ (32,893)	\$ (12,362	) \$ (359)
29		Energy \$	- \$	- \$	- \$	- \$	; - \$	\$-	\$ - \$	\$ -	\$-	\$-	\$ -	\$-	\$ -
30		Demand \$	(170,331) \$	(79,717) \$	(34,577) \$	; - \$	(18) \$	\$ (289)	\$ (2,301) \$	\$ (891)	\$ (6,509)	\$ (1,880)	\$ (28,922)	\$ (11,527	)\$ -
31		Customer \$	(110,738) \$	(90,743) \$	(13,142) \$	(18) \$	(15) \$	\$ (82)	\$ (201) \$	\$ (78)	\$ (66)	\$ (635)	\$ (3,971)	\$ (835	) \$ (359)
32															

Schedule 3

#### FORTISBC ENERGY INC.

Fully Distributed Cost of Service Allocation Study Rate Design Filing\_Common Rates\_ 2016 Test Year RATE BASE SUMMARY - CLASSIFICATION (000's)

Line						R	ATE 22 NON- F	RATE 22A NON- R	ATE 22B NON-	BC HYDRO	JOINT			
No	Particulars	Total	RATE 1	RATE 2	RATE 4	RATE 6	BYPASS	BYPASS	BYPASS	(ICP)	VENTURE	Rate 3/23	Rate 5/25	Rate 7/27
33	13 Month Adjustment \$	3,685 \$	2,078 \$	660	\$ 0 \$	\$0\$	5	\$ 46 \$	18	\$ 90	\$ 31	\$ 495	\$ 191	\$ 3
34	Energy \$	- \$	- \$	- :	\$-\$	- \$	- 5	\$-\$		÷ -	\$ -	\$-	\$-	\$ -
35	Demand \$	2,819 \$	1,370 \$	559	\$-\$	0 \$	4 5	\$ 44 \$	17	5 90	\$ 26	\$ 460	\$ 183	\$-
36	Customer \$	866 \$	707 \$	101	\$ 0\$	0 \$	1 5	\$2\$	1	5 0	\$ 5	\$ 34	\$ 8	\$ 3
37														
38	Work in Process, no AFUDC \$	35,156 \$	19,821 \$	6,299	\$15	\$ 4\$	45	\$ 438 \$	170	\$ 861	\$ 292	\$ 4,720	\$ 1,826	\$ 28
39	Energy \$	- \$	- \$	-	\$-\$	- \$	- 5	\$-\$		-	\$-	\$ -	\$ -	\$-
40	Demand \$	26,892 \$	13,074 \$	5,337	\$-\$	3 \$	38 3	\$ 424 \$	164	856	\$ 247	\$ 4,393	\$ 1,749	\$-
41	Customer \$	8,264 \$	6,747 \$	962	\$1\$	1 \$	7 5	\$ 15 \$	6	5 5	\$ 45	\$ 327	\$ 77	\$ 28
42														
43	Unamortized Deferred Charges \$	24,791 \$	22,067 \$	5,952	\$ (29) \$	\$55\$	290	\$ (697) \$	(223)	\$ (1,107)	\$ (341)	\$ 9,815	\$ (2,672)	\$ 192
44	Energy \$	73,900 \$	41,431 \$	14,891	\$ (28) \$	(10) \$	345 5	\$ 236 \$	138	430	\$ 125	\$ 16,320	\$ (116)	\$ 138
45	Demand \$	(54,337) \$	(23,063) \$	(9,114)	\$-\$	60 \$	(68)	\$ (931) \$	(361)	5 (1,535)	\$ (443)	\$ (7,433)	\$ (2,957)	\$-
46	Customer \$	5,228 \$	3,700 \$	174	\$ (1) \$	5 \$	13 5	\$ (3) \$	(0)	5 (2)	\$ (22)	\$ 928	\$ 400	\$ 54
47														
48	Cash Working Capital \$	2,129 \$	1,290 \$	416	\$ 1 \$	\$1\$	1	\$9\$	4	\$19	\$6	\$ 292	\$ 71	\$ 4
49	Energy \$	1,188 \$	721 \$	268	\$1\$	1 \$	- 5	\$-\$	-	-	\$ -	\$ 171	\$ 24	\$ 2
50	Demand \$	568 \$	275 \$	113	\$-\$	0 \$	1 5	\$9\$	3	5 18	\$ 5	\$ 93	\$ 37	\$ -
51	Customer \$	373 \$	294 \$	35	\$ 0\$	0 \$	0 5	\$ 0\$	0	5 0	\$ 1	\$ 28	\$ 10	\$ 2
52														
53	Other Working Capital \$	1,567 \$	1,058 \$	250	\$ 0 \$	S 0 \$	2	\$2\$	1	\$27	\$ 13	\$ 152	\$ 54	\$ 3
54	Energy \$	- \$	- \$	-	\$-\$	- \$	- 5	\$-\$	-	-	\$ -	\$ -	\$ -	\$ -
55	Demand \$	602 \$	267 \$	135	\$-\$	0 \$	1 5	\$ 0\$	0	5 26	\$ 8	\$ 117	\$ 47	\$ -
56	Customer \$	965 \$	791 \$	115	\$ 0\$	0 \$	1 \$	\$2\$	1	5 1	\$ 6	\$ 35	\$ 7	\$ 3
57														
58	LILO, Other Rate Base items \$	56,701 Ş	27,279 Ş	10,703	ş (0) ş	5 6 Ş	87	\$	506	Ş 1,961	Ş 563	\$ 8,719	Ş 3,471	ş (2)
59	Energy \$	- \$	- \$	-	\$-\$	- \$		\$-\$	-	-	\$ -	\$ -	\$ -	\$ -
60	Demand \$	57,294 \$	27,765 \$	10,774	\$-\$	6 \$	87 5	\$ 1,306 \$	506	5 1,961	\$ 567	\$ 8,740	\$ 3,475	\$ -
61	Customer \$	(593) \$	(486) \$	(70)	\$ (0) \$	(0) \$	(0)	\$ (1) \$	(0)	5 (0)	\$ (3)	\$ (21)	\$ (4)	\$ (2)
62														
63	Total Utility Rate Base S	4,509,089 \$	2,477,228 \$	704,348	\$ 215 \$	545 Ş	5,663	\$ 36,290 \$	14,034	\$ 94,506	\$ 35,497	\$ 500,111	\$ 182,795	\$ 5,276
64	Energy \$	75,088 \$	42,152 \$	15,159	\$ (27) \$	(10) \$	345	\$ 236 \$	138	5 430	\$ 125	\$ 16,492	\$ (92)	\$ 139
65	Demand \$	2,912,094 \$	1,187,097 \$	510,513	s - s	335 \$	4,137	\$ 34,234 \$	13,266	5 93,192	\$ 26,921	\$ 426,080	\$ 169,791	ş -
66	Customer \$	1,521,907 \$	1,247,979 \$	178,675	\$	220 \$	1,181 5	\$ 1,820 \$	631	5 884	\$ 8,451	\$ 57,539	\$ 13,095	Ş 5,137

#### FORTISBC ENERGY INC. Fully Distributed Cost of Service Allocation Study Rate Design Filing\_Common Rates\_ 2016 Test Year COST OF SERVICE SUMMARY - CLASSIFICATION (000's)

Line	2						RATE 22 NON-	RATE 22A	RATE 22B	BC HYDRO	JOINT			
No	. Particulars	Total	RATE 1	RATE 2	RATE 4	RATE 6	BYPASS	NON-BYPASS	NON-BYPASS	(ICP)	VENTURE	Rate 3/23	Rate 5/25	Rate 7/27
1	Operating & Maintenance Expense \$	243,000	\$ 157,748 \$	\$ 32,829 \$	15 \$	\$ 60	\$ 312	\$ 1,411	\$ 555	\$ 3,163	\$ 1,243	\$ 26,966	\$ 10,108	\$ 724
2	Energy \$	5,577 \$	3,337 \$	1,225 \$	5 \$	2	\$ 7	\$ 5	\$ 3	\$ 9	\$ 3	\$ 881	\$ 91	\$ 9
3	Demand \$	99,531 \$	45,136 \$	18,934 \$	- \$	10	\$ 138	\$ 1,285	\$ 498	\$ 3,117	\$ 900	\$ 15,700	\$ 6,253	\$ -
4 5	Customer \$	137,892 \$	\$ 109,275 \$	12,670 \$	10 \$	49	\$ 167	\$ 121	\$ 54	\$ 38	\$ 340	\$ 10,386	\$ 3,763	\$ 715
6	Property & Sundry Taxes \$	63,840	\$ 38,206 \$	\$ 11,040 \$	4 9	\$7	\$ 85	\$ 528	\$ 205	\$ 1,509	\$ 557	\$ 7,773	\$ 2,966	\$ 80
7	Energy \$	- \$	s - \$	- \$	- \$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$-	\$ -	\$ -
8	Demand \$	40,988 \$	\$ 19,327 \$	8,357 \$	- \$	4	\$ 66	\$ 518	\$ 201	\$ 1,496	\$ 432	\$ 6,985	\$ 2,784	\$ -
9	Customer \$	22,852 \$	\$ 18,879 \$	2,683 \$	4 \$	3	\$ 18	\$ 10	\$ 5	\$ 13	\$ 125	\$ 788	\$ 182	\$ 80
10														
11	Depreciation Expense \$	181,504	\$ 105,794 \$	\$ 26,664 \$	14 \$	\$ 25	\$ 182	\$ 1,488	\$ 555	\$ 3,011	\$ 1,356	\$ 18,012	\$ 6,394	\$ 218
12	Energy \$	- \$	s - \$	- \$	- \$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Demand \$	99,637 \$	\$ 40,202 \$	16,883 \$	- \$	9	\$ 131	\$ 1,255	\$ 486	\$ 2,959	\$ 855	\$ 14,003	\$ 5,578	\$ -
14	Customer \$	81,866 \$	65,592 \$	9,781 \$	14 \$	16	\$ 50	\$ 233	\$ 69	\$ 53	\$ 502	\$ 4,009	\$ 817	\$ 218
15														
16	Amortization Expense \$	42,339	\$ 23,484 \$	\$7,406\$	2 9	\$ 20	\$ 83	\$ 420	\$ 168	\$ 864	\$ 298	\$ 5,842	\$ 1,665	\$ 51
17	Energy \$	8,216 \$	\$	1,667 \$	0 \$	0	\$ 40	\$ 27	\$ 16	\$ 49	\$ 14	\$ 1,623	\$ 44	\$ 20
18	Demand \$	24,958 \$	\$ 11,285 \$	4,670 \$	- \$	18	\$ 36	\$ 376	\$ 146	\$ 809	\$ 234	\$ 3,859	\$ 1,536	\$ -
19	Customer \$	9,165 \$	5 7,485 \$	1,069 \$	1 \$	1	\$ 7	\$ 16	\$ 6	\$ 5	\$ 50	\$ 360	\$ 84	\$ 31
20														
21	Other Operating Revenue \$	(81,303)	\$ (22,177) \$	\$ (7,522) \$	(1) \$	\$ (5)	\$ (63)	\$ (784	)\$ (304)	\$ (1,273)	\$ (388)	\$ (6,045)	\$ (2,381)	\$ (28)
22	Energy \$	- \$	s - \$	- \$	- \$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$-	\$ -	\$ -
23	Demand \$	(75,500) \$	\$ (17,561) \$	(6,940) \$	- \$	(4)	\$ (56)	\$ (776	) \$ (301)	\$ (1,271)	\$ (367)	\$ (5,660)	\$ (2,251)	\$ -
24	Customer \$	(5,804) \$	\$ (4,616) \$	(582) \$	(1) \$	(2)	\$ (6)	\$ (8	\$ (3)	\$ (2)	\$ (21)	\$ (385)	\$ (130)	\$ (28)
25														

#### FORTISBC ENERGY INC.

Fully Distributed Cost of Service Allocation Study Rate Design Filing\_Common Rates\_ 2016 Test Year COST OF SERVICE SUMMARY - CLASSIFICATION (000's)

Line	2							R/	ATE 22 NON-	RA	ATE 22A	R	ATE 22B	BC HYDRO		JOINT					
No	Particulars		Total	RATE 1	RATE 2	RATE 4	RATE 6		BYPASS	NON	N-BYPASS	NO	N-BYPASS	(ICP)	١	VENTURE	Rate	3/23	Rate 5/25	Rat	e 7/27
26	Income Tax	\$	44,864 \$	27,817 \$	7,796 \$	2	\$	6\$	56	\$	372	\$	143	\$ 946	\$	361	\$	5,572	\$ 2,124	\$	62
27		Energy \$	(256) \$	(155) \$	(58) \$	(0)	\$	(0) \$	-	\$		\$		\$-	\$	-	\$	(37)	\$ (5)	\$	(0)
28		Demand \$	27,853 \$	13,875 \$	5,872 \$	-	\$	3\$	42	\$	352	\$	136	\$ 936	\$	270	\$	4,880	\$ 1,944	\$	-
29 30		Customer \$	17,267 \$	14,097 \$	1,982 \$	3	\$	3\$	14	\$	20	\$	7 :	\$ 10	\$	91	\$	728	\$ 185	\$	62
31	Earned Return	\$	310,054 \$	178,128 \$	49,106 \$	15	\$	38 \$	373	\$	2,482	\$	957	\$ 6,311	\$	2,409	\$	34,812	\$ 13,234	\$	412
32		Energy \$	(1,707) \$	(1,036) \$	(385) \$	(2)	\$	(1) \$	-	\$		\$		\$ -	\$	-	\$	(246)	\$ (34)	\$	(2)
33		Demand \$	196,521 \$	85,078 \$	36,265 \$	-	\$	19 \$	277	\$	2,348	\$	910	\$ 6,247	\$	1,805	\$	30,197	\$ 12,031	\$	-
34		Customer \$	115,241 \$	94,086 \$	13,226 \$	17	\$	19 \$	95	\$	134	\$	47	\$ 63	\$	605	\$	4,861	\$ 1,237	\$	414
35																					
36	Total Cost of Service Margin	\$	804,298 \$	509,000 \$	127,319 \$	52	\$ 1	51 \$	1,027	\$	5,916	\$	2,280	\$ 14,530	\$	5,837	\$	92,933	\$ 34,109	\$	1,519
37		Energy \$	11,831 \$	6,861 \$	2,450 \$	3	\$	1\$	47	\$	32	\$	19	\$ 58	\$	17	\$	2,221	\$ 96	\$	27
38		Demand \$	413,989 \$	197,341 \$	84,042 \$	-	\$	60 \$	634	\$	5,358	\$	2,076	\$ 14,293	\$	4,129	\$	69,964	\$ 27,875	\$	-
39		Customer \$	378,478 \$	304,798 \$	40,827 \$	49	\$	90 \$	346	\$	526	\$	185	\$ 180	\$	1,691	\$	20,747	\$ 6,138	\$	1,493
40																					
41	Cost of Gas Sold (Including Gas	s Lost) \$	475,908 \$	287,646 \$	111,133 \$	433	\$ 1	35 \$	267	\$	183	\$	41	\$-	\$	-	\$	67,966	\$ 7,458	\$	646
42		Energy \$	475,908 \$	287,646 \$	111,133 \$	433	\$	135 \$	267	\$	183	\$	41	\$ -	\$	-	\$	67,966	\$ 7,458	\$	646
43		Demand \$	- \$	- \$	- \$	-	\$	- \$	-	\$		\$		\$-	\$	-	\$	-	\$ -	\$	-
44		Customer \$	- \$	- \$	- \$	-	\$	- \$	-	\$	-	\$		\$-	\$	-	\$	-	\$-	\$	-
45																					
46	Total Utility Revenue Require	\$	1,280,206 \$	796,646 \$	238,452 \$	485	\$ 2	86 \$	1,294	\$	6,099	\$	2,321	\$ 14,530	\$	5,837	\$	160,899	\$ 41,567	\$	2,165
47		Energy \$	487,739 \$	294,507 \$	113,583 \$	436	\$	136 \$	314	\$	215	\$	60	\$ 58	\$	17	\$	70,187	\$ 7,554	\$	673
48		Demand \$	413,989 \$	197,341 \$	84,042 \$	-	\$	60 \$	634	\$	5,358	\$	2,076	\$ 14,293	\$	4,129	\$	69,964	\$ 27,875	\$	-
49		Customer \$	378,478 \$	304,798 \$	40,827 \$	49	\$	90 \$	346	\$	526	\$	185	\$ 180	\$	1,691	\$	20,747	\$ 6,138	\$	1,493

Schedule 4