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October 12, 2017

Mr. Patrick Wruck
Commission Secretary and Manager, Regulatory Support
British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC
V6Z 2N3

Re: FEI RDA 2016. Project No. 3698899 / Order G-6-17 2016 Rate Design Application

Dear Mr. Wruck:

Please find enclosed Catalyst Paper's Information Request No. 2.

Sincerely,

Jouni Martiskainen
Energy Specialist

Topic 1: FEI Obfuscation of Amalgamated Transmission Cost of Service for Large Industrial Customer Firm Service and Current R:C Ratio Significance in Rate Design

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 and in BCUC's IR No. 1 the Commission asked the following [1],

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

1. **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.
2. **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.

TERASEN GAS (VANCOUVER ISLAND) INC.											Schedule 34B-10	
2010 TGV RATE DESIGN											June 29, 2009 Filing of TGV Rate Design	
REVENUE, SURPLUS and R/C RATIO'S AT PROPOSED RATES												
Line No.	Rate Class	Volume (GJ)	Proposed Revenue	Effective Proposed Rate	Allocated COS (LNG)	Allocated COS (Transmission)	Allocated COS (Distribution)	Allocated COS (Total)	RSDA** Surplus (Gross)	Tax on RSDA Surplus	RSDA Surplus (net-of-Tax)	R/C Ratio @ Proposed Rate
1	RGS	4,891,762	\$ 81,286,270	\$ 16.617	\$ 194,290	\$ 10,550,398	\$ 70,284,639	\$ 81,029,327	\$ 256,943	\$ 73,208	\$ 183,735	1.00
2	AGS	1,110,284	\$ 14,159,981	\$ 12.753	\$ 35,880	\$ 1,999,523	\$ 7,404,988	\$ 9,440,391	\$ 4,719,590	\$ 1,344,709	\$ 3,374,881	1.50
3	SCS-1	406,152	\$ 7,461,421	\$ 18.371	\$ 17,319	\$ 952,634	\$ 4,935,767	\$ 5,905,720	\$ 1,555,701	\$ 443,252	\$ 1,112,449	1.26
4	SCS-2	483,653	\$ 8,518,453	\$ 17.612	\$ 18,784	\$ 1,047,429	\$ 3,803,267	\$ 4,869,479	\$ 3,648,974	\$ 1,039,669	\$ 2,609,305	1.75
6	LCS-1	1,329,403	\$ 18,743,809	\$ 14.099	\$ 45,398	\$ 2,532,326	\$ 9,106,736	\$ 11,684,460	\$ 7,059,349	\$ 2,011,355	\$ 5,047,994	1.60
7	LCS-2	1,383,519	\$ 17,645,541	\$ 12.754	\$ 40,989	\$ 2,280,993	\$ 8,812,253	\$ 11,134,235	\$ 6,511,306	\$ 1,855,206	\$ 4,656,099	1.58
8	LCS-3	2,383,517	\$ 28,930,548	\$ 12.138	\$ 73,249	\$ 4,083,264	\$ 14,974,221	\$ 19,130,734	\$ 9,799,814	\$ 2,792,171	\$ 7,007,643	1.51
9	HLF	132,366	\$ 1,458,772	\$ 11.021	\$ 1,571	\$ 83,990	\$ 715,099	\$ 800,661	\$ 658,111	\$ 187,510	\$ 470,602	1.82
10	ILF	120,496	\$ 1,240,648	\$ 10.296	\$ 611	\$ 29,598	\$ 613,923	\$ 644,132	\$ 596,517	\$ 169,960	\$ 426,557	1.93
11												
12	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
13												
14	BC Hydro	18,250,000	\$ 15,853,147	\$ 0.869	\$ 259,484	\$ 13,031,280	\$ -	\$ 13,290,764	\$ 2,562,383	\$ 730,076	\$ 1,832,307	1.19
15	VIGJV	2,920,000	\$ 2,728,153	\$ 0.934	\$ 41,517	\$ 2,388,501	\$ -	\$ 2,430,018	\$ 298,135	\$ 84,945	\$ 213,190	1.12
16	TGI (Squamish)	413,380	\$ 434,049	\$ 1.050	\$ 21,075	\$ 1,068,386	\$ -	\$ 1,089,461	\$ (655,412)	\$ (186,741)	\$ (468,672)	0.40
17	TGW	2,536,750	\$ 2,479,038	\$ 0.977	\$ 36,068	\$ 2,055,649	\$ -	\$ 2,091,717	\$ 387,321	\$ 110,356	\$ 276,965	1.19
18												
19	Firm Service	24,120,130	\$ 21,494,387	\$ 0.891	\$ 358,144	\$ 18,543,815	\$ -	\$ 18,901,960	\$ 2,592,427	\$ 738,636	\$ 1,853,791	1.14
20												
21	Total System	36,361,292	\$ 200,939,831	\$ 5.526	\$ 786,236	\$ 42,103,971	\$ 120,650,893	\$ 163,541,099	\$ 37,398,731	\$ 10,655,677	\$ 26,743,055	1.23

* The revenue collection from the VIGJV and TGI (Squamish) is established by the tolls set out in their respective long-term Transportation Service Agreements.
** RSDA: Rate Stabilization Deferral Account

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

3. Please confirm that VIGJV's current and proposed RS22 rates have benefitted from FEI's amalgamation.

Using disclosed information, Catalyst Paper estimates that the current R:C ratio for the VIGJV under amalgamation (existing firm revenue compared to fairly allocated amalgamated service area transmission costs) is 163 % based on [4] and [5]. In a rate design process to combine certain customers into groups it is essential to know the starting point for each customer in terms of R:C ratio in the amalgamated service area as well as the proposed Final COSA R:C ratios.

4. Please submit FEI's estimate for VIGJV's current R:C ratio detailing how the cost allocation is performed with respect to distribution costs and definition of transmission service area.

FEI supported all FEVI core customers receiving a rate reduction from amalgamation [6].

5. Please confirm if FEI supports similar treatment for the VIGJV and BCH IG under amalgamation? If not please explain.

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

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

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

- 7. Please confirm that FEI believes all transmission customers should be allocated a portion of distribution demand costs.**
- 8. Please confirm that FEI believes distribution customers and transmission customers should be charged the same rate.**

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

- 9. Please confirm that FEI acknowledges the existence of transmission customers within the amalgamated utility.**
- 10. If there are no transmission customers within the utility, please provide the date when FEI’s last transmission customer stopped operating.**

In the previous Commission decision, the accepted cost allocation for “transmission” customers was a fully allocated cost of service [FACOS] for Firm Transportation [FT] and the utility’s cost allocation was described by the Commission as, *“Centra allocates transmission capacity costs using a one coincident peak methodology. Centra defines this method as the allocation of demand (transmission capacity) cost on the basis of a single demand value for each class at the time of the transmission system peak demand. Specifically, Centra proposes to allocate transmission capacity costs based on the firm contract demands of customers and the physical design capacity of the system. Centra allocates transmission capacity for the CDS [Centra Distribution System] as the residual of total system capacity less the contract demands of the 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].

- 11. Please confirm that FEI’s proposed RS22, which allocates distribution costs to the VIGJV and BCH IG is consistent with previous Commission approved cost allocation methodologies for transmission customers.**
- 12. If not, please detail differences between the proposed RS22 and previous methodologies.**

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 all large industrial customers in the amalgamated service area can be established.

FEI also has 14 other similar large industrial customers (non-bypass) in the same amalgamated service area that have identical requirements in terms of high volume, firm service.

FEI in this application has justified the combination of the VIGJV, BCH IG, and Creative Energy as following from amalgamation and common rates design [11]. In FEI’s 2012 Common Rates, Amalgamation and Rate Design Application [12], FEI states the following,

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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).

If FEI were to combine all 17 non-bypass similar Large Volume Firm Transportation (LVFT) customers across the common service area, and apply transmission costs only for cost allocation (RS22A, RS22B, VIGJV, and BC Hydro IG [2],[8],[9],[10] and [13]), this 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, but how they’re served because of what their requirements are.”, 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.

13. 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.
14. Please confirm that FEI agrees with Mr. Todd that customers that cannot be served with distribution pressures/mains may be treated differently than distribution customers that have lower requirements for pressure and volume.
15. Please confirm and detail if FEI has explored the option, has performed any calculations, of a LVFT rate class across the amalgamated service area. If yes, please provide the data.

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

16. Please state the total cost of service for the combined group in total dollars per year excluding distribution demand costs in \$ per year.
17. Please calculate the average volumetric cost of transmission service (\$/GJ) for this group of 17 large, firm industrial customers.
18. Please summarize in a table the variance between the cost of service calculated in (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	9	10,878	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

Units in the Demand Columns are all in TJ

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

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 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:⁹⁵

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.

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As FEI and EES Consulting state, “... *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*”, and “ ... *customers are grouped into rate classes to reflect differences in usage patterns and connection costs.*”[19] (emphasis added).

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

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 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.⁵⁵

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.⁵⁶

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The government stressed, and FEI endorsed, that common rates benefit all customers and provide access to services at the lowest average cost and promote investment equality across common service areas.

19. Please describe and justify whether the proposed RS22 reflects the postage stamp rate design principles as described in the quotes above.
20. What type of roadblocks to implementing a single LVFT rate class would FEI expect?
21. 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?

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 future investment.

22. Please confirm if FEI believes the proposed RS22 promotes future investment at the average cost of service for all LVFT customers? If yes, please explain.
23. Please confirm whether FEI is open to considering modifications to RS22 as proposed.

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]

24. Please fill in the table below to indicate where the VIGJV revenue has been accrued and allocated. This will enable the reader to understand the historical and current treatment of VIGJV revenue with respect to rate design and how the revenue has been allocated into deferral and surplus accounts that have had material impact on system wide rate design decisions. (Numbers shown in the table 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 Revenue 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

In FEI 2012 Common Rates, Amalgamation and Rate Design Application, FEI was proposing to 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 service area. Surplus funds from FEVI, mainly the \$ 90.3 M surplus in FEVI's RSDA, would be transferred to FEI and used to mitigate the rate increases for other FEI customers [22]. Essentially, FEVI customers were handing over the RSDA surplus to FEI Mainland customers up front to offset some

of the rate adjustments resulting from amalgamation. In return for the upfront payment, FEVI core customers received reduced rates under amalgamation.

- 25. Please explain/detail, with the use of the data submitted in the above table, how much VIGJV total revenue went into the RRDA, 2009 Surplus Account, and RSDA. How much of the \$ 90.3 M surplus in FEVI's RSDA transfer to FEI was directly attributed to VIGJV revenue?**
- 26. Was the VIGJV revenue contribution to the \$ 90.3 M RSDA FEVI transfer to FEI 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?**
- 27. Has any quantity from the FEVI RSDA transfer been allocated to any other rate class? If yes, please detail the amount by rate schedule.**

FEVI core customers received a benefit for their contribution to the RSDA, but FEI is proposing to allocate zero benefit to VIGJV for its contribution to the RSDA as the VIGJV's contract is set to expire.

- 28. Please provide the rationale for allocating no benefit to the VIGJV for its contribution to the RSDA.**

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.

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

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 VIGJV's interruptible revenue.

- 30. Why does FEI not forecast interruptible revenue from VIGJV and does forecast interruptible revenue for RS22 and RS22B?**

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].

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

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 all Vancouver Island gas utility customers

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.

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

FORTISBC ENERGY INC.		G-193-15 December 11, 2015		
VOLUME AND REVENUE FOR THE YEAR ENDING DECEMBER 31, 2016 (\$000s)				
Line No.	Particulars (1)	2015 Approved (2)	2016 Forecast (3)	Change (4)
1	ENERGY VOLUME SOLD (TJ)			
2	Residential			
3	Rate Schedule 1	73,067.8	72,466.1	(601.7)
4	Commercial			
5	Rate Schedule 2	28,107.6	28,012.1	(95.5)
6	Rate Schedule 3	19,210.3	18,121.3	(1,089.0)
7	Rate Schedule 23	8,255.0	8,968.8	713.8
8	Industrial			
9	Rate Schedule 4	145.7	129.9	(15.8)
10	Rate Schedule 5	3,394.5	2,172.7	(1,221.8)
11	Rate Schedule 6	50.5	46.8	(3.7)
12	Rate Schedule 7	41.5	154.6	113.1
13	Rate Schedule 22 - Firm Service	10,603.8	9,878.9	(724.9)
14	Rate Schedule 22 - Interruptible Service	12,535.4	17,616.4	5,081.0
15	Rate Schedule 25	13,267.2	13,490.2	223.0
16	Rate Schedule 27	6,636.0	6,536.7	(99.3)
17	Bypass and Special Rates			
18	Rate Schedule 22 - Firm Service	7,260.0	8,395.8	1,135.8
19	Rate Schedule 25	895.2	850.9	(44.3)
20	Rate Schedule 46	719.2	668.7	(50.5)
21	Byron Creek	2,940.3	375.4	(2,564.9)
22	Burrard Thermal	1,276.3	186.4	(1,089.9)
23	BC Hydro ICP	14,600.0	14,945.0	345.0
24	VIGJV	4,380.0	4,758.0	378.0
25	Total	207,386.3	207,774.7	388.4
26				
27	REVENUE AT EXISTING RATES			
28	Residential			
29	Rate Schedule 1	\$ 814,408	\$ 722,183	\$ (92,225)
30	Commercial			
31	Rate Schedule 2	267,664	232,810	(34,854)
32	Rate Schedule 3	159,270	127,933	(31,337)
33	Rate Schedule 23	27,692	30,021	2,329
34	Industrial			
35	Rate Schedule 4	941	689	(252)
36	Rate Schedule 5	24,991	13,435	(11,556)
37	Rate Schedule 6	449	354	(95)
38	Rate Schedule 7	279	773	494
39	Rate Schedule 22 - Firm Service	9,068	6,149	(2,919)
40	Rate Schedule 22 - Interruptible Service	13,211	17,857	4,646
41	Rate Schedule 25	31,453	30,052	(1,401)
42	Rate Schedule 27	9,991	9,902	(89)
43	Bypass and Special Rates			
44	Rate Schedule 22 - Firm Service	839	846	7
45	Rate Schedule 25	703	435	(268)
46	Rate Schedule 46	4,003	4,739	736
47	Byron Creek	1,560	44	(1,516)
48	Burrard Thermal	9,965	8,314	(1,651)
49	BC Hydro ICP	12,527	13,097	570
50	VIGJV	4,208	4,572	364
51	Total	\$ 1,393,222	\$ 1,224,205	\$ (169,017)

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

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

Topic 6: Vancouver Island Transmission System Capacity, Usage and Implications for Transportation Balancing Costs

Historically, gas utilities on Vancouver Island considered the total High Pressure Transmission System (HPTS) capacity and allocated peak day demand for customers accordingly [27], see 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/day		
67	Squamish	4,061	2.68%		Total to be Allocated	97,439	GJ/day		
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	Allocated Cost of Service	(\$000)	Percent		Total	97,439	GJ/day		
73	Service before 2009 Revenue Surplus	\$165,022			Allocated to Core	84.66%			
74	Less: VIGJV	(\$2,430)			Allocated to VIGJV	8.21%			
75	Less: Squamish Gas	(\$1,089)			Allocated to TGW	7.13%			
76	Service before 2009 Revenue Surplus	\$161,503			Total Allocated	100.00%			
77									
78	Core Sales	\$145,978	90.39%						
79	TGW	\$2,111	1.31%						
80	BC Hydro	\$13,414	8.31%						
81	Reference: Schedule 33R								

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

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

- 35. Please explain how the VIGJV's take-or-pay firm contract demand causes FEI to incur daily balancing costs. Please provide an example to show the cost components. If Mt. Hayes is used to supply a portion of this commitment please show how this cost is calculated.**
- 36. Does VIGJV's interruptible service attract balancing costs to FEI, if so please quantify?**
- 37. What is the forecast balancing cost for VIGJV's interruptible service under FEI's current proposal?**
- 38. Please calculate the R:C ratio for VIGJV's IT balancing service.**

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 distribution-related costs.*" [13].

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

The cost causation of all the groups is similar, in that they all use the transmission system for firm transportation service, and do not rely on the extensive, costly distribution network to 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.**
- 40. Please explain FEI's justification for including distribution costs to BCH IG's cost allocation.**
- 41. Please explain FEI's justification for excluding distribution costs for RS22A and RS22B.**

FEI 2016 RDA Tables 9-23 and 9-26 [28], [29] are shown below. This shows the proposed demand charge and firm delivery charge up to 147 % and up to 39 % higher for the proposed RS22 (VIGJV included) relative to RS22A and RS22B customers.

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

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	\$0.982 ¹	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 (Closed) Columbia Service Area	\$4,537.00	\$78.00	\$10.137	\$0.108	\$1.011 Apr 1 – Oct 31	n/a	n/a
					\$1.455 Nov 1 – Mar 31		
Vancouver Island Joint Venture Contract	n/a	n/a	n/a	n/a	n/a	\$0.9665 ²	Tier 1 13-20 TJ \$0.9665
							Tier 2 20-30 TJ \$0.7608
							Tier 3 30+ TJ \$1.0632
BC Hydro IG ³ Contract	n/a	n/a	n/a	n/a	n/a	\$0.958	Winter \$1.458
							Summer \$0.958

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 ³ Contract	n/a	n/a	n/a	n/a	n/a	\$0.958	\$0.958

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 this difference in charges the “apparent” R:C ratios for the rate schedules appear “similar” per 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 distribution costs to the VIGJV and BCH in the proposed RS22, but not RS22A or RS22B.

42. Does FEI believe a reader would conclude that the treatment of customers in 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	

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 <i>Residential Service</i>	96.4%	94.4%	61.7	0.0%	96.4%	94.4%
Rate Schedule 2 <i>Small Commercial Service</i>	102.2%	104.1%			102.2%	104.1%
Rate Schedule 3/23 <i>Large Commercial Sales and Transportation Service</i>	103.6%	107.6%			103.6%	107.6%
Rate Schedule 5/25 <i>General Firm Sales and Transportation Service</i>	106.3%	116.0%			106.3%	116.0%
Rate Schedule 6/6P <i>Natural Gas Vehicle Service</i>	131.7%	160.4%	(61.7)	-16.5%	110.0%	119.0%
Rate Schedule 22A <i>Transportation Service (Closed) Inland Service Area</i>	113.0%	113.4%			113.0%	113.4%
Rate Schedule 22B <i>Transportation Service (Closed) Columbia Service Area</i>	103.1%	103.1%			103.1%	103.1%
Rate Schedule 22 <i>Large Volume Transportation Service</i>	100.0%	100.0%			100.0%	100.0%

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:

- Creative Energy's firm volume,
- the existing RS22's interruptible volume,
- the VIGJV's firm volume, and
- BCH IG's firm volume.

This "apparent" Rate 22 Firm value can be calculated from [31] as shown below as the sum of $732 + 12,457 + 4,758 + 16,425 = 34,372$ TJ. The use of this "apparent" sales volume in the Final COSA financial schedules makes it impossible for a reader to correctly interpret the 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.

FORTISBC ENERGY INC.
Fully Distributed Cost of Service Allocation Study
Rate Design Filing_Common Rates_ 2016 Test Year
CLASSIFICATION SUMMARY (000's)

Schedule 7

Line No.	Particulars	Total	RATE 22A			RATE 22B			Rate 3/23	Rate 5/25	Rate 7/27	
			RATE 1	RATE 2	RATE 4	RATE 6	NON-BYPASS	RATE 22 FIRM				NON-BYPASS
1	Billing Determinants											
2												
3	Sales Volume (TJ)	198,778	72,466	28,012	130	47	9,030	34,372	5,277	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	\$ 789,979	\$ 504,452	\$ 126,672	\$ 51	\$ 149	\$ 6,608	\$ 21,429	\$ 2,515	\$ 92,568	\$ 34,011	\$ 1,524
9	Energy \$	11,831	6,861	2,450	3	1	32	121	19	2,221	96	27
10	Unit Energy Charge (\$/Gj)	0.060	0.095	0.087	0.022	0.022	0.004	0.004	0.004	0.082	0.006	0.004
11	Demand \$	399,670	192,073	83,287	(1)	58	5,430	19,415	2,104	69,542	27,760	-
12	Unit Demand Charge (\$/Gj)	2.011	2.651	2.973	-0.007	1.248	0.601	0.565	0.399	2.567	1.772	0.000
13	Customer \$	378,478	305,518	40,935	49	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	348.587	740.142	214.626	3.101	7.733	13.254
15												
16	Unit Cost of Service Margin (\$/Gj)	3.974	6.961	4.522	0.391	3.191	0.732	0.623	0.477	3.417	2.171	0.228
17												
18	Cost of Gas - Commodity & Midstream	\$ 475,641	\$ 287,646	\$ 111,133	\$ 433	\$ 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 \$	-	-	-	-	-	-	-	-	-	-	-
21	Customer \$	-	-	-	-	-	-	-	-	-	-	-
22	Unit Cost of Gas - Commodity (\$/Gj)	2.393	3.969	3.967	3.333	2.885	0.020	0.000	0.000	2.509	0.476	0.097
23												
24	Total Utility Cost of Service	\$ 1,265,620	\$ 792,098	\$ 237,805	\$ 484	\$ 284	\$ 6,791	\$ 21,429	\$ 2,556	\$ 160,534	\$ 41,469	\$ 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)	6.367	10.951	8.489	3.724	6.075	0.752	0.623	0.484	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)	6.888	10.540	8.677	5.593	6.683	0.850	0.623	0.499	7.417	5.841	4.957
32												
33	Total Revenue Margin @ Proposed Rates	\$ 789,979	\$ 476,148	\$ 131,916	\$ 294	\$ 178	\$ 7,492	\$ 21,429	\$ 2,593	\$ 99,599	\$ 39,452	\$ 10,877
34	Unit Rate (\$/Gj)	3.974	6.571	4.709	2.260	3.798	0.830	0.623	0.491	3.677	2.519	1.626

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	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

Units in the Demand Columns are all in TJ

Topic 9 COSA and R:C ratios

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

FEI provided the following table,

Table 1

\$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%

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

44. Is distribution demand cost allocated to each BC Hydro, Joint Venture, and Creative Energy in the table?
45. Please detail the distribution demand cost allocation for each customer in the table.
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?
47. Is the transmission demand cost allocation based on peak day or firm demand for each customer?
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?

49. Please provide the reference for BC Hydro IG's allocated cost, i.e., which COSA report is it derived from.

FEI states the costs are "from the COSA" [33].

50. Please clarify which COSA FEI is referring to?

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

52. If it is the Initial COSA with distribution demand cost allocation, 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?

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?

54. Are interruptible service costs represented in Table 1? If yes, please detail the quantity by customer.

References:

1. FEI RDA 2016, Exhibit B-5, Letter dated June 9, 2017 – FEI Submitting Response to BCUC IR No. 1, pages 170-172.
2. 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.
4. FEI RDA 2016, Exhibit B-1, Appendix 12, pages 1771-1781.
5. FEI Rate Design Application, Exhibit B-4, Workshop No. 2 Presentation, slides 23-38.
6. FEU Common Rates, Amalgamation and Rate Design Application, Exhibit B-3.
7. FEI 2016 Rate Design Application, FEI Reply Argument on COSA and revenue to cost ratios, page 7.
8. Centra Gas British Columbia Inc. 2002 Rate Design Application. Order No. G-42-03; 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.
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.
15. FEI 2016 Rate Design Application, Exhibit B-1, Section 1.2 Rate Design Based on Accepted Principles, page 1-3.
16. FEI RDA 2016, Exhibit B-5, Letter dated June 9, 2017 – FEI Submitting Response to BCUC IR No. 1, page 167.
17. FEI RDA 2016, Exhibit B-1, Appendix 12, pages 1771-1781
18. FEI Rate Design Application, Exhibit B-4, Workshop No. 2 Presentation, slides 23-38.
19. FEU Common Rates, Amalgamation and Rate Design Application, Exhibit B-3, page 72.
20. FEI 2016 Rate Design Application, Exhibit B-1, Section 1.2 Rate Design Based on Accepted Principles, page 5-7.
21. FEI 2016 Rate Design Application, Transcript Volume 5, Transcript Streamlined Review Process VOLUME 5 September 12, 2017. Page 464, lines 12-14.
22. FEU Common Rates, Amalgamation and Rate Design Application, Exhibit B-3, Executive Summary, 1.10 Conclusion, page 168.
23. FEI 2016 Rate Design Application, Transcript Volume 5, Transcript Streamlined Review Process VOLUME 5 September 12, 2017. Page 465, lines 15-17.
24. FEI RDA 2016, Exhibit B-5, Appendix 6-2, FEI Annual Review for 2016 Rates G-193-15 Compliance Filing, Section 11, Schedule 18, page 1272 of 1782.
25. Centra Gas British Columbia Inc. 2002 Rate Design Application. Order No. G-42-03; Decision, page 37.

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.
27. 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 550 of 1487.
28. FEI RDA 2016, Exhibit B-1, Table 9-23: Large Volume Transportation and Contract Customer's Charges.
29. FEI RDA 2016, Exhibit B-1, Table 9-26: Option 2 FEI's Proposed Charges for RS22.
30. FEI RDA 2016, Exhibit B-1, Appendix 12, Schedule 7, page 1781 of 1782.
31. FEI RDA 2016, Exhibit B-5, Letter dated June 9, 2017 – FEI Submitting Response to BCUC IR No. 1, page 167, unnamed Table on lines 12-14.
32. FEI RDA 2016, Exhibit B-5, Letter dated June 9, 2017 – FEI Submitting Response to BCUC IR No. 1, pages 177-178.
33. FEI RDA 2016, Exhibit B-5, Letter dated June 9, 2017 – FEI Submitting Response to BCUC IR No. 1, pages 177, line 22.