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January 7, 2020

Commercial Energy Consumers Association of British Columbia
c/o Owen Bird Law Corporation
P.O. Box 49130
Three Bentall Centre
2900 – 595 Burrard Street
Vancouver, BC
V7X 1J5

Attention: Mr. Christopher P. Weafer

Dear Mr. Weafer:

Re: FortisBC Energy Inc. (FEI)

Project No. 1599033

Revelstoke Propane Portfolio Amalgamation Application (the Application)

Response to the Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2

On July 18, 2019, FEI filed the Application referenced above. In advance of the deadline in the Regulatory Timetable established by British Columbia Utilities Commission Order G-290-19 for the review of the Application, FEI respectfully submits the attached response to CEC IR No. 2.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Doug Slater

Attachments

cc (email only): Commission Secretary
Registered Parties

12. Reference: Exhibit B-5, CEC 1.3.2 and Exhibit B-2, BCUC 1.3.1 and BCUC 1.2.7.2

3.2 Please provide a list of costs and benefits for Revelstoke ratepayers and a list of costs and benefits for non-Revelstoke ratepayers.

3.1 Please discuss how the proposed changes benefit FEI's natural gas ratepayers.

Response:

As discussed in the response to BCUC IR 1.8.3, FEI had previously explored capital alternatives, such as a physical pipeline and a virtual LNG pipeline, to address the energy cost disparity and volatility experienced by Revelstoke customers. However, each of these capital alternatives included a greater financial impact to FEI's natural gas customers than the proposed alternative. Accordingly, finding a least-cost, innovative non-capital solution to achieve these objectives reduces the impact to FEI's natural gas customers, thereby benefitting them in relation to such alternatives.

The following table outlines the benefits and costs for both FEI's Revelstoke and Non-Revelstoke gas customers.

	Benefits	Costs
Non-Revelstoke customers (FEI natural gas customers)	• Overall GHG emission reduction to the Province of BC resulting from potential conversion from heating oil to propane in Revelstoke; • Potential load growth in Revelstoke which lowers overall delivery rate for all FEI	• Small midstream rate impact of approximately $0.98 per year for an average FEI natural gas residential customer with 90 GJ annual consumption.

% of Light Fuel Oil Customers that Switch to Propane	Metric Tonnes of CO_2e Saved
100%	100
75%	75
50%	50
25%	25

12.1 Please provide the metric tonnes of CO2e saved as a proportion of BC emissions.

Response:

The provincial government reports gross GHG emissions of 64.462 million metric tonnes for 2017.[1] Please refer to the table below for the metric tonnes of CO_2e saved as a proportion of BC's 2017 emissions.

[1] https://www2.gov.bc.ca/assets/gov/environment/climate-change/data/provincial-inventory/2017/2017_provincial_inventory.xlsx.

% of Light Fuel Oil Customers that Switch to Propane	Metric Tonnes of CO_2e Saved	Proportion of 2017 BC Emissions
100%	100	0.00016%
75%	75	0.00012%
50%	50	0.00008%
25%	25	0.00004%

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13. Reference: Exhibit B-5, CEC 1.5.2 and Exhibit B-2, BCUC 1.5.1 and 1.2.7.1

5.2 Please provide average annual consumption for each rate class.

Response:

Please refer to the response to BCUC IR 1.5.1.

Response:

FEI has provided two comparison tables in response to this question. The first table illustrates the difference between Revelstoke UPC and the average Mainland (Lower Mainland, Inland, Columbia, Vancouver Island and Whistler) UPC over the last ten tears. The second table illustrates the difference between Revelstoke UPC and the average Inland[3] UPC over the last ten years, which is the same region in which Revelstoke is located.

All data is weather normalized.

Revelstoke UPC Compared to Mainland UPC

Mainland UPC	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	10 Yr. avg
Rate Schedule 1	89.7	89.0	87.1	88.5	85.6	85.1	85.2	88.2	86.6	85.9	87.1
Rate Schedule 2	325	316	318	341	332	331	332	339	337	332	330
Rate Schedule 3	3,466	3,463	3,575	3,659	3,593	3,556	3,555	3,695	3,665	3,521	3,575

Revelstoke UPC	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	10 Yr. avg
Rate Schedule 1	55.9	51.6	54.2	54.0	52.7	51.7	52.7	54.7	56.1	54.6	53.8
Rate Schedule 2	310	309	308	307	297	295	311	301	323	321	308
Rate Schedule 3	4,268	4,893	5,024	6,796	7,321	6,771	9,928	6,468	7,336	7,576	6,638

Difference, UPC	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	10 Yr. avg
Rate Schedule 1	33.8	37.4	32.9	34.5	32.8	33.4	32.5	33.5	30.5	31.3	33.3
Rate Schedule 2	15.6	7.1	9.9	34.5	34.9	36.0	21.2	38.4	14.1	11.4	22
Rate Schedule 3	(801.3)	(1,429.4)	(1,448.3)	(3,136.6)	(3,728.1)	(3,214.4)	(6,372.8)	(2,773.5)	(3,670.8)	(4,055.5)	(3,063)

Revelstoke UPC Compared to Inland UPC

Inland UPC	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	10 Yr. avg
Rate Schedule 1	76.9	75.7	74.7	77.0	73.6	75.1	76.1	77.8	76.7	75.6	75.9
Rate Schedule 2	282	276	273	294	284	290	293	293	288	284	286
Rate Schedule 3	3,424	3,495	3,441	3,774	3,664	3,780	4,052	3,872	3,722	3,423	3,665

Revelstoke UPC	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	10 Yr. avg
Rate Schedule 1	55.9	51.6	54.2	54.0	52.7	51.7	52.7	54.7	56.1	54.6	53.8
Rate Schedule 2	310	309	308	307	297	295	311	301	323	321	308
Rate Schedule 3	4,268	4,893	5,024	6,796	7,321	6,771	9,928	6,468	7,336	7,576	6,638

Difference, UPC	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	10 Yr. avg
Rate Schedule 1	21.0	24.0	20.6	23.0	20.8	23.5	23.4	23.1	20.6	21.0	22.1
Rate Schedule 2	(28.3)	(33.2)	(35.3)	(12.9)	(13.5)	(4.7)	(17.8)	(7.8)	(34.2)	(36.5)	(22)
Rate Schedule 3	(843.9)	(1,398.1)	(1,582.5)	(3,021.7)	(3,657.6)	(2,991.3)	(5,876.3)	(2,596.2)	(3,614.1)	(4,153.5)	(2,974)

% of Light Fuel Oil Customers that Switch to Propane	Metric Tonnes of CO_2e Saved
100%	100
75%	75
50%	50
25%	25

13.1 Please provide a table calculating the change in GHG emissions assuming the % of light fuel oil customers that switch to propane as in the table above, and assuming average UPC increases to that of the Mainland, and that of Inland.

Response:

The following table shows the CO_2e savings at the requested percentage increments using the average UPC of each region.

% of Light Fuel Oil Customers that Switch to Propane	CO_2e Savings (tonnes)		
	Revelstoke	Mainland	Inland
100%	100	169	141
75%	75	127	106
50%	50	84	71
25%	25	42	35

The above was calculated using the following 10-year average UPCs:

Rate 1 UPC (GJ) 10-Year Average		
Revelstoke	Mainland	Inland
53.8	90.8	75.9

14. Reference: Exhibit B-2, BCUC 1.5.2.1 and 1.6.1

Response:

FEI cannot definitively explain and does not have quantitative evidence as to why Revelstoke propane residential customers historically use, on average, less than FEI's natural gas residential customers. FEI believes this may be a result of many factors that may also be compounding, such as:

- Number and age of occupants;
- Customer behavior;
- Dwelling size;
- Housing formations;
- Possible secondary heating sources such as wood fireplaces or electric heating;
- Number of appliances per dwelling;
- Seasonal homes;
- Local government conservation policies and activities; and
- Economic activities.

FEI expects the demand of Revelstoke residential customers will continue to result from various factors that cannot be isolated.

The following table shows a simple correlation analysis between rates (i.e., revenue per GJ) and energy demand (UPC) for Revelstoke over the last 10 years. The correlation coefficients for all rate classes are low which indicate that there is no correlation between the rates and energy demand. FEI also notes that the rates in both 2010 and 2016 were lower than other years and are at similar levels as the estimated rates after the proposed amalgamation as shown in Appendix D-1 of the Application (i.e., $10.115 per GJ for Rate Schedule 1 and $8.789 per GJ for Rate Schedule 2). However, the demand (i.e., UPC) of both residential and commercial customers for these two years remained approximately the same as the years before and after 2010 and 2016. For these reasons, FEI did not feel that price elasticity analysis was warranted, and it is FEI's view that factors other than rates, such as those noted above, have a more significant impact on customer demand than rates.

Revenue per GJ	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Rate Schedule 1	18.069	12.687	22.728	21.450	17.999	23.612	17.798	13.446	16.566	19.028
Rate Schedule 2	15.006	10.510	19.504	18.336	14.444	20.241	14.121	9.933	13.194	15.358
Rate Schedule 3	13.988	9.252	18.381	17.486	13.180	18.946	12.144	8.645	11.953	14.073

Revelstoke UPC (GJ)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Rate Schedule 1	55.9	51.6	54.2	54.0	52.7	51.7	52.7	54.7	56.1	54.6
Rate Schedule 2	310	309	308	307	297	295	311	301	323	321
Rate Schedule 3	4,268	4,893	5,024	6,796	7,321	6,771	9,928	6,468	7,336	7,576

Correlation Coefficient (R)	
Rate Schedule 1	(0.09)
Rate Schedule 2	(0.20)
Rate Schedule 3	(0.09)

14.1 Please confirm that FEI does not have an elasticity figure for propane demand.

Response:

Confirmed. FEI has not conducted an elasticity study specifically on FEI's Revelstoke propane customers. FEI has relied on price elasticity studies conducted by reputable independent research entities for its elasticity estimates. Please refer to the responses to BCUC IRs 2.19.5 and 2.19.6 for further discussion.

14.2 Please restate the table using price per GJ instead of revenue per GJ.

Response:

FEI notes that, from the customer's perspective, the revenue per GJ is the same as the price per GJ that the customer will pay on their total bill for the energy service (commodity and delivery) they receive from FEI. Therefore, FEI interprets the question to refer to the "commodity price" per GJ instead of the total energy charge per GJ. Please refer to the table below for the analysis between "commodity price per GJ" and the average use per customer in GJ for Revelstoke.

Price per GJ	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Rate Schedule 1	12.67	6.88	16.94	15.45	11.70	17.14	10.86	6.48	9.68	12.07
Rate Schedule 2	11.48	6.93	15.85	14.52	10.46	16.17	9.73	5.42	8.75	10.93
Rate Schedule 3	11.43	6.66	15.75	14.80	10.42	16.11	9.11	5.46	8.79	10.92

Revelstoke UPC (GJ)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Rate Schedule 1	55.9	51.6	54.2	54.0	52.7	51.7	52.7	54.7	56.1	54.6
Rate Schedule 2	310	309	308	307	297	295	311	301	323	321
Rate Schedule 3	4,268	4,893	5,024	6,796	7,321	6,771	9,928	6,468	7,336	7,576

Correlation Coefficient (R)		R^2
Rate Schedule 1	(0.09)	0.75%
Rate Schedule 2	(0.22)	4.93%
Rate Schedule 3	(0.13)	1.73%

As demonstrated by the coefficient of determination, or R^2, the variances in customer use rates are not explained (or caused) by variations in the commodity price per GJ[2]. This result is consistent with the analysis for revenue per GJ in the response to BCUC IR 1.6.1 and with FEI's experience that other factors explain more of the variation in customer use rates.

14.3 Please provide FEI's elasticity with regard to natural gas overall, and breakout by region if available.

[2] R^2 is the simple square of the correlation coefficient (R) which demonstrates that only a small percentage of the change in UPC is caused by the change in price per GJ.

Response:

Please refer to the responses to BCUC IRs 2.19.5 and 2.19.6.

14.4 Please provide a similar table using price per GJ and UPC for FEI's natural gas distribution overall and by region including Mainland and Inland.

Response:

Please refer to the following tables for the requested information for both FEI overall (defined as Mainland and consistent with FEI's response in BCUC IR 1.5.1 which includes Lower Mainland, Inland, Columbia, Vancouver Island, and Whistler) and FEI Inland. It can be seen that the Rate Schedule (RS) 1 correlation is positive, indicating consumption **increases** with price. FEI concludes that this result demonstrates there is no causal relationship between price and UPC in these regions. The correlation for residential Inland customers, while negative, is very small.

For commercial customers in RS 2 and 3, the correlation between change in UPC and change in commodity price is higher, which is expected as commercial customers tend to be more price sensitive as it relates to the financial performance of their operations. However, the analysis demonstrates that commodity price is only one of the many factors that impact the change in UPC.

FEI Mainland (i.e., FEI Overall)

FEI Revenue per GJ	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Rate Schedule 1	12.00	11.81	10.95	10.25	10.14	10.93	10.43	8.94	9.18	8.75
Rate Schedule 2	10.81	10.54	9.66	8.89	8.85	9.49	8.82	7.36	7.58	7.11
Rate Schedule 3	10.81	10.54	9.33	8.67	8.49	9.13	7.53	6.08	6.37	5.95

FEI UPC (GJ)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Rate Schedule 1	89.1	88.4	86.3	87.6	84.7	84.2	84.4	87.5	85.8	85.1
Rate Schedule 2	325	316	318	341	332	331	333	339	337	332
Rate Schedule 3	3,480	3,485	3,588	3,684	3,610	3,573	3,587	3,721	3,692	3,550

Correlation Coefficient (R)	
Rate Schedule 1	0.42
Rate Schedule 2	(0.71)
Rate Schedule 3	(0.67)

1 **FEI Inland**

Inland Revenue per GJ	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Rate Schedule 1	11.65	11.47	10.53	9.81	9.68	10.51	10.43	8.94	9.18	8.75
Rate Schedule 2	10.57	10.33	9.32	8.50	8.47	9.13	8.82	7.36	7.58	7.11
Rate Schedule 3	9.67	9.39	9.33	8.67	8.49	8.09	7.53	6.08	6.37	5.95

Inland UPC (GJ)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Rate Schedule 1	76.9	75.7	74.7	77.0	73.6	75.1	76.1	77.8	76.7	75.6
Rate Schedule 2	282	276	273	294	284	290	293	293	288	284
Rate Schedule 3	3,424	3,495	3,441	3,774	3,664	3,780	4,052	3,872	3,722	3,423

Correlation Coefficient (R)	
Rate Schedule 1	(0.12)
Rate Schedule 2	(0.52)
Rate Schedule 3	(0.38)

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15. Reference: Exhibit B-5, CEC 1.3.2 and B-2, BCUC 1.3.1 and 1.1.1 and 1.8.2

3.2 Please provide a list of costs and benefits for Revelstoke ratepayers and a list of costs and benefits for non-Revelstoke ratepayers.

	Benefits	Costs
Revelstoke customers	1-Increased rate stability of commodity-related rates as they will be amalgamated with the commodity costs of natural gas which are historically more stable; 2-Total annual bill savings of approximately $407 per year for an average Revelstoke propane residential customer with 50 GJ per year consumption; 3-GHG emission reduction in Revelstoke from potential conversion from heating oil to propane; and 4-Encourage economic development and support creation and retention of jobs. Please refer to the response to BCUC IR 1.2.10.	5-No costs to Revelstoke customers.

1.1.1 If confirmed, please explain FEI's rationale for proposing the Revelstoke propane amalgamation at this time.

Response:

FEI's proposal to amalgamate the Revelstoke propane portfolio costs with the FEI natural gas portfolio costs will provide Revelstoke customers with rate stability and lower energy costs that match that of FEI's natural gas customers. In support of BC's energy objectives under Section 2(h) and 2(k) of the *Clean Energy Act,* the Revelstoke annual energy bill reductions proposed may contribute to encouraging other Revelstoke energy users to switch from higher-carbon heating oil to propane, economic development, creation and retention of jobs.

8.2 Please clarify the impact to the total capital cost for the upgrade if additional commercial customers were to switch to propane.

Response:

As discussed in the response to BCUC IR 1.7.4, FEI is not expecting additional commercial customers in Revelstoke to switch to propane. However, the potential upgrades to the Revelstoke plant that would be required to support the 1,063 residential conversions captured in the Upper Bound scenario is also sufficient to support the equivalent of an additional 150 average small commercial customers before requiring any additional plant upgrades. FEI believes the currently identified upgrades allow room for additional commercial growth should it materialize with little or no additional impact to the total capital cost.

15.1 Please describe and provide further evidence with quantification of economic development that could occur as a result of the energy bill reductions.

Response:

Please refer to the response to BCUC IR 2.16.9.

15.2 Would commercial enterprises be likely to expand their production based on lower energy rates? Please explain and provide quantification if available.

Response:

Commercial customers may invest in added staff and research or production capacity in Revelstoke. However, multiple factors influence such consumption and production decisions and the specific quantitative effects in Revelstoke are uncertain as FEI does not have any economic input-output factors specific to Revelstoke.

16. Reference: Exhibit B-2, BCUC 1.2.10

2.10 Please discuss how FEI's proposal supports the creation and retention of jobs.

Response:

Lower and more predictable energy costs tend to result in better economic conditions which drive investment and the creation and retention of jobs.

The Application's proposed Option 1 would mitigate rate volatility and provide rate relief to FEI's Revelstoke propane customers. Energy costs can account for a significant proportion of input costs for commercial and industrial activities. As such, less volatile (and thus more predictable) as well as lower energy input costs could free up funds that commercial and industrial enterprises may use for investments, such as the creation and retention of jobs. Likewise, less volatile and lower energy costs for residential propane customers in Revelstoke, may enable these customers to direct portions of their household funds away from energy demand and towards other forms of consumption that may support local economic activity and thus indirectly lead to the creation and retention of jobs. As outlined in Table 5-1 of the Application, the proposed changes would result in significant average annual bill reductions for Revelstoke customers while average annual bill increases for FEI natural gas customers would remain small.

16.1 Please provide quantification of the job creation and retention that could occur as a result of the annual bill reductions, if available.

Response:

Please refer to the response to CEC IR 2.15.1.

17. Reference: Exhibit B-5, CEC 1.2.2 and BCUC 1.8.3

2.2 Please provide a discussion of any alternatives that FEI considered in response to the requirement.

Response:

Please refer to the response to BCUC IR 1.8.3 for a comparison of alternatives that involve capital investment by FEI (i.e., physical pipeline and virtual CNG/LNG pipelines) that FEI has investigated in the past to address rate stability and provide rate relief for Revelstoke customers. Please also refer to the response to BCUC IR 1.12.3 for other non-capital solutions that FEI has explored to address the objectives of this Application.

As demonstrated in the table below, the current Application for amalgamating FEI's propane and natural gas supply cost portfolios represents a least cost, innovative non-capital solution to virtually connecting Revelstoke customers to the natural gas system. The Application minimizes the potential impact to natural gas ratepayers while also alleviating the geographic disadvantage faced by Revelstoke customers whose energy costs currently reflect this disadvantage via the cost of propane. In accordance with common rate setting principles, the Application treats Revelstoke customers in the same manner as other gas customers whose rates are set without regard to their geographic condition. Thus, the Application conserves resources and represents a fair and reasonable solution to overcome geographic disparity impacting energy costs in Revelstoke.

	Proposed Gas Cost Amalgamation - *Revelstoke Propane System Upgrade @ Upper Bound Scenario* ($2019)	Virtual LNG Pipelilne ($2019)	Physical Natural Gas Pipeline ($2019)
Capital Costs	$ 2.798 million (If all identified Upper Bound conversions materialize immediately)	$ 26 million	$ 308 million
O&M Costs (Annual)	n/a	$ 1.2 million	$ 0.380 million
Avg. Annual Cost of Service (by Revelstoke or FEI's customers)	$ 2.239 million (Forecast 2020 Propane Costs)	$ 6.200 million (Levelized Annual Incremental Revenue Requirement)	$ 30.600 million (Levelized Annual Incremental Revenue Requirement)
Incremental Rate Impact to FEI's customers, incl. Revelstoke	$ 0.011/GJ (Midstream Rate Impact)	$ 0.027/GJ (Delivery Rate Impact)	$ 0.200/GJ (Delivery Rate Impact)
FEI Annual Bill Impact (Avg. FEI residential @ 90 GJ per year)	$ 0.98	$ 2.43	$ 18.00
Revelstoke Annual Bill Relief (Avg. residential @ 50 GJ per year)	($407)	($ 406) Assume no contribution from Revelstoke	($ 397) Assume no contribution from Revelstoke

FEI notes that the above table does not differentiate whether the cost of service will be borne by Revelstoke's customers only, by all FEI's customers which include Revelstoke under the postage stamp delivery rates, or by a combination of FEI's customers with some form of contributions from other parties such as the City of Revelstoke or other levels of government. Rather, the purpose of the table is to highlight the fact that the proposed Application as a non-capital solution will have the least impact to all parties regardless if the impact is borne by Revelstoke's customers, FEI natural gas customers, or other parties in terms of any contribution that might be required.

17.1 Could the 'virtual connection' be considered a virtual 'system extension'? Please explain why or why not.

Response:

The City of Revelstoke is currently served by FEI so the connection, whether virtual or physical, would not be considered a system extension. However, as discussed in response to BCOAPO IR 1.9.1, if FEI proposed to convert Revelstoke to natural gas with either a physical or virtual pipeline, a business case would be developed in support of a CPCN. The CPCN would include all required information per the BCUC's CPCN Guidelines including an economic analysis of the proposed solution and alternatives considered.

17.2 Please provide a brief discussion of the customer contributions that are required in system extensions and how they are calculated.

Response:

While FEI would not consider connecting Revelstoke virtually or physically to be a system extension, FEI discusses the mechanism by which a customer contribution would be required and calculated for a system extension. The mechanism FEI uses is the mains extension test (MX Test).

The MX Test assesses whether the main extension is economic, or in other words, it establishes the appropriate level of investment FEI will make on behalf of a customer wishing to attach to FEI's distribution system.

The MX Test is a discounted cash flow (DCF) analysis that considers the revenues and costs associated with a planned main extension over a 40 year period. The MX Test produces a profitability index (PI) for a particular main extension, shown as the ratio of:

1. The discounted present value of the estimated net cash inflows over forty years; and
2. The discounted present value of the capital costs of attaching customers in the first ten years of the main extension.

The net present value (NPV) calculation is derived using a discount rate based on FEI's weighted average cost of capital (inflation adjusted and after tax). If the results of the MX Test do not meet the approved PI threshold, a financial contribution is required from a customer. Specifically, if an individual PI is 0.8 or greater, a system extension can proceed without the need for a customer contribution. If the PI is less than 0.8, a customer contribution is required to bring the PI up to the 0.8 threshold in order for the system extension to proceed. In aggregate, the portfolio of main extensions completed on an annual basis is to have a PI of 1.1.

17.3 Would it be reasonable for the City of Revelstoke, individual customers, or others to provide some form of customer contribution as part of a virtual system extension? Please explain why or why not.

Response:

As discussed in the response to BCOAPO IR 1.9.1, given the variables involved, FEI is unable to determine whether such an application would require a contribution or not.

17.4 Please provide a brief discussion of how such a customer contribution might be calculated and provide quantification in $ using the existing and expected customer base that would benefit from the change.

Response:

Please refer to the response to CEC IRs 2.17.2 and 2.17.3.

18. Reference: Exhibit B-2, CEC 1.10.2

> 10.2 Please provide any other scenarios relating to demand that FEI has developed with regard to this application, and particularly a 'most likely' scenario.
>
> **Response:**
>
> FEI, early on, considered scenarios that fell within the Upper Bound scenario, but did not develop these further or attempt to assign a probability or likelihood. As discussed in the response to BCUC IR 1.8.5, FEI included only the Upper Bound scenario in the Application to illustrate the extent of the Upper Bound impact in delivery rates that could be potentially triggered by the proposed amalgamation. The delivery rate impact of this Upper Bound scenario, if it materializes, is small at approximately 4 cents annually for an average FEI natural gas residential customers consuming 90 GJ per year. Any other scenario that requires system upgrades over a number of years beyond year 1 will have lower rate impacts than the Upper

18.1 Please confirm that the 4 cents annually is a per GJ rate.

Response:

Not confirmed. The delivery rate impact due to the capital upgrades under the Upper Bound scenario is $0.0004 per GJ as shown in Table 4-2, Line 11 of the Application. Therefore, for an average FEI natural gas residential customer consuming 90 GJs per year, the total **annual** bill impact will be $0.04 (90 GJs x $0.0004/GJ = $0.04 - Table 4-2, Line 13 of the Application).

18.2 Please provide the bill impacts per GJ and average bill impacts for each customer class assuming higher bound scenario with UPC increases in Revelstoke equivalent to those of the Mainland and Inland UPC.

Response:

Please refer to the response to BCUC IR 2.19.4.