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December 4, 2019

VIA ELECTRONIC MAIL

British Columbia Utilities Commission
6th Floor, 900 Howe Street
Vancouver, B.C. V6Z 2N3

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

Dear Sirs/Mesdames:

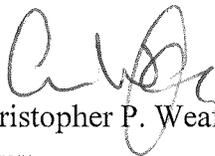
Re: FortisBC Energy Inc. Revelstoke Propane Portfolio Cost Amalgamation Application
~ Project No. 1599033

We are counsel to the Commercial Energy Consumers Association of British Columbia (the "CEC"). Attached please find the CEC's second set of Information Requests with respect to the above-noted matter.

If you have any questions regarding the foregoing, please do not hesitate to contact the undersigned.

Yours truly,

OWEN BIRD LAW CORPORATION



Christopher P. Weafer

CPW/ij
cc: CEC
cc: FortisBC Energy Inc.
cc: Registered Interveners

**COMMERCIAL ENERGY CONSUMERS ASSOCIATION
OF BRITISH COLUMBIA (“CEC”)**

INTERVENER INFORMATION REQUEST NO. 2

**FortisBC Energy Inc. (“FEI”) Revelstoke Propane Portfolio Cost Amalgamation
Application
Project No. 1599033**

December 4, 2019

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)	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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 ₂ e 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.

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 years. The second table illustrates the difference between Revelstoke UPC and the average Inland³ 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	4,208	4,885	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	284	284	290	298	298	288	288	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)	(2,574)

% of Light Fuel Oil Customers that Switch to Propane	Metric Tonnes of CO ₂ e 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.

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.

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

- 14.3 Please provide FEI’s elasticity with regard to natural gas overall, and breakout by region if available.
- 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.
- 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.
- 15.2 Would commercial enterprises be likely to expand their production based on lower energy rates? Please explain and provide quantification if available.

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.

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 - <u>Revelstoke</u> <u>Propane System Upgrade @</u> <u>Upper Bound Scenario</u> (2019\$)	Virtual LNG Pipeline (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.
- 17.2 Please provide a brief discussion of the customer contributions that are required in system extensions and how they are calculated.
- 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.
- 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.

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.

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.