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October 3

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:

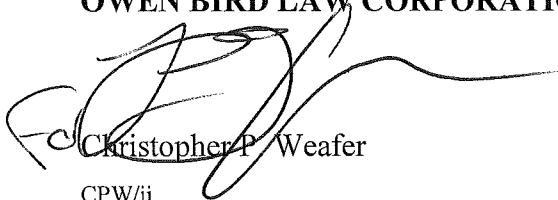
**Re: FortisBC Energy Inc. Revelstoke Propane Portfolio Cost Amalgamation Application
~ Project No. 1599033**

We are counsel to the Commercial Energy Consumers Association of British Columbia (the "CEC"). Attached please find the CEC's first 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/jj
cc: CEC
cc: FortisBC Energy Inc.
cc: Registered Interveners

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

INTERVENER INFORMATION REQUEST NO. 1

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

October 3, 2019

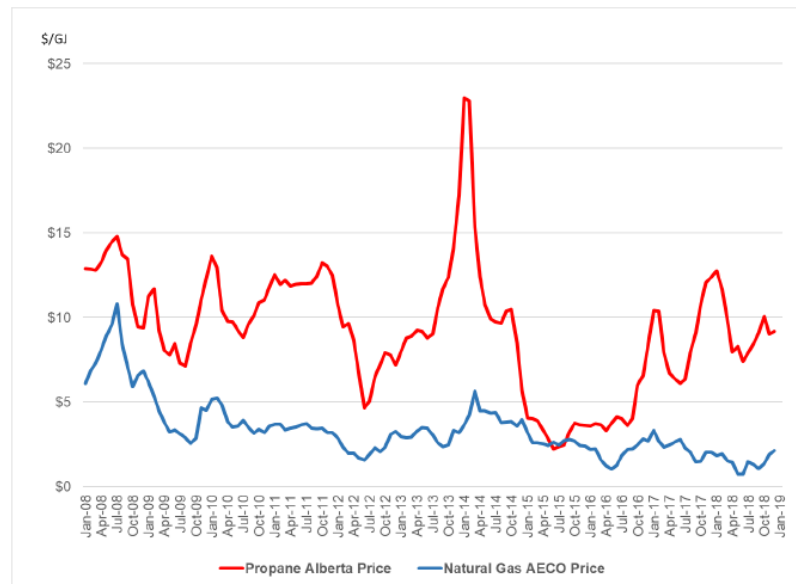
1. Reference: Exhibit B-1, page 1 and page 4

1.1 BACKGROUND

FortisBC Energy Inc. (FEI or the Company) currently operates a satellite, off-grid propane distribution system that serves approximately 1,500 residential and commercial customers in the Revelstoke area. Currently, propane is supplied to Revelstoke by railcars and tanker trucks, where it is offloaded into storage tanks, vaporized as needed, and distributed to customers through an underground piped distribution system. When the piped propane system was first introduced to Revelstoke in 1991, it was because Revelstoke was located at too great a distance from the natural gas distribution system and its forecast load was insufficient to make connection economic. Although FEI's customers in Revelstoke are charged the same delivery rate as those in other regions across BC (except Fort Nelson), they are charged a different cost for energy¹ relative to FEI's natural gas customers. Commodity prices for propane have historically been more volatile and higher than natural gas prices on an energy equivalent basis. As a result, Revelstoke propane customers have had less predictable and higher energy costs relative to FEI's natural gas customers. To address this disparity, FEI is applying to amalgamate its propane supply portfolio costs with its natural gas supply portfolio costs (the Application).

In this Application, FEI is proposing to amalgamate the Revelstoke propane supply costs with the FEI midstream natural gas supply resource costs in the Midstream Cost Reconciliation Account (MCRA) and to implement a revised propane gas cost rate setting mechanism. The proposed rate setting mechanism will provide Revelstoke customers with propane rate stability that matches the stability of FEI's natural gas customer rates, and can provide propane commodity rate relief to Revelstoke customers.

Figure 2-1: Comparison of Historical Propane and Natural Gas Commodity Prices



- 1.1 Please provide a brief history explaining why Revelstoke is not on FEI's natural gas distribution system.
 - 1.2 Please provide a graph with commodity prices per GJ for propane and natural gas dating back to 1991.
 - 1.3 Please provide a table comparing the total cost per GJ (as would occur on a customer bill) for a propane and natural gas customer for each rate class dating back to 1991. Please include each geographic area for the period prior to postage stamp rates.
2. **Reference: Exhibit B-1, page 1**

In this Application, FEI is proposing to amalgamate the Revelstoke propane supply costs with the FEI midstream natural gas supply resource costs in the Midstream Cost Reconciliation Account (MCRA) and to implement a revised propane gas cost rate setting mechanism. The proposed rate setting mechanism will provide Revelstoke customers with propane rate stability that matches the stability of FEI's natural gas customer rates, and can provide propane commodity rate relief to Revelstoke customers.

By capturing the small quantities of propane purchased for Revelstoke's requirements within the MCRA, alongside FEI's midstream natural gas supply resource costs, the cost fluctuations associated with the market price of propane will be neutralized. This results from combining a relatively small quantity of propane portfolio costs that is historically and typically more volatile, with a significantly more substantial quantity of natural gas midstream costs that is historically more stable than propane costs. Under the amalgamated cost portfolio, FEI proposes to set the same gas cost recovery rates for both FEI's natural gas customers and Revelstoke's propane customers.² Propane customers will continue to pay higher carbon tax rates than natural gas customers, in alignment with BC's energy objectives.

- 2.1 Please provide a discussion of FEI's impetus for undertaking this application. What factors indicated a need for change and when did FEI initially identify this requirement? Please provide any reports or studies to support the evidence.
- 2.2 Please provide a discussion of any alternatives that FEI considered in response to the requirement.
- 2.3 Why did FEI decide to do this at this time as opposed to when FEI applied for amalgamation and postage stamp rates in 2012?
- 2.4 Please identify and quantify any incremental costs that FEI experiences supporting different rates for propane and natural gas commodities.
- 2.5 Is FEI able to generate any O&M or other cost savings as a consequence of the proposed amalgamation?
 - 2.5.1 If no, please explain why not.
 - 2.5.2 If yes, please identify and quantify the potential cost savings.
 - 2.5.2.1 To whom would the cost savings accrue? Please explain.

3. Reference: Exhibit B-1, page 5 and 6

2.2 COMMODITY RATE STABILITY SUPPORTS BRITISH COLUMBIA'S ENERGY OBJECTIVES

This Application proposes changes to reduce future commodity rate volatility for FEI's Revelstoke propane customers. The proposed mechanism will provide Revelstoke propane customers with propane rate stability matching that of FEI natural gas customer rates and, based on the historical relationship between the natural gas and propane commodities, could also reduce annual energy bills for Revelstoke propane customers. Volatile energy input costs in a specific region can be a disadvantage to households and businesses that can lead to diminished economic development and job creation opportunities. FEI believes that stabilizing propane rates is beneficial for Revelstoke customers and may contribute to encouraging other Revelstoke energy users to switch from higher-carbon heating oil to propane.⁶ As such, the proposed changes support the following two of BC's energy objectives under section 2 of the *Clean Energy Act*.⁷

- (h) to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia; and
- (k) to encourage economic development and the creation and retention of jobs.

- 3.1 Please provide a Bonbright analysis for the proposal.
- 3.2 Please provide a list of costs and benefits for Revelstoke ratepayers and a list of costs and benefits for non-Revelstoke ratepayers.

4. Reference: Exhibit B-1, page 7

Since the 2016/17 contracting year, FEI's Revelstoke propane supply portfolio has included a combination of fixed price purchases for the winter season and floating price purchases throughout the year for delivered propane, as well as the localized propane tank storage. The cost of the propane supply portfolio is currently captured in the Propane Cost Deferral Account (PCDA) and is accounted for separately from FEI's natural gas supply portfolio cost. With this Application, FEI proposes to:

1. Amalgamate its Revelstoke propane supply portfolio costs with its natural gas supply portfolio costs by transferring the December 31, 2019 closing balance of the PCDA to FEI's existing MCRA as an opening balance adjustment, effective January 1, 2020;
 2. Starting January 1, 2020, capture all Revelstoke propane supply portfolio costs in the MCRA; and
 3. Eliminate the PCDA.
- 4.1 Please place the application establishing the Propane Cost Deferral Account on the evidentiary record.
- 4.2 Could a deferral account be utilized to smooth volatility in the propane commodity? Please explain why or why not.
- 4.2.1 If yes, what kinds of terms would FEI recommend to smooth volatility in the propane commodity? Please explain.

5. Reference: Exhibit B-1, page 8 and 9

3.2 CHANGES TO COMMODITY RATE SETTING FOR REVELSTOKE CUSTOMERS

When amalgamating the costs of the propane supply portfolio with the costs of FEI's natural gas supply portfolio, it is necessary to develop a new mechanism for setting the propane gas cost recovery rates for FEI's Revelstoke propane customers. FEI considered two options for calculating the propane gas cost recovery rates for Revelstoke customers: 1) equal gas cost recovery and 2) a five-year rolling average of the price difference between propane and natural gas. The remainder of this section discusses the two options in detail. This includes an illustration of the commodity related charges for both FEI's natural gas customers and Revelstoke propane customers under each option using the following assumptions:

- Commodity related charges are effective January 1, 2020, assuming the amalgamation occurs on January 1, 2020;
- Annual consumption of 50 GJ;
- Energy quantities are based on FEI's Revelstoke propane demand forecast for 2020 (see Section 4.1);
- Forecast natural gas midstream commodity related costs for January to December 2020 are based on FEI's 2019 Second Quarter Gas Cost Report, accepted on June 14, 2019, under BCUC Letter L-29-19;
- Forecast propane gas costs for January to December 2020 are based on FEI's Revelstoke 2019 Second Quarter Gas Cost Report, approved on June 13, 2019, under BCUC Order G-129-19; and
- Forecast closing balance of PCDA as of December 31, 2019 is based on FEI's Revelstoke 2019 Second Quarter Gas Cost Report, approved on June 13, 2019, under BCUC Order G-129-19.

3.2.1 Option 1 - Equal Gas Cost Recovery

Option 1 treats Revelstoke propane customers and FEI's natural gas customers the same with respect to the commodity related charges. Under this option, Revelstoke propane customers would pay the same gas cost recovery rates as FEI's natural gas customers. Table 3-1 below illustrates this treatment with reference to RS 1 based on the assumptions shown in Section 3.2 above. Please refer to Appendix A-1 for the calculation of the commodity related charges under Option 1 for FEI rate schedules (RS 1 to 7), including Revelstoke customers.

Table 3-1: Illustration of Equal Gas Cost Recovery Option

Line	Particular	Reference	FEI Natural Gas	Premium Multiplier	Revelstoke
1	<u>Rate Schedule 1 (Residential Service) - January 1, 2020</u>				
2	Commodity Related Charges				
3	Cost of Gas per GJ (\$/GJ)	Appendix A-1, Line 15	1.549		
4	Storage and Transport per GJ (\$/GJ)	Appendix A-1, Line 67 + Line 72	1.233		
5	Total Commodity Related Charges per GJ (\$/GJ)	FEI: Line 3 + Line 4; Revelstoke: Line 5 x Multiplier	2.782	x 1.000	2.782
6	Carbon Tax Rate (\$/GJ)	Current Rate from April 2019 to March 2020	1.986		2.407
7					
8	Average Demand per Year (GJ)		50.00		50.00
9	Total Commodity Related Charges (\$)	Line 5 x Line 8	139.10		139.10
10	Carbon Tax (\$)	Line 6 x Line 8	99.32		120.36
11	Total Commodity Related Charges, incl Carbon Tax (\$)	Line 9 + Line 10	238.42		259.46
12					
13	Annual difference between FEI Natural Gas and Propane (\$)				21.04

5.1 Why did FEI assume average annual consumption of 50 GJ?

5.2 Please provide average annual consumption for each rate class.

5.3 Please reconstruct the table using average residential annual consumption.

6. Reference: Exhibit B-1, page 12 and page 20

Table 3-3: Incremental Midstream Rate Impact to FEI's Natural Gas Customers

Line	Particular	Reference	Option 1 - Equal Cost Recovery	Option 2 - 5-Year Rolling Average- Indexed
1	Estimated FEI Revelstoke Propane Costs (\$000s)	See note 1	2,239	2,239
2	Estimated Propane recovery via Commodity Recovery Charge (\$000s)	See note 2	(373)	(1,144)
3	Total Propane Costs transfer to FEI MCRA (\$000s)	Line 1 + Line 2	1,865	1,094
4				
5	FEI Natural Gas Total Midstream Costs (\$000s)	See note 3	149,526	149,526
6	FEI MCRA Amortization (\$000s)	See note 4	13,907	13,907
7	TOTAL Natural Gas Midstream Costs (incl. MCRA Amortization)	Line 5 + Line 6	163,433	163,433
8				
9	Revelstoke Propane Demand Forecast (2020F) - TJ	Appendix A, Line 1 (RS-1R, 2R, 3R)	241	241
10	FEI MCRA Demand (Natural Gas Only) - TJ	Appendix A, Line 1 (RS-1 to 7)	138,206	138,206
11	TOTAL Demand (Natural Gas & Propane) - TJ	Line 9 + Line 10	138,447	138,447
12				
13	Average Midstream Rate - Natural Gas Only (\$/GJ)	Line 7 / Line 10	1.183	1.183
14	Average Midstream Rate - Natural Gas & Propane (\$/GJ)	(Line 3 + Line 7) / Line 11	1.194	1.188
15				
16	Average Midstream Rate Impact to FEI's Customer (\$/GJ)	Line 14 - Line 13	0.011	0.006
17	% Average Midstream Rate Impact to FEI's Customer	Line 16 / Line 13	0.93%	0.51%

1 - Appendix A, Line 11; Forecast Jan to Dec 2020 based on FEI Revelstoke 2019 Q2 Gas Cost Report

2 - Appendix A, Line 17; Assumed Commodity Cost Recovery Charge of \$1.549 per GJ (Eff. Jan 1, 2019) plus Propane Premium Multiplier

3 - Forecast Jan to Dec 2020 based on FEI 2019 Q2 Gas Cost Report, exclude T-Service UAF

4 - Forecast as of Jan 1, 2020 based on FEI 2019 Q2 Gas Cost Report (1/2 of Pre-Tax Amortization MCRA Deficit/(Surplus))

Table 5-1: Summary of Average Annual Bill Impact for Revelstoke Propane and FEI Natural Gas Customers (RS 1 to 3)²²

Rate Schedule	Average UPC (GJ)	Average Annual Bill Impact (\$)	Average Annual Bill Impact (%)
Revelstoke Customers (Propane)			
Rate Schedule 1 - Residential Service	50	\$ (407)	(45%)
Rate Schedule 2 - Small Commerical	300	\$ (2,116)	(49%)
Rate Schedule 3 - Large Commerical	6,650	\$ (48,259)	(56%)
FEI's Mainland and Vancouver Island (Natural Gas)			
Rate Schedule 1 - Residential Service	90	\$ 0.98	0.12%
Rate Schedule 2 - Small Commerical	340	\$ 4.00	0.16%
Rate Schedule 3 - Large Commerical	3,770	\$ 33.72	0.15%

6.1 Under each option please provide the range of bill impacts for FEI's natural gas customers by rate class in dollars per year.

6.2 Under each option please provide the maximum bill impact to natural gas customers by rate class in dollars and %.

- 6.3 Under each option please provide the range of bill impacts for FEI's propane customers by rate class in dollars per year.
- 6.4 Under each option please provide the maximum bill impact to propane customers by rate class in dollars and %.

7. **Reference: Exhibit B-1, page 12 and page 13**

Table 3-3: Incremental Midstream Rate Impact to FEI's Natural Gas Customers

Line	Particular	Reference	Option 1 - Equal Cost Recovery	Option 2 - 5-Year Rolling Average- Indexed
1	Estimated FEI Revelstoke Propane Costs (\$000s)	See note 1	2,239	2,239
2	Estimated Propane recovery via Commodity Recovery Charge (\$000s)	See note 2	(373)	(1,144)
3	Total Propane Costs transfer to FEI MCRA (\$000s)	Line 1 + Line 2	1,865	1,094
4				
5	FEI Natural Gas Total Midstream Costs (\$000s)	See note 3	149,526	149,526
6	FEI MCRA Amortization (\$000s)	See note 4	13,907	13,907
7	TOTAL Natural Gas Midstream Costs (incl. MCRA Amortization)	Line 5 + Line 6	163,433	163,433
8				
9	Revelstoke Propane Demand Forecast (2020F) - TJ	Appendix A, Line 1 (RS-1R, 2R, 3R)	241	241
10	FEI MCRA Demand (Natural Gas Only) - TJ	Appendix A, Line 1 (RS-1 to 7)	138,206	138,206
11	TOTAL Demand (Natural Gas & Propane) - TJ	Line 9 + Line 10	138,447	138,447
12				
13	Average Midstream Rate - Natural Gas Only (\$/GJ)	Line 7 / Line 10	1.183	1.183
14	Average Midstream Rate - Natural Gas & Propane (\$/GJ)	(Line 3 + Line 7) / Line 11	1.194	1.188
15				
16	Average Midstream Rate Impact to FEI's Customer (\$/GJ)	Line 14 - Line 13	0.011	0.006
17	% Average Midstream Rate Impact to FEI's Customer	Line 16 / Line 13	0.93%	0.51%

1 - Appendix A, Line 11; Forecast Jan to Dec 2020 based on FEI Revelstoke 2019 Q2 Gas Cost Report

2 - Appendix A, Line 17; Assumed Commodity Cost Recovery Charge of \$1.549 per GJ (Eff. Jan 1, 2019) plus Propane Premium Multiplier

3 - Forecast Jan to Dec 2020 based on FEI 2019 Q2 Gas Cost Report, exclude T-Service UAF

4 - Forecast as of Jan 1, 2020 based on FEI 2019 Q2 Gas Cost Report (1/2 of Pre-Tax Amortization MCRA Deficit/(Surplus))

Table 3-4: Incremental Midstream Rate Impact to FEI's Natural Gas Customers (Based on 2014 Historical Peak Propane Supply Cost)

Line	Particular		Option 1 - Equal Cost Recovery	Option 2 - 5-Year Rolling Average- Indexed
1	Estimated FEI Revelstoke Propane Costs (\$000s)	See note 1	3,904	3,904
2	Estimated Propane recovery via Commodity Recovery Charge (\$000s)	See note 2	(461)	(1,413)
3	Total Propane Costs transfer to FEI MCRA (\$000s)	Line 1 + Line 2	3,443	2,491
4				
5	FEI Natural Gas Total Midstream Costs (\$000s)	See note 3	149,526	149,526
6	FEI MCRA Amortization (\$000s)	See note 4	13,907	13,907
7	TOTAL Natural Gas Midstream Costs (incl. MCRA Amortization)	Line 5 + Line 6	163,433	163,433
8				
9	Revelstoke Propane Demand Forecast (2020F) - TJ ⁵	Appendix A, Line 1 (RS-1R, 2R, 3R)	298	298
10	FEI MCRA Demand (Natural Gas Only) - TJ	Appendix A, Line 1 (RS-1 to 7)	138,206	138,206
11	TOTAL Demand (Natural Gas & Propane) - TJ	Line 9 + Line 10	138,504	138,504
12				
13	Effective Midstream Rate - Natural Gas Only (\$/GJ)	Line 7 / Line 10	1.183	1.183
14	Effective Midstream Rate - Natural Gas & Propane (\$/GJ)	(Line 3 + Line 7) / Line 11	1.205	1.198
15				
16	Midstream Rate Impact to FEI's Customer (\$/GJ)	Line 14 - Line 13	0.022	0.015
17	% Midstream Rate Impact to FEI's Customer	Line 16 / Line 13	1.86%	1.27%

1 - Estimated based on historical highest propane cost at FEI Revelstoke 2014 Q4 Gas Cost Report

2 - Assumed Commodity Cost Recovery Charge of \$1.549 per GJ (Eff. Jan 1, 2019) plus Propane Premium Multiplier

3 - Forecast Jan to Dec 2020 based on FEI 2019 Q2 Gas Cost Report, exclude T-Service UAF

4 - Forecast as of Jan 1, 2020 based on FEI 2019 Q2 Gas Cost Report (1/2 of Pre-Tax Amortization MCRA Deficit/(Surplus)

5 - Assume all conversion to occur in 2020

7.1 Under the scenario depicted in Table 3-4, the % midstream rate impact to FEI's customers is about double that shown in Table 3-3. Is it fair to say that the total bill impacts would be roughly double as well under the scenario in Table 3-4? Please explain why or why not and quantify if there is a material difference.

7.1.1 If there is a material difference other than being approximately double, please provide bill impacts for each rate class under the scenario from Table 3-4.

8. Reference: Exhibit b-1, page 14

Table 3-5: Comparison of Propane Gas Cost Recovery Rates Calculation Options

	Option 1 – Equal Natural Gas and Propane Cost Recovery	Option 2 – Five-Year Rolling Price Difference
Mitigates Propane Rate Volatility	Yes	Yes
Provides Rate Relief for Revelstoke Propane Customers	Yes	No
Midstream Rate Impact for FEI Natural Gas Customers	Small	Small
Supports BC's Energy Objectives	Yes	Yes

Fully amalgamating the propane and natural gas portfolio costs on an equal basis (as proposed in Option 1) ensures that FEI customers in Revelstoke do not experience differing cost of energy recovery rates due to their location within FEI's service territory. This supports equality of investment and job creation across the province. With the exception of Revelstoke and Fort Nelson¹⁷, FEI's customers already pay the same cost of energy recovery rates no matter where they are located within the service area. FEI's Revelstoke propane customers are different from FEI's natural gas customers because they use a different fuel type. However, geographical location itself is the key cause for this difference in fuel type. As such, applying equal cost of energy recovery rates to FEI's Revelstoke propane customers represents an improvement to the current situation in line with the accepted principle of common rates across geographical locations within FEI's service territory.

Further, neither of the options preclude future review of potential options to upgrade the Revelstoke propane system to natural gas, which may include consideration of alternatives such as a natural gas pipeline, liquefied natural gas (LNG) supply, or compressed natural gas (CNG) supply in consideration of both the economic and non-financial benefits at the time.

- 8.1 Please confirm that FEI is requesting Option 1.
- 8.2 Did FEI consider any other alternatives?
 - 8.2.1 If yes, please provide.
 - 8.2.2 If no, please explain why not.
- 8.3 Please identify any instances in BC in which customers are charged the same commodity rates for different commodities.
- 8.4 Please provide any instances that FEI is aware of in which the same commodity rates are charged for different commodities in other jurisdictions.
- 8.5 Please confirm that FEI is proposing to create a cross-subsidy of Revelstoke propane customers by natural gas customers.
 - 8.5.1 Please identify the primary purpose in doing so.
 - 8.5.2 Please provide a discussion of the importance of proceeding quickly, versus deferring for 1, 3, 5 or 10 years.
- 8.6 Is there currently customer demand for natural gas, LNG or CNG in Revelstoke?
 - 8.6.1 If yes, please quantify.
- 8.7 To what extent has FEI investigated the possibility of converting Revelstoke to a) natural gas, b) LNG or c) CNG to date? Please provide any reports or studies that FEI has undertaken.
- 8.8 If FEI has not investigated the possibility of converting Revelstoke to natural gas, LNG or CNG, please explain why not, and whether or not it expects to do so in the future.

8.8.1 If FEI expects to undertake such studies in the future, please explain when that is expected to occur.

8.8.1.1 Will the Commission receive such reports? Please explain.

8.9 Would FEI agree that promoting conversion to propane from other fuels is incompatible with converting Revelstoke to natural gas, LNG or CNG? Please discuss.

9. **Reference: Exhibit B-1, page 15**

4 FORECAST LOAD GROWTH AND IMPACTS ON THE REVELSTOKE DISTRIBUTION SYSTEM

Another benefit of the rate stability and rate relief offered to Revelstoke customers by the proposed amalgamation of FEI's propane supply costs into the natural gas supply costs would be accelerated load growth in Revelstoke with conversions from other fuel types (e.g., from heating oil to propane, which would provide associated GHG emissions benefits). This potential load growth could also lead to accelerated capital upgrade requirements for the Revelstoke distribution system. In this section, FEI quantifies the potential impact of conversions on customer delivery rates by using an Upper Bound scenario and calculating the associated delivery rate impact of a large number of conversions occurring in the first year after the proposed changes become effective (i.e., 2020 or Year 1). This, in turn, triggers the need for immediate capital upgrades to the existing propane distribution system in order to serve the additional load. This Upper Bound scenario represents the Upper Bound rate and bill impact on FEI and Revelstoke customers as all conversions and capital upgrades would occur in the first year after the proposed amalgamation rather than gradually over time. FEI believes the Upper Bound scenario is unlikely due to the practicalities involved with conversions (energy users making conversion decisions over time, planning their conversions, purchasing new appliances, having to rely on contractor capacity for completing their conversions, etc.), but this is still useful as it helps to illustrate the Upper Bound rate and bill impact on FEI and Revelstoke customers if conversions occur rapidly.

9.1 Has the current difference in propane and natural gas costs contributed to customer demand to have natural gas installed in Revelstoke?

9.1.1 If yes, does FEI expect that such demand will be reduced by the proposed change? Please explain why or why not.

9.1.2 Would FEI agree that customers who had recently moved from one fuel source to propane be less interested in supporting the installation of natural gas distribution in Revelstoke? Please explain.

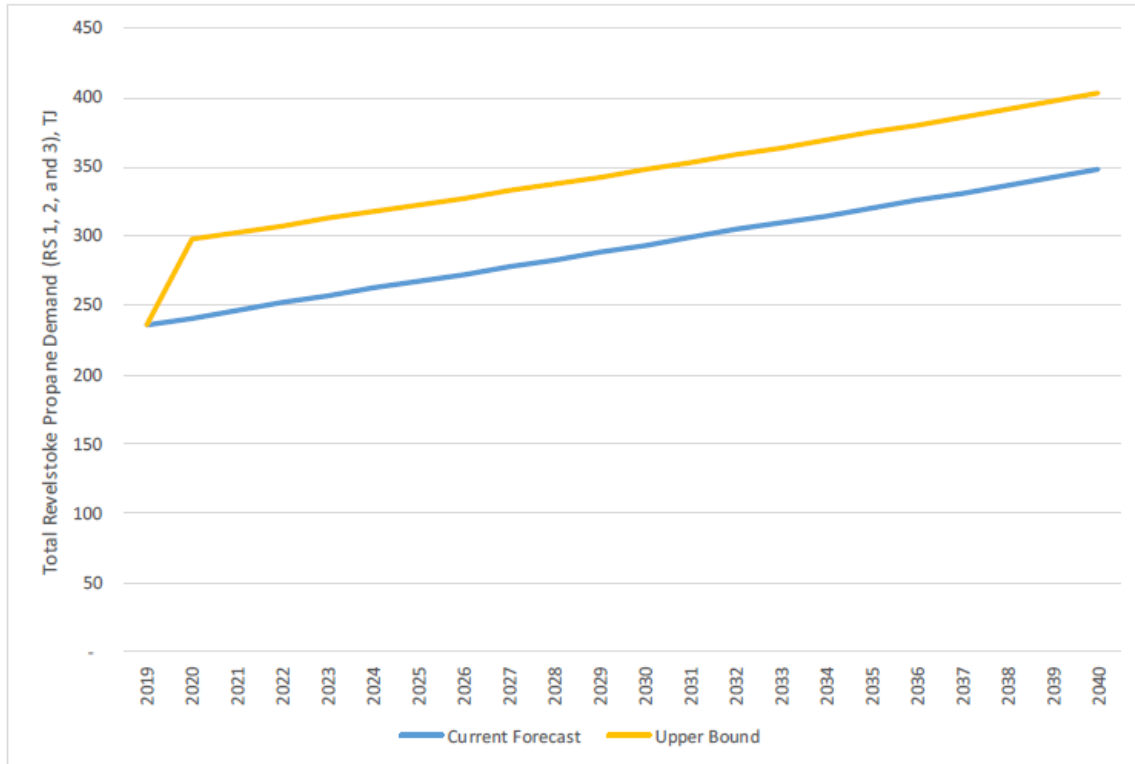
4.1 UPPER BOUND DEMAND FORECAST

Based on FEI's geographic information system (GIS), FEI identified 1,063 residential dwellings within 30 metres of an existing main in Revelstoke that are currently not FEI Revelstoke propane customers. Since there are incremental connection costs associated with residential dwellings that are greater than 30 metres from an existing main¹⁸, FEI believes these dwellings represent the extent of the customers that are likely to consider conversion to propane service. Since the number and evolution of conversions over time is uncertain, FEI assumed all identified 1,063 residential dwellings will connect to FEI's propane system in Revelstoke in 2020 to illustrate an Upper Bound delivery rate impact¹⁹ on FEI and Revelstoke customers. FEI notes that no conversion additions were forecasted for commercial customers in Revelstoke under this Upper Bound scenario as FEI assumes commercial customers that have the ability to take propane service have done so already.

- 9.2 Please provide estimates for ratepayers (in each rate class if different) to convert to propane from other typical fuel types.

10. Reference: Exhibit B-1, page 17 and 18

Figure 4-2: Total Annual Propane Demand in TJs



Figures 4-1 and 4-2 above show that, in the unlikely event that all 1,063 residential dwellings identified within 30 metres of an existing main in Revelstoke convert to propane immediately in 2020, the total propane demand in Revelstoke is forecasted to increase by approximately 26 percent, from the current forecast demand of 236 TJ to 298 TJ in 2020. In the following sections, FEI outlines the capital upgrades that would be required to Revelstoke's propane distribution system based on this Upper Bound demand forecast as shown in Figure 4-2 above and the resulting Upper Bound delivery rate impact to both FEI's and Revelstoke's customers if the Upper Bound scenario were to occur.

4.2 REQUIRED DISTRIBUTION SYSTEM UPGRADES

FEI applied its standard peak demand forecast method to the customer forecasts discussed in Section 4.1. Hydraulic models were then developed to determine the extent of system upgrades required to support the growth within the 20-year forecast horizon under the Upper Bound scenario. Based on the forecasted growth under the Upper Bound scenario, the existing distribution system in Revelstoke will require three additional propane storage tanks and a distribution main upgrade in order to serve Revelstoke's existing customers as well as the additional load from the conversions as described in Section 4.1 above. The capital upgrades will have to be implemented immediately in the first year after the proposed amalgamation of propane and natural gas costs begins as the Upper Bound scenario assumes all additional conversions occur in the first year after the proposed amalgamation becomes effective. The total capital cost for the upgrade is estimated to be \$2.798 million in 2019 dollars. Table 4-1 below summarizes the estimated cost of system upgrade requirements for the Upper Bound scenario.

Table 4-1: Upper Bound Scenario System Upgrades

System Upgrade Type	Project Description	Project Estimate (2019 \$000s)
Propane Storage	3 new 30,000 USG storage Vessels	\$2,000
Distribution Mains	SI - 1140m x 219 DPPE Oscar St	\$798

- 10.1 Please provide the likelihood of the Upper Bound scenario occurring.
- 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.
- 10.3 Is FEI proposing to do the capital upgrades to support the Upper Bound scenario even though it is considered an unlikely scenario, or are the capital upgrades hypothetical? Please explain.
- 10.4 Assuming the capital upgrades will only occur if the Upper Bound scenario occurs, what will be the triggering event?
- 10.5 Does FEI require a partial level of capital upgrades if it experiences increases but not that which reaches the Upper Bound? Please discuss.
 - 10.5.1 Will the Commission be apprised of any capital upgrades that FEI undertakes as a result of this application?
 - 10.5.1.1 If yes, when and how would this be reported?
 - 10.5.1.2 If no, why not?

11. Reference: Exhibit B-1, page 20

5 TOTAL BILL IMPACTS TO FEI AND REVELSTOKE CUSTOMERS

Table 5-1 below summarizes the total cost of commodity recovery rate impact and the total annual bill impact for RS 1 to 3 customers resulting from the proposed amalgamation of FEI's propane and natural gas supply costs and the preferred rate setting Option 1 (equal commodity cost recovery between propane and natural gas). For detailed calculations as well as the total annual bill impact for FEI's RS 4 to 7 customers, please refer to Appendix D. FEI notes the total annual bill impact includes the impact to the commodity cost recovery rate only as discussed in Section 3. There is no delivery rate impact when rounded to three decimal places even under the Upper Bound scenario where all residential dwellings within 30 metres of an existing main convert to propane immediately in the first year of the proposed amalgamation (as discussed in Section 4 above).

Table 5-1: Summary of Average Annual Bill Impact for Revelstoke Propane and FEI Natural Gas Customers (RS 1 to 3)²²

Rate Schedule	Average UPC (GJ)	Average Annual Bill Impact (\$)	Average Annual Bill Impact (%)
<u>Revelstoke Customers (Propane)</u>			
Rate Schedule 1 - Residential Service	50	\$ (407)	(45%)
Rate Schedule 2 - Small Commerical	300	\$ (2,116)	(49%)
Rate Schedule 3 - Large Commerical	6,650	\$ (48,259)	(56%)
<u>FEI's Mainland and Vancouver Island (Natural Gas)</u>			
Rate Schedule 1 - Residential Service	90	\$ 0.98	0.12%
Rate Schedule 2 - Small Commerical	340	\$ 4.00	0.16%
Rate Schedule 3 - Large Commerical	3,770	\$ 33.72	0.15%

11.1 Please provide the above table with Option 2.