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June 1, 2022

British Columbia Utilities Commission  
Suite 410, 900 Howe Street  
Vancouver, B.C.  
V6Z 2N3

Attention: Mr. Patrick Wruck, Commission Secretary

Dear Mr. Wruck:

**Re: FortisBC Energy Inc. (FEI)**

**Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application) ~ Project No. 1599246**

**Response to the British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence on Common Rates**

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On August 12, 2021, FEI filed the Application referenced above. In accordance with British Columbia Utilities Commission letter dated May 30, 2022 (Exhibit A-15), FEI respectfully submits the attached response to BCUC IR No. 1 on Rebuttal Evidence on Common Rates.

If further information is required, please contact the undersigned.

Sincerely,

**FORTISBC ENERGY INC.**

***Original signed:***

Diane Roy

Attachments

cc (email only): Registered Parties

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 1

	<b>Table of Contents</b>	<b>Page No.</b>
1		
2	<b>A. PHASE-IN OF COMMON RATES AND BENEFITS FOR COMMERCIAL</b>	
3	<b>CUSTOMERS .....</b>	<b>1</b>
4	<b>B. RATE STABILITY AND OTHER BENEFITS OF COMMON RATES.....</b>	<b>8</b>
5	<b>C. FEI'S CONSULTATION PROCESS .....</b>	<b>16</b>
6	<b>D. FEI'S DEMAND FORECAST METHODOLOGY .....</b>	<b>19</b>
7		
8		

**A. PHASE-IN OF COMMON RATES AND BENEFITS FOR COMMERCIAL CUSTOMERS**

**1.0 Reference: PHASE-IN OF COMMON RATES AND BENEFITS FOR COMMERCIAL CUSTOMERS**

**Exhibit B-15 (Rebuttal Evidence), Q3, p. 2; Exhibit B-7, FNDCC-NRRM IR 8.1**

**FEFN Effective Delivery Rate for all Customers**

On page 2 of FortisBC Energy Inc.'s (FEI's) Rebuttal Evidence, FEI states that the Fort Nelson Service Area (FEFN) effective delivery rate for all customers (i.e. total FEFN delivery margin divided by total FEFN demand) is currently higher than FEI's effective delivery rate for all customers.

In response to Fort Nelson & District Chamber of Commerce and Northern Rockies Regional Municipality (FNDCC-NRRM) Information Request (IR) 8.1, FEI stated:

[...] using 2022 Forecast as an example, FEI's effective delivery rate across all non-bypass rate classes is \$4.875 per GJ [gigajoule], which is lower than FEFN's effective delivery rate of \$5.341 per GJ across all non-bypass rate classes.

1.1 Please provide a table summarizing FEFN's effective delivery rate (\$ per GJ) for all customers as compared to FEI's effective delivery rate for all customers (excluding bypass customers) for 2011 to 2022 Actual.

1.1.1 Please provide a calculation of the average difference between FEFN and FEI rates from the proceeding IR over the 10-year period between January 1, 2011 and January 1, 2022.

**Response:**

Please refer to Table 1 below summarizing FEI's and FEFN's effective delivery rates (\$ per GJ) from 2011 to 2022. As Table 1 below shows, since 2017, FEFN's effective delivery rate has been

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 2

1 higher than FEI's effective delivery rate. Over the 12-year period from 2011 to 2022, FEI's  
2 effective delivery rate is on average \$0.032 per GJ less than FEFN's effective delivery rate.

3 **Table 1: Comparison of FEI and FEFN Effective Delivery Rates from 2011 to 2022**

Effective Delivery Rate (\$/GJ)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Avg.
FEI (non-bypass only)	3.281	3.543	3.758	3.489	4.061	4.108	4.088	4.056	4.039	4.168	4.510	4.875	3.998
FEFN	2.946	2.961	3.014	2.986	3.511	3.840	4.172	4.446	4.770	5.234	5.145	5.342	4.031
4 <b>Difference (FEI-FEFN)</b>	0.335	0.583	0.744	0.502	0.551	0.268	(0.084)	(0.390)	(0.731)	(1.066)	(0.635)	(0.466)	(0.032)

5  
6  
7  
8 1.2 Please provide tables comparing the delivery rate by customer class (i.e.  
9 Residential, Small Commercial, Large Commercial) for FEFN and FEI from 2011  
10 to 2022 Actual.

11 **Response:**

12  
13 Please see Tables 1, 2 and 3 below for the delivery rate comparison of residential (RS 1), small  
14 commercial (RS 2), and large commercial (RS 3) rate classes between FEFN and FEI from 2011  
15 to 2022. FEI notes FEFN's rates were bundled prior to 2019.

16 **Table 1: Comparison of Residential RS 1 Delivery Rates between FEI and FEFN from 2011 to 2022**

Effective Date	FEI			FEFN					
	Residential (RS 1)			Residential (RS 1)					
	BCUC Order	Basic Charge (\$/Day)	Delivery Charge (\$/GJ)	BCUC Order	Bundled Rate		Unbundled Rate		
					Delivery Charge per Day (incl. first 2 GJ per month)	Delivery Charge per GJ (Next 28 GJ in any month)	Delivery Charge per GJ (Excess of 30 GJ in any month)	Basic Charge (\$/Day)	Delivery Charge (\$/GJ)
Jan-11	G-141-09	0.3890	3.275	G-27-11	0.3141	2.410	2.340		
Jan-12	G-177-11	0.3890	3.559	G-177-11	0.3141	2.410	2.340		
Jun-12	G-44-12	0.3890	3.488	n/a	0.3141	2.410	2.340		
Jan-13	G-44-12	0.3890	3.790	G-177-11	0.3175	2.461	2.391		
Jul-13	G-75-13	0.3890	3.663	n/a	0.3175	2.461	2.391		
Jan-14	G-150-13	0.3890	3.741	G-17-14	0.3175	2.461	2.391		
Nov-14	G-138-14/G-164-14	0.3890	3.761	n/a	0.3175	2.461	2.391		
Jan-15	G-86-15	0.3890	4.216	G-192-14	0.3947	3.060	2.973		
Aug-15	G-86-15/G-106-15	0.3890	4.258	G-97-15	0.3701	2.869	2.787		
Jan-16	G-193-15	0.3890	4.370	G-97-15	0.4048	3.138	3.048		
Jan-17	G-182-16	0.3890	4.370	G-162-16	0.4321	3.350	3.254		
Jan-18	G-196-17	0.3890	4.370	G-162-16	0.4588	3.557	3.455		
Nov-18	G-135-18	0.4085	4.311	n/a	0.4588	3.557	3.455		
Jan-19	G-30-19	0.4085	4.376	G-48-19				0.3701	3.712
Jan-20	G-302-19	0.4085	4.499	G-48-19				0.3701	4.118
Jan-21	G-319-20	0.4085	4.915	G-78-21				0.3701	4.118
17 Jan-22	G-366-21	0.4085	5.455	G-144-22				0.3701	4.296

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 3

**Table 2: Comparison of Small Commercial RS 2 Delivery Rates between FEI and FEFN from 2011 to 2022**

Effective Date	FEI			FEFN					
	Small Commercial (RS 2)			Small Commercial (RS 2, RS 2.1 Prior to Jan. 2019)					
	BCUC Order	Basic Charge (\$/Day)	Delivery Charge (\$/GJ)	BCUC Order	Bundled Rate			Unbundled Rate	
					Delivery Charge per Day (incl. first 2 GJ per month)	Delivery Charge per GJ (Next 28 GJ in any month)	Delivery Charge per GJ (Excess of 30 GJ in any month)	Basic Charge (\$/Day)	Delivery Charge (\$/GJ)
Jan-11	G-141-09	0.8161	2.714	G-27-11	0.9193	2.710	2.624		
Jan-12	G-177-11	0.8161	2.928	G-177-11	0.9193	2.710	2.624		
Jun-12	G-44-12	0.8161	2.874	n/a	0.9193	2.710	2.624		
Jan-13	G-44-12	0.8161	3.099	G-177-11	0.9236	2.768	2.682		
Jul-13	G-75-13	0.8161	3.006	n/a	0.9236	2.768	2.682		
Jan-14	G-150-13	0.8161	3.064	G-17-14	0.9236	2.768	2.682		
Nov-14	G-138-14/G-164-14	0.8161	3.079	n/a	0.9236	2.768	2.682		
Jan-15	G-86-15	0.8161	3.411	G-192-14	1.1475	3.439	3.332		
Aug-15	G-86-15/G-106-15	0.8161	3.442	G-97-15	1.0783	3.232	3.131		
Jan-16	G-193-15	0.8161	3.523	G-97-15	1.1782	3.531	3.421		
Jan-17	G-182-16	0.8161	3.523	G-162-16	1.2566	3.776	3.649		
Jan-18	G-196-17	0.8161	3.523	G-162-16	1.3358	4.003	3.879		
Nov-18	G-135-18	0.9485	3.337	n/a	1.3358	4.003	3.879		
Jan-19	G-30-19	0.9485	3.384	G-48-19				1.2151	3.996
Jan-20	G-302-19	0.9485	3.472	G-48-19				1.2151	4.461
Jan-21	G-319-20	0.9485	3.773	G-78-21				1.2151	4.461
Jan-22	G-366-21	0.9485	4.165	G-144-22				1.2151	4.654

**Table 3 – Comparison of Large Commercial RS 3 Delivery Rates between FEI and FEFN from 2011 to 2022**

Effective Date	FEI			FEFN					
	Large Commercial (RS 3)			Large Commercial (RS 3, RS 2.2 Prior to Jan. 2019)					
	BCUC Order	Basic Charge (\$/Day)	Delivery Charge (\$/GJ)	BCUC Order	Bundled Rate			Unbundled Rate	
					Delivery Charge per Day (incl. first 2 GJ per month)	Delivery Charge per GJ (Next 28 GJ in any month)	Delivery Charge per GJ (Excess of 30 GJ in any month)	Basic Charge (\$/Day)	Delivery Charge (\$/GJ)
Jan-11	G-141-09	4.3538	2.318	G-27-11	0.9193	2.710	2.624		
Jan-12	G-177-11	4.3538	2.483	G-177-11	0.9193	2.710	2.624		
Jun-12	G-44-12	4.3538	2.442	n/a	0.9193	2.710	2.624		
Jan-13	G-44-12	4.3538	2.617	G-177-11	0.9236	2.768	2.682		
Jul-13	G-75-13	4.3538	2.543	n/a	0.9236	2.768	2.682		
Jan-14	G-150-13	4.3538	2.587	G-17-14	0.9236	2.768	2.682		
Nov-14	G-138-14/G-164-14	4.3538	2.599	n/a	0.9236	2.768	2.682		
Jan-15	G-86-15	4.3538	2.854	G-192-14	1.1475	3.439	3.332		
Aug-15	G-86-15/G-106-15	4.3538	2.877	G-97-15	1.0783	3.232	3.131		
Jan-16	G-193-15	4.3538	2.939	G-97-15	1.1782	3.531	3.421		
Jan-17	G-182-16	4.3538	2.939	G-162-16	1.2566	3.776	3.649		
Jan-18	G-196-17	4.3538	2.939	G-162-16	1.3358	4.003	3.879		
Nov-18	G-135-18	4.7895	2.940	n/a	1.3358	4.003	3.879		
Jan-19	G-30-19	4.7895	2.977	G-48-19				3.6845	3.492
Jan-20	G-302-19	4.7895	3.046	G-48-19				3.6845	3.839
Jan-21	G-319-20	4.7895	3.279	G-78-21				3.6845	3.839
Jan-22	G-366-21	4.7895	3.582	G-144-22				3.6845	3.970

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 4

On page 2 of FEI's Rebuttal Evidence, FEI states:

For the commodity rates, the historical difference between FEI and FEFN is small, and can be positive or negative at any given time[...] Over a 10-year period between January 1, 2011 and January 1, 2022, the average difference in the commodity rates between FEI and FEFN was \$0.0039 per GJ (i.e., equivalent to 0.098 percent of FEFN's current commodity rate of \$3.964 per GJ, effective April 1, 2022) [...]

For the mid-stream rates, FEI is not proposing to transition FEFN to a common midstream rate with FEI. FEI's proposal is to set FEFN's midstream rate at 5 percent of FEI's midstream rate which is a level consistent with what FEFN is currently being charged.

1.3 Please provide a table summarizing FEFN's 2011 to 2021 Actual and 2022 Forecast midstream rate as compared to 5 percent of FEI's midstream rate for the same period.

1.3.1 Please provide a calculation of the average difference between the rates from the preceding IR over the 10-year period between January 1, 2011 and January 1, 2022.

### **Response:**

FEI notes prior to 2019, FEFN's commodity rates were bundled and there was no separate commodity and midstream rates for FEFN. As such, FEI is unable to provide a direct comparison between FEFN's midstream rate and 5 percent of FEI's midstream rates for the entire period from 2011 to 2022. The only similar comparison would be between FEFN's total gas cost recovery charges (i.e., bundled commodity rates prior to 2019 or the sum of commodity and midstream rates post-2019) and FEI's commodity rates plus 5 percent of FEI's midstream rates.

Please see Table 1 below which demonstrates that the average difference for all three rate classes between FEFN's total gas cost recovery charges and FEI's commodity rates plus 5 percent of FEI's midstream rates is small. For residential customers, the average difference is approximately 5 cents per GJ higher than FEI, which is equivalent to \$6 higher for the average FEFN residential customer with an average UPC of 125 GJ per year. FEI considers this difference to be small, as referenced in the preamble to this IR, and is consistent with FEI's proposed approach to keep the commodity costs for FEFN's customers at a level consistent with what they are being charged today.

FEI notes that, although not reflected in the table below, it has applied to increase the commodity rates for both FEI and FEFN effective July 1, 2022. If approved, FEI's commodity rate would increase to \$5.907/GJ and FEFN's commodity rate would increase to \$6.041/GJ, which would result FEFN's commodity rate being higher than FEI's, opposite to the current commodity rate levels that were effective as of January 1, 2022. As mentioned on page 2 of FEI's Rebuttal Evidence (A3) and referenced in the preamble, the difference in commodity rates between FEI



FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 5

- 1 and FEFN can be positive or negative at any given time and it is mainly driven by the timing
- 2 difference of when changes in the commodity rates are triggered and generally will be aligned
- 3 over time.

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 6

1 **Table 1 – Comparison between FEFN Total Gas Cost Recovery Charges and FEI's Commodity Rates Plus 5 Percent of FEI's**  
2 **Midstream Rates**

Effective Date	FEI				FEFN				Residential RS 1			Small Commerical RS 2			Large Commerical RS 3		
	Commodity Rates (\$/GJ)	Midstream Rates (\$/GJ)			Bundled / Commodity Rates	Midstream Rates (\$/GJ)			FEI Commodity + 5% Midstream	FEFN Commodity + Midstream	Diff. (FEI- FEFN)	FEI Commodity + 5% Midstream	FEFN Commodity + Midstream	Diff. (FEI- FEFN)	FEI Commodity + 5% Midstream	FEFN Commodity + Midstream	Diff. (FEI- FEFN)
		RS 1	RS 2	RS 3		RS 1	RS 2	RS 3									
Jan 1, 2011	4.568	1.340	1.327	1.018	5.015				4.635	5.015	(0.380)	4.634	5.015	(0.381)	4.619	5.015	(0.396)
Oct 1, 2011	4.005	1.340	1.327	1.018	4.396				4.072	4.396	(0.324)	4.071	4.396	(0.325)	4.056	4.396	(0.340)
Jan 1, 2012	4.005	1.365	1.352	1.052	4.396				4.073	4.396	(0.323)	4.073	4.396	(0.323)	4.058	4.396	(0.338)
Apr 1, 2012	2.977	1.365	1.352	1.052	3.553				3.045	3.553	(0.508)	3.045	3.553	(0.508)	3.030	3.553	(0.523)
Jan 1, 2013	2.977	1.192	1.183	0.935	3.553				3.037	3.553	(0.516)	3.036	3.553	(0.517)	3.024	3.553	(0.529)
Jul 1, 2013	3.913	1.192	1.183	0.935	3.553				3.973	3.553	0.420	3.972	3.553	0.419	3.960	3.553	0.407
Oct 1, 2013	3.272	1.192	1.183	0.935	3.553				3.332	3.553	(0.221)	3.331	3.553	(0.222)	3.319	3.553	(0.234)
Jan 1, 2014	3.272	1.303	1.309	1.114	2.846				3.337	2.846	0.491	3.337	2.846	0.491	3.328	2.846	0.482
Apr 1, 2014	4.640	1.303	1.309	1.114	4.775				4.705	4.775	(0.070)	4.705	4.775	(0.070)	4.696	4.775	(0.079)
Oct 1, 2014	3.781	1.303	1.309	1.114	4.259				3.846	4.259	(0.413)	3.846	4.259	(0.413)	3.837	4.259	(0.422)
Jan 1, 2015	3.781	1.334	1.334	1.114	4.259				3.848	4.259	(0.411)	3.848	4.259	(0.411)	3.837	4.259	(0.422)
Apr 1, 2015	2.486	1.334	1.334	1.114	2.579				2.553	2.579	(0.026)	2.553	2.579	(0.026)	2.542	2.579	(0.037)
Jul 1, 2015	2.486	1.334	1.334	1.114	2.579				2.553	2.579	(0.026)	2.553	2.579	(0.026)	2.542	2.579	(0.037)
Jan 1, 2016	1.719	0.921	0.934	0.775	1.294				1.765	1.294	0.471	1.766	1.294	0.472	1.758	1.294	0.464
Apr 1, 2016	1.141	0.921	0.934	0.775	1.294				1.187	1.294	(0.107)	1.188	1.294	(0.106)	1.180	1.294	(0.114)
Oct 1, 2016	2.050	0.921	0.934	0.775	1.294				2.096	1.294	0.802	2.097	1.294	0.803	2.089	1.294	0.795
Jan 1, 2017	2.050	0.811	0.820	0.684	2.086				2.091	2.086	0.005	2.091	2.086	0.005	2.084	2.086	(0.002)
Jan 1, 2018	1.549	0.758	0.765	0.647	1.571				1.587	1.571	0.016	1.587	1.571	0.016	1.581	1.571	0.010
Jan 1, 2019	1.549	1.462	1.467	1.226	1.552	0.044	0.044	0.037	1.622	1.596	0.026	1.622	1.596	0.026	1.610	1.589	0.021
Jul 1, 2019	1.549	1.462	1.467	1.226	1.048	0.044	0.044	0.037	1.622	1.092	0.530	1.622	1.092	0.530	1.610	1.085	0.525
Jan 1, 2020	1.549	1.019	1.034	0.862	1.048	0.050	0.050	0.042	1.600	1.098	0.502	1.601	1.098	0.503	1.592	1.090	0.502
Aug 1, 2020	2.279	1.019	1.034	0.862	1.695	0.050	0.050	0.042	2.330	1.745	0.585	2.331	1.745	0.586	2.322	1.737	0.585
Oct 1, 2020	2.844	1.019	1.034	0.862	2.407	0.050	0.050	0.042	2.895	2.457	0.438	2.896	2.457	0.439	2.887	2.449	0.438
Jan 1, 2021	2.844	1.397	1.420	1.188	2.999	0.043	0.043	0.036	2.914	3.042	(0.128)	2.915	3.042	(0.127)	2.903	3.035	(0.132)
Oct 1, 2021	3.844	1.397	1.420	1.188	3.964	0.043	0.043	0.036	3.914	4.007	(0.093)	3.915	4.007	(0.092)	3.903	4.000	(0.097)
Jan 1, 2022	4.503	1.351	1.384	1.177	3.964	0.081	0.083	0.071	4.571	4.045	0.526	4.572	4.047	0.525	4.562	4.035	0.527
									Average Diff. (\$/GJ)			Average Diff. (\$/GJ)			Average Diff. (\$/GJ)		
									UPC			UPC			UPC		
									Average Diff. (\$/yr)			Average Diff. (\$/yr)			Average Diff. (\$/yr)		
									6			16			258		

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4

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 7

## 2.0 Reference: PHASE-IN OF COMMON RATES AND BENEFITS FOR COMMERCIAL CUSTOMERS

### Exhibit B-15, Q4, Table 1, p. 3

#### Incremental Revenue from FEFN with RS 1 Phase-in

On page 3 of FEI's Rebuttal Evidence, FEI provides Table 1 showing the incremental revenue collected by FEI From FEFN over the next 10 years, assuming all else being equal, when taking into account FEI's proposed phase-in of common rates for residential customers:

**Table 1: Incremental Revenue from FEFN with RS 1 Phase-in over a 10-year period**

Line	Particular	Reference	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
1	<b>FEFN Residential (RS 1)</b>											
2	Incremental Delivery Margin, excl. Phase-in (\$000s)	FNDCC-NRRM IR1 15.2	319	319	319	319	319	319	319	319	319	319
3	Phase-in Rider (\$000s)	Application Table 5-17, Line 10	(298)	(266)	(234)	(202)	(170)	(138)	(106)	(74)	(42)	-
4	Net Incremental Delivery Margin, incl. Phase-in (\$000s)	Line 2 + Line 3	21	53	85	117	149	181	213	245	277	319
5												
6	Cumulative Net Incremental Delivery Margin, incl. Phase-in (\$000s)	Sum of Line 4	1,662									
7												
8	<b>FEFN Small Commercial (RS 2)</b>											
9	Incremental Delivery Margin (\$000s)	FNDCC-NRRM IR1 15.2	(132)	(132)	(132)	(132)	(132)	(132)	(132)	(132)	(132)	(132)
10	Cumulative (10 yrs) Net Incremental Delivery Margin (\$000s)	Sum of Line 9	(1,318)									
11												
12	<b>FEFN Large Commercial (RS 3)</b>											
13	Incremental Delivery Margin (\$000s)	FNDCC-NRRM IR1 15.2	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)
14	Cumulative (10 yrs) Net Incremental Delivery Margin (\$000s)	Sum of Line 13	(302)									
15												
16	Total FEFN Net Incremental Delivery Margin, incl. RS 1 Phase-in (\$000s)	Line 4 + Line 9 + Line 13	(140)	(108)	(77)	(45)	(13)	19	51	83	115	157
17	Total Cumulative (10 yrs) Incremental Delivery Margin, incl. RS 1 Phase-in (\$000s)	Sum of Line 16	43									
18												
19	Average FEFN Incremental Delivery Margin per year (\$000s)	Line 17 / 10 yrs	4.3									
20	Proposed 2022 FEFN Delivery Margin	App E-1, Sch. 15, Line 13, Col 5	2,517									
21	% Impact compared to proposed 2022 FEFN Delivery Margin	Line 19 / Line 20	0.17%									

2.1 Please provide the supporting calculations for the incremental delivery margins in lines 9 (\$-132,000) and 13 (\$-30,000) of Table 1 from FEFN Small Commercial and FEFN Large Commercial customers, respectively.

### **Response:**

Please refer to FEI's response to FNDCC-NRRM IR1 15.2 on the Common Rate Application.



FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 8

## **B. RATE STABILITY AND OTHER BENEFITS OF COMMON RATES**

### **3.0 Reference: RATE STABILITY AND OTHER BENEFITS OF COMMON RATES**

**Exhibit B-15, Q6 – Q8, p. 5; Exhibit B-6, BCUC IR 12.4; BCUC Generic Cost of Capital (GCOC) proceeding, Exhibit B1-8, p. 38, Exhibit B1-9, BCUC IR 9.3; FEI Application for a Certificate of Public Convenience and Necessity for Approval of the Coastal Transmission System (CTS) Transmission Integrity Management Capabilities (TIMC) Project (CTS TIMC Application) proceeding, Exhibit B-5, BCUC IR 29.1; FEI Annual Review for 2022 Delivery Rates (2022 Annual Review) proceeding, Exhibit B-3, BCUC IR 1.2**

#### **Capital Spending**

On page 5 of FEI's Rebuttal Evidence, FEI states:

The large difference in number of customers between FEI and FEFN significantly outweighs other potential factors that may impact rates, such as capital costs or the impact of provincial policies.

Further, FEI also states that the rate stability benefits of common rates stem from the larger customer base, not from the level of capital spending in FEFN as compared to FEI. Finally, FEI states, "The risks of increasing capital expenditures given FEI's and FEFN's infrastructure would be similar."

3.1 Please explain the similarities in FEI and FEFN's infrastructure or other relevant factors which would result in similar risks of increasing capital expenditures in the future. Please also explain the differences, if any.

#### **Response:**

The risks of increasing capital expenditures would be similar for FEI and FEFN's infrastructure due to similarities in the age and estimated useful lives of FEI and FEFN infrastructure, their design philosophy and operating and maintenance standards, and the depreciation and net salvage rates applied to recover the costs of the assets.

FEI's and FEFN's infrastructure are similar in that they have been installed over the same period of time, and the design philosophy, standards and materials used in both the FEI and FEFN systems were and are essentially the same. This leads to the conclusion that changes to design philosophy, standards and materials available are likely to impact the FEFN system in the same manner as the changes will have on the FEI system. For example, when equipment such as pressure regulators or telemetry components become obsolete, changes will need to be made throughout both systems, just to a lesser extent in the FEFN system, which is no different than for other small systems throughout the FEI system.

FEFN applies the same operating and maintenance practices as FEI. For example, pressure regulation and measurement devices are assessed, maintained and upgraded in the same

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 9

manner as those throughout the FEI system. FEI carries out leak surveys and integrity and capacity assessments in the same manner, resulting in repairs and upgrades at a similar frequency and in a similar manner to similar piping within the FEI system.

FEI also explained the similarities in FEI's and FEFN's assets in the responses to FNDCC-NRRM IR1 4.1 and 4.2 in the 2022 RRA portion of the proceeding. This was summarized by the BCUC in the Decision and Order G-114-22 approving FEFN's 2022 Delivery Rates as follows (at page 9):

With respect to FEI's approved depreciation and net salvage rates, FEI states that these rates provide a reasonable representation of the useful life of, and net salvage on, the assets in the FEFN service area because (i) FEFN's assets were included in FEI's most recent depreciation study, (ii) the nature, and the useful life of, FEFN's assets are similar to FEI's assets, and (iii) FEFN's operating assets are subject to the same operating and maintenance standards as FEI's.

As part of Decision and Order G-114-22, the BCUC approved the adoption of the FEI depreciation and net salvage rates for FEFN assets, as such an approach would be consistent with FEI and desirable because of the degree of operational and administrative integration that already exists between FEI and FEFN.

There are no significant differences between FEI's and FEFN's infrastructure.

In response to BCUC IR 9.3 in the BCUC GCOC proceeding, FEI and FortisBC Inc. (collectively FortisBC Utilities or "FBCU") provided the following tables:

**Table 1: Updated Table 6-5 Capital Costs of FEI's Major Capital Projects for 2019 to 2026**

FEI's Major Capital Projects	Actuals		Pro-Forma						Total Project		Approval	Project Category
Capital Expenditures (C\$millions)	2019	2020	2021	2022	2023	2024	2025	2026	Costs			
Tilbury 1B	7.8	12.1	-	32.1	40.6	52.2	80.9	-	400.0	OIC	iii) Load Growth (LNG)	
Inland Gas Upgrades Project	8.2	50.1	99.3	93.5	67.4	31.2	-	-	360.2	BCUC	i) Maintenance/Replacement	
Okanagan Capacity Upgrade	-	7.9	11.3	113.5	139.2	-	-	-	271.3	Under Review	iii) Load Growth (Local)	
Pattullo Bridge Crossing Replacement	-	6.4	51.9	118.7	11.3	2.9	-	-	191.7	BCUC	i) Maintenance/Replacement	
TIMC (CTS)	-	9.4	21.3	7.4	4.5	92.5	2.9	-	137.8	Under Review	i) Maintenance/Replacement	
TIMC (ITS)	-	-	2.6	5.7	11.1	30.2	30.3	0.04	79.9	Developing	i) Maintenance/Replacement	
Advanced Metering Infrastructure	-	-	28.0	17.1	116.1	193.3	182.9	97.5	638.4	Under Review	ii) Resiliency and/or Supply Diversification	
Tilbury LNG Storage Expansion	-	8.6	4.6	18.0	165.8	251.7	210.2	110.9	769.0	Under Review	ii) Resiliency and/or Supply Diversification	
Sustainment and other capital	151.5	163.2	166.1	159.7	162.2	165.8	169.2	172.5	995.5		i) Maintenance/Replacement	
<b>Total</b>	<b>167.5</b>	<b>257.6</b>	<b>385.0</b>	<b>565.7</b>	<b>718.2</b>	<b>819.8</b>	<b>676.4</b>	<b>381.0</b>	<b>3,843.9</b>			

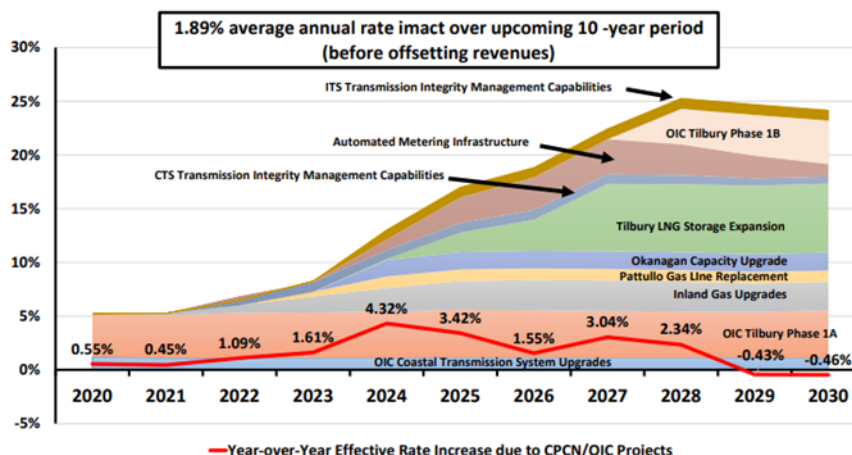
**Table 2: Incremental Cost of Service for each of FEI's Major Projects for 2019 to 2026**

FEI's Major Capital Projects	Actuals		Pro-Forma						Cumulative		Approval	Project Category
Incremental Cost of Service (C\$millions)	2019	2020	2021	2022	2023	2024	2025	2026	2019-2026			
Tilbury 1B	-	-	-	-	-	-	-	-	-	OIC	iii) Load Growth (LNG)	
Inland Gas Upgrades Project	-	-	2.8	9.8	19.2	28.3	34.2	36.0	130.3	BCUC	i) Maintenance/Replacement	
Okanagan Capacity Upgrade	-	-	-	(0.4)	(0.3)	19.4	20.8	21.0	60.6	Under Review	iii) Load Growth (Local)	
Pattullo Bridge Crossing Replacement	-	-	-	(3.0)	9.1	15.0	15.3	15.3	51.6	BCUC	i) Maintenance/Replacement	
TIMC (CTS)	-	-	-	-	10.7	11.0	10.7	11.5	43.9	Under Review	i) Maintenance/Replacement	
TIMC (ITS)	-	-	-	-	-	(1.1)	1.6	6.7	7.2	Developing	i) Maintenance/Replacement	
Advanced Metering Infrastructure	-	-	-	-	(3.4)	13.1	31.1	41.7	82.6	Under Review	ii) Resiliency and/or Supply Diversification	
Tilbury LNG Storage Expansion	-	-	-	-	-	0.2	1.3	22.9	24.4	Under Review	ii) Resiliency and/or Supply Diversification	
Sustainment and other capital	16.2	28.7	42.0	55.3	68.2	81.3	94.7	108.2	494.6		i) Maintenance/Replacement	
Total	16.2	28.7	44.8	61.7	103.5	167.3	209.6	263.3	895.2			

On page 38 of Exhibit B1-8 in the GCOC proceeding, FBCU states, "With a number of major capital projects currently underway or under review by the BCUC, FEI's capital expenditures are expected to increase substantially over the next several years..."

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 10

In response to BCUC IR 29.1 in the FEI CTS TIMC Application proceeding, FEI provided an illustrative figure showing the cumulative rate impact of certain upcoming major FEI capital projects, as follows:



FEI stated, however, that the figures do “not represent FEI’s estimated rate increase[s] for the years shown.”

In response to BCUC IR 1.2 in the FEI 2022 Annual Review proceeding, FEI provided a high level estimate of the delivery rates changes that are expected until the end of the FEI’s current Multi-Year Rate Plan (MRP) period (i.e., 2023 and 2024), as follows:

	2023	2024
High Level Forecast Delivery Rate Change (%)	4.00%	4.14%

In response to BCUC IR 12.4, FEI stated:

As stated in the response to BCUC IR1 1.2 in FEI’s Annual Review for 2022 Delivery Rates, the approximate 4 percent FEI 2023 delivery rate increase was a high level estimate which assumed, with the exception of a few already known changes such as formula capital, formula O&M, and CPCNs, that there would be no changes in 2023 to the components of FEI’s revenue requirement, including demand forecasts. However, as discussed during FEI’s Annual Review workshop, and as referenced in the preamble, FEI stated that the high level estimates are reasonable assumptions going forward based on the information available at the time.

As explained in the response to BCUC IR1 12.1 in the current proceeding, FEI chose to use a more conservative assumption of an 8.07 percent delivery rate increase for FEI in 2023, which is the same level as the proposed delivery rate increase in 2022. This is a conservative assumption because a delivery rate increase of 8.07 percent for FEI is considered to be high when compared to the delivery rate increases that FEI has had in recent years. Thus, FEI considers the

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 11

incremental rate impact to FEFN residential customers from moving to common rates provided in the Application to be on the high end since FEI has used a conservative assumption regarding FEI's 2023 delivery rate increase.

3.2 Please provide the estimated delivery rate changes for FEI for the period 2024 through 2030, inclusive of the cumulative revenue requirement impacts of all FEI major capital projects identified in the GCOC and CTS TIMC Application proceedings. Please describe all assumptions used.

**Response:**

FEI does not have a detailed delivery rate forecast from 2024 to 2030. There are various factors that affect FEI's revenue requirement such as taxes, O&M expenses, other revenues, and other capital additions besides OIC and CPCN projects, which will only be known in future years.

FEI does, however, provide indicative 20-year rate forecasts (including 2024 to 2030) in Section 9.4 of its 2022 LTGRP. FEI believes that the information provided in the 2022 LTGRP is necessary context to understand rate forecasts over the long term and that the 2022 LTGRP would be the appropriate proceeding in which to explore these broader impacts. As shown in Table 9-2 of the 2022 LTGRP, the rate impact over the 20-year period is approximately 2.8 percent per year<sup>1</sup> for FEI's residential customers under the Diversified Energy Planning Scenario.

3.3 Please provide the estimated delivery rate changes for FEFN under the status quo (i.e. FEFN continues to have separate rates), inclusive of the revenue requirement impacts for expected FEFN capital projects, for the period 2024 through 2030. Please describe all assumptions used.

**Response:**

FEI does not have a detailed delivery rate forecast for FEFN from 2024 to 2030. Similar to FEI, as discussed in the response to BCUC IR1 3.2 on FEI's Rebuttal Evidence, there are various factors that affect FEFN's revenue requirement that will only be known in future years.

Furthermore, FEI has not developed a long-term gas resource plan specifically for the FEFN service area; therefore, FEI cannot provide directional longer term rate changes for FEFN that can be considered an apples-to-apples comparison with the directional rate changes for FEI over the same period from FEI's 2022 LTGRP discussed in the response to BCUC IR1 3.2 on FEI's Rebuttal Evidence.

FEI has provided details of expected capital projects and expenditures for FEFN in the Application and in responses to IRs and does not have any additional information on future projects or

<sup>1</sup> Includes the commodity, midstream and delivery rate impacts, as well as carbon taxes.

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 12

expenditures at this time. The CPCN and OIC projects referenced in the preamble for FEI are projects that are currently filed with the BCUC, already approved by the BCUC, or are under development (in the case of OIC projects); as such, FEI has the forecast annual capital expenditure impacts available. However, in the case of FEFN, there are no CPCNs filed with the BCUC at this time and, due to FEFN's relative size to FEI overall, projects which would be considered "major" to FEFN are not necessarily considered "major" to FEI, which means that FEI may not have identified these projects as far in advance as "major" projects for FEI since the timeframe for planning and implementing smaller projects is shorter.

With the exception of the capital projects, and the potential for significant LNG demand to mitigate rate increases in FEI, many of the same factors that influence FEI's long-term rates would also impact FEFN. For example, the costs of addressing the provincial government's policy around carbon emissions reductions will be just as impactful to FEFN as to FEI.

Finally, FEI's objectives in proposing common rates do not rest on whether FEFN's future rate increases will be lower or higher than FEI's. As FEI stated in the Application, the four key objectives of FEI's common rates proposal are:

1. Eliminate the regulatory cost and burden associated with preparing and reviewing the separate regulatory filings required for FEFN, including the cost and time related to the public hearing processes;
2. Provide long-term rate stability for FEFN customers;
3. Achieve fairness across all FEI service areas by aligning FEFN rates with the rest of FEI's service areas; and
4. Mitigate any significant rate increases for FEFN customers that may result from the adoption of common rates.

To help address concerns over the direction of future rate increase for FEI and FEFN, and the impact to FEFN's residential due to common rates, FEI is amenable to extending the proposed phase-in for FEFN's residential customers to 15 or 20 years, in order to mitigate the impact to FEFN's residential customers and keep their delivery rates similar to FEFN's status quo scenario over a longer period of time. Given the small customer base of FEFN compared to FEI, the delivery rate impact to FEI will be negligible regardless of whether the phase-in is 10 years, 15 years, or 20 years.

- 3.4 Given the responses to the preceding two IRs (i.e. IRs 3.2 and 3.3 above), please provide the incremental FEFN bill impacts in dollars and percentages terms for common rate Options 2 through 4 (with and without the residential customer phase-in rate rider) for the period 2024 through 2030. Please identify the bill impacts by customer rate class.



FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 13

1

2 **Response:**

3 Please refer to the responses to BCUC IR1 3.2 and 3.3 on FEI's Rebuttal Evidence.

4

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 14

**4.0 Reference: RATE STABILITY AND OTHER BENEFITS OF COMMON RATES**

**Exhibit B-15, Q12, p. 7; Exhibit B-6, BCUC IR 8.3, 10.3, 10.3.1**

**FEI Subsidization of FEFN Rates**

On page 7 of FEI's Rebuttal Evidence, FEI states:

FEI's analysis is that the cost allocation from FEI to the Fort Nelson Service Area does not fully reflect the cost to serve Fort Nelson customers, so that Fort Nelson Service Area rates are already subsidized by other FEI customers. See FEI's response to BCUC IR1 10.1. [Emphasis added]

In response to BCUC IR 8.3, FEI provided a high level estimate for 2018 to 2022 comparing the shared services fee allocated to FEFN related to regulatory filings based on the BCUC-approved methodology, and the cost of FEFN-specific regulatory filings based on the effort required by employees for 2018 Actual to 2022 Forecast. FEI stated:

The incremental gross O&M expense (i.e., the difference between the currently allocated regulatory costs as part of the Shared Services fee and the costs based on the high level estimate of time described above) would range from \$32 thousand to \$146 thousand (before capitalized overhead), with an equivalent delivery rate impact to FEFN in the range of 1.14 percent to 4.84 percent.

4.1 Please clarify whether FEI's analysis "that the cost allocation from FEI to the Fort Nelson Service Area does not fully reflect the cost to serve Fort Nelson customers" refers to FEI's analysis in response to BCUC IR 8.3.

4.1.1 If no, please explain how FEI's response to BCUC IR 10.1 provides evidence that Fort Nelson Service Areas rates "are already subsidized by FEI customers," or otherwise provide FEI's analysis or the appropriate reference(s) to FEI's analysis from the Application and/or responses to BCUC and intervener IRs. Please include details of the amount, if any, by which FEFN rates have been subsidized by other FEI customers from 2018 to 2022.

**Response:**

FEI clarifies that the correct reference is to BCUC IR1 8.3, not BCUC IR1 10.1. As explained in the response to BCUC IR1 8.3, based on FEI's high level review of time spent by the Regulatory, Finance and Gas Supply departments on each of FEFN's regulatory filings for 2018 through 2022, the incremental gross O&M that would have been attributable to FEFN (i.e., the amount subsidized by FEI's ratepayers) ranges from \$32 thousand to \$146 thousand (before capitalized overhead).

<p style="text-align: center;">FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)</p>	<p style="text-align: center;">Submission Date: June 1, 2022</p>
<p style="text-align: center;">Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence</p>	<p style="text-align: center;">Page 15</p>

In response to BCUC IR 10.3 and 10.3.1, FEI stated:

As the response to BCUC IR1 10.1 explains, 76 percent of FEFN's annual revenue requirement (or 82 percent in recent years between 2019 Actual and 2022 Forecast) are either allocated costs or calculated costs based on studies and rates flowing from and dependent on FEI. Therefore, it is evident that FEFN is already well integrated with FEI with very little difference in terms of revenue requirement drivers between the two service areas. This supports moving to common rates and indicates that under common rates FEFN will continue to be charged rates that reflect a fair apportionment of costs based on cost causation. [Emphasis added]

4.2 Please clarify whether there is any discrepancy between the response provided to BCUC IRs 10.3 and 10.3.1 and FEI's statement of page 7 of the Rebuttal Evidence that FEFN rates are subsidized by other FEI customers.

**Response:**

No, there is no discrepancy between the responses to BCUC IR1 10.3 and 10.3.1 and FEI's statement on page 7 of the Rebuttal Evidence. The responses to BCUC IR1 10.3 and 10.3.1 were explaining that, as the analysis in the response to BCUC IR1 10.1 showed, FEFN is already well integrated with FEI, with 76 percent of FEFN's annual revenue requirement being comprised of either allocated costs or calculated costs based on studies and rates flowing from and dependent on FEI. There is no discrepancy between the fact that FEFN is already well integrated with FEI and any subsidization of FEFN by FEI customers.

With regard to the highlighted statement in the preamble that under common rates FEFN will continue to be charged rates that reflect a fair apportionment of costs based on cost causation, there is no discrepancy between this statement and the statement in FEI's rebuttal evidence about subsidization. FEFN customers are currently (and would be under common rates) allocated a fair apportionment of costs based on cost causation. As explained in the response to BCUC IR1 8.2, FEI determines the shared services fee allocated to FEFN based on the existing approved shared services cost allocation method which uses number of customers as the allocation factor. This approach is efficient and easy to administer and track and has therefore served as a reasonable method for allocating costs. However, based on FEI's high level analysis in the response to BCUC IR1 8.3, a certain degree of subsidization by FEI customers is occurring. As FEI explained in the response to BCUC IR1 18.3, the statutory standard in the *Utilities Commission Act* does not disapprove or disallow rates that will subsidize other customers, but rather a utility is not allowed to charge rates that are "unjust, unreasonable, unduly discriminatory or unduly preferential". Accordingly, it is expected that some subsidization will occur in most cases, but this does not mean that rates are unfair or not based on cost causation.

As further explained in the response to BCUC IR1 8.2, in the event that common rates are not approved, with this updated analysis FEI will consider if some adjustments for specific departments would be more reflective of the actual effort required to support FEFN, and FEI may undertake a shared services study for FEFN.



FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 16

**C. FEI'S CONSULTATION PROCESS**

**5.0 Reference: FEI'S CONSULTATION PROCESS**

**Exhibit B-15, Q16, p. 9; Exhibit B-1, p. 68; Exhibit B-11, RCIA IR 10.4**

**Virtual Town Hall**

On page 9 of FEI's Rebuttal Evidence, FEI states:

Based on the number of attendees in FEI's virtual town hall for this Application and the in-person session from the 2016 RDA [Rate Design Application], FEI believes the virtual town hall was a success and more cost-effective than an in-person event.

On page 68 of the Application, FEI states, "Due to the COVID-19 pandemic and restrictions on safe gatherings, FEI held a virtual town hall on April 27, 2021..."

In response to RCIA IR 10.4, FEI stated:

[...] new protocols and tools were put in place to manage during the pandemic such as "virtual town halls" and other virtual communication tools, and this form of communication because the "new normal" [...]

5.1 Please provide the actual cost of the in-person information session from the 2016 RDA, presented on an inflation-adjusted basis to 2021 dollars and the actual cost of FEI's virtual town hall for this Application.

**Response:**

The cost associated with the 2016 in-person information session held in Fort Nelson was \$13,305 (\$14,794 in 2021 dollars after adjusting for inflation based on CPI). This amount included costs for rental of the meeting room at the Northern Rockies Regional Recreation Centre, refreshments and catering costs for attendees, flights, accommodation, and travel expenses for FEI staff participants as well as Allwest Broadcasting staff to record and transcribe notes from the session.

Regarding the virtual town hall session for this Application, there were no costs for holding the virtual town hall as it was completed using existing software, i.e., MS Teams.

5.2 Please discuss the extent to which "cost effectiveness" was a factor considered by FEI in deciding to conduct a virtual town hall for this Application versus an in-person event. As part of the response, please provide a list of factors, other than the COVID-19 pandemic and restrictions on safe gatherings, considered by FEI and FEI's assessment of each factor.

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 17

1 **Response:**

2 Given FEFN's small customer base and the impact that external regulatory proceeding costs have  
3 on FEFN's delivery rates (please refer to Table 5-1 of the Application for the delivery rate impacts  
4 to FEFN from past regulatory proceedings), FEI endeavors to minimize external regulatory costs  
5 to the extent possible for FEFN applications and to be as efficient as possible.

6 However, in the case of deciding whether to hold a virtual or in person town hall as part of FEI's  
7 consultation on common rates, cost-effectiveness was not the determining factor. The reason  
8 that FEI held a virtual town hall for this Application is because of the ongoing concerns and  
9 uncertainty due to the COVID-19 pandemic in 2021. As explained on pages 10 to 11 of FEI's  
10 Rebuttal Evidence (A19), FEI's Community and Indigenous Relations Manager contacted  
11 stakeholders in Fort Nelson in October 2020 to discuss the potential for holding an in-person town  
12 hall in Fort Nelson. However, subsequent to that conversation, it became apparent that BC was  
13 in the "second wave" of the COVID-19 pandemic and the provincial government increased  
14 restrictions on gatherings, among other things. Given the ongoing uncertainty and continually  
15 changing circumstances brought on by the pandemic, it did not make sense from a safety or  
16 logistical perspective to try to schedule an in-person town hall.

17 FEI's statement on page 9 of its Rebuttal Evidence (A16 and as quoted in the preamble) was  
18 simply highlighting that despite the need to move to a virtual platform for the town hall, from an  
19 attendance and a cost perspective, compared to the 2016 RDA in-person session, the virtual town  
20 hall for the common rates application was a success.

21

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 18

## 6.0 Reference: FEI'S CONSULTATION PROCESS

### Exhibit B-15, Q18, pp. 9–10

#### Media Outreach

On page 10 of FEI's Rebuttal Evidence, FEI explains that it did not use bill inserts to promote the virtual town hall due to the lead-time required to create the bill inserts and that such an approach would have been impractical for two reasons. FEI states:

Since not all customers receive their bills on the same date, in order to ensure all FEFN customers receive the bill inserts prior to the virtual town hall, the bill inserts would need to be created two months prior to ensure the inserts were in the bills one month prior to the town hall.

6.1 Please discuss whether FEI considered preparing a separate mailing, instead of a bill insert, as a method to promote the virtual town hall. Please explain why or why not. As part of the response, please discuss whether such an approach would have addressed each of the two reasons for why a bill insert was impractical.

#### **Response:**

FEI did not consider a separate mailing as a method to promote the virtual town hall and does not believe a separate mailing would address the reasons for why a bill insert was impractical. The timing required to complete a separate mailing would be similar to a bill insert since FEI would have to ensure the separate mailings reached all FEFN customers at least one month prior to the virtual town hall. At best, a separate mailing might allow the time to be shortened from two months to one and a half months; however, FEI would incur separate mailing costs of approximately \$2,000 to \$3,000. When factoring in the still lengthy lead-time required to issue the separate mailing, FEI considers this approach to be more costly with little additional benefit.

Furthermore, separate mailings would not address the issue of inflexibility regarding rescheduling the town hall in the event of low registration, as there would not be enough lead time to prepare another separate mailing to inform FEFN customers of the revised town hall date.

FEI considers the approach it took to advertising the virtual town hall to be successful. As noted in Section 6.3.2 of the Application as well as on page 9 of FEI's Rebuttal Evidence (A16), FEI had 75 registrants to the virtual town hall and 17 attendees, which is more attendees than was experienced at either the FEI 2016 RDA in-person information session or the 2012 amalgamation and common rates information session. Please also refer to the response to FNDCC-NRRM IR1 1.1 on FEI's Rebuttal Evidence.

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 19

## **D. FEI'S DEMAND FORECAST METHODOLOGY**

### **7.0 Reference: LONG-TERM CUSTOMER DEMAND FORECAST METHODOLOGY**

**Exhibit B-1, Appendix A3, pp. 1, 3–5; Exhibit B-15, Q37, p. 21; Exhibit B-9, BCUC IR 33.1; Exhibit B-6, BCUC IR 3.3; Exhibit C2-5, p. 6**

#### **FEFN Long-term Demand Forecast**

In response to BCUC IR 3.3, FEI provided the following table, showing FEFN's demand forecast through 2030:

<b>Fort Nelson</b>										
<b>Customers</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>
RS 1	1,866	1,853	1,841	1,829	1,819	1,809	1,799	1,790	1,781	1,773
RS 2	449	445	442	439	435	432	429	425	422	419
RS 3	15	13	12	11	9	8	7	5	4	3
<b>Customer Total</b>	<b>2,329</b>	<b>2,311</b>	<b>2,295</b>	<b>2,279</b>	<b>2,263</b>	<b>2,249</b>	<b>2,235</b>	<b>2,221</b>	<b>2,207</b>	<b>2,194</b>
<b>Demand (TJ)</b>										
RS 1	238	234	230	226	222	218	214	211	207	204
RS 2	157	150	143	136	129	122	115	108	101	95
RS 3	96	87	78	70	61	53	44	36	27	19
<b>Demand Total</b>	<b>491</b>	<b>471</b>	<b>451</b>	<b>431</b>	<b>412</b>	<b>392</b>	<b>373</b>	<b>354</b>	<b>336</b>	<b>317</b>

In response to BCUC IR 33.1, FEI explained its long-term demand forecast methodology, as follows:

FEI confirms that the customer and demand forecasts developed for the timespan from 2021 through 2030 are based on the same forecasting methods used to develop the rate setting forecasts. Please see Appendix A3 of the Application for detailed information on FEI's customer and demand forecasting methods, calculations and assumptions. The methods described in Appendix A3 apply to the timespan from 2021 to 2030. As noted on page 1 of Appendix A3, FEI's demand forecast methods are consistent with the recommendations in the FEI Forecasting Method Study filed as Appendix B2 in FortisBC's 2020-2024 MRP Application.

In Appendix A3 of the Application, on pages 1, and 3 through 5 FEI provides the demand forecast methodology for FEFN's residential and commercial customer classes. For the residential customers class, FEI explains that its demand forecast methodology is based on residential customer additions calculated from the Conference Board of Canada (CBOC) forecasts of housing starts year-over-year. This data is added to a calculation of Use Per Customer generated using the exponential smoothing method to generate a forecast. For the commercial customer class, a three-year average of commercial customer additions is coupled with Use Per Customer generated using the exponential smoothing method to generate a forecast.

On page 21 of FEI's Rebuttal Evidence, FEI stated:

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 20

FEI has been using largely the same demand forecast method, including the use of the CBOC forecast for residential customer additions, since 2012. FEI's demand forecast method is reviewed by the BCUC during each of FEI's revenue requirement applications (RRAs) for the Fort Nelson Service Area and the RRAs for the rest of FEI's service area.

[...]

The Mean Absolute Percentage Error (MAPE) for the total demand forecast is 4.4 percent over the period from 2011 to 2021.

On page 6 of Exhibit C2-5, regarding FEI's long-term demand forecast methodology, NRRM states:

There is no reason to expect these trends to continue. Yet that is exactly what FEI's methodology does: it assumes that prior trends will continue indefinitely, and in doing so fails to incorporate credible indicators that contradict those predictions.

[...]

Furthermore, the data drivers included in the description of the demand prediction methodology are seemingly alien to FEFN. As an example, in predicting demand for FEFN, the use of data on BC Housing Starts as provided by the Conference Board of Canada for what would appear to be the entire province, as a key input, if indeed the case, would be more than highly suspect. Again, if the case, such a supplanting of available FEFN/NRRM specific information with a generic, homogenised and broad-based substitute, for the sake of convenience, at once heightens our concern over what we might expect under Common Rates while, in our estimation, further undermining the credibility of FEI's projections.

[...]

With economic recovery, and an incline in population, would come a reversal in declining demand for natural gas in the FEFN and reduced rates, all else being equal.

7.1 Please explain why it is appropriate to use the same demand forecast methodology used to set rates in the short term for the purposes of the common rates analysis, considering that the common rates analysis is assessing longer term trends.

**Response:**

This response addresses both BCUC IR1 7.1 and 7.2 on FEI's Rebuttal Evidence.

FEI's demand model used for this Application was not specifically designed for any particular forecast period. The demand model and resulting forecast is comprised of multiple independently

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 21

forecast elements, such as residential customer additions which are themselves based on the long-term 20-year CBOC forecast.

A forecast method should be chosen based on its suitability for the task. A forecast method should not be excluded (i.e., for long-term trends) just because it has been used in another application for a different purpose (i.e., rate-setting applications for one or two years). If a particular method is suitable for both short- and long-term forecasting, then its usage also increases the efficiency with which forecasts can be completed.

FEI provides an assessment of the options available for forecasting for this Application. As discussed below, FEI's current demand forecasting method is the only suitable method for the purposes of this Application. FEI also notes that the intent of the forecasts provided in this Application is not to perfectly predict the future of demand in FEFN, as such a method does not exist. The evidence in this proceeding is that FEI's forecasting methods are well-tested and have proven to exhibit a high level of accuracy and that, based on historical actual demand in FEFN, there is no indication that the declining trend in demand is expected to significantly reverse. Further, future FEFN demand is not the only (or even the primary) rationale for moving FEFN to common rates with FEI.

- FEI's current Demand Forecast Method

- Used because:

- This method has been well-tested and has been frequently reviewed by the BCUC in revenue requirement applications.
    - This method has consistently produced strong results with acceptable variances when compared to actuals and when compared to industry results from the annual ITRON survey report.
    - Is an objective method that is fully repeatable.
    - Is comprised of multiple methods for each element of the forecast (i.e., different forecasting methods for residential additions, commercial additions, use rates, and industrial survey). Therefore, it is possible to isolate any error (if one existed) in a specific element of the forecast rather than over the aggregate result. For example, a 5 percent variance in the customer additions will only contribute to a small portion of the overall result.
    - The trends would be similar to those observed using the method in FEI's 2022 Long Term Gas Resource Plan (LTGRP) as discussed in the response to BCUC IR1 8.2 and 8.4 on FEI's Rebuttal Evidence.

- FEI's LTGRP End Use Method

- Not used because:

- FEI does not have a specific FEFN LTGRP available.

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 22

1                   ▪ The demand trends noted in the current FEI LTGRP for residential and  
2                   commercial customers would be similar to those developed using FEI's  
3                   current demand forecasting method as discussed in the response to BCUC  
4                   IR1 8.2 and 8.4 on FEI's Rebuttal Evidence.

5           • BC Stats Population or Household Regression Method

6               ○ Not used because:

7                   ▪ BC Stats has advised FEI to refrain from using their current population and  
8                   household projection for NRRM and Fort Nelson.

9                   ▪ A forecasting method that relies on a single third party forecast to predict  
10                  all elements (residential, commercial and industrial demand as well as  
11                  customer count and customer additions) will amplify any error from this  
12                  singular input and therefore render the entire forecast unusable.

13          • Subjective (Opinion) Method

14               ○ Not used because:

15                   ▪ The results from this method are not reproducible by others. There would  
16                  be no transparency for such forecasts and FEI does not believe it would be  
17                  appropriate for either short-term or long-term forecasts in FEI's applications  
18                  to the BCUC.

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21  
22          7.2      Please explain any alternative methods to customer addition forecasting that FEI  
23                  has considered or could use for each of the residential and commercial sectors for  
24                  the purposes of the common rates analysis. In the response, please provide the  
25                  pros and cons of each approach and why they were rejected.

26  
27      **Response:**

28      Please refer to the response to BCUC IR1 7.1 on FEI's Rebuttal Evidence.

29  
30  
31  
32          7.3      Please explain whether FEI's demand forecast methodology may be biased  
33                  towards historical trends, such as year-over-year declines in consumption,  
34                  continuing indefinitely given the use of: i) year over year housing starts percentage  
35                  changes extrapolated for ten years of future residential customer additions  
36                  forecasting; and ii) three-year average historical commercial customer additions  
37                  extrapolated for ten years of future commercial customer additions forecasting. If  
38                  not, please explain why not.

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 23

## **Response:**

FEI's forecasting method for residential customer additions is not based on historical trends. As highlighted in Section 8.3.3 of the Application, FEI uses the CBOC 20-year forecast of housing starts growth rates to develop its residential customer additions forecast. This forecast is future-looking and it is used because it provides unique trajectories for both single- and multi-family dwellings. FEI does not extrapolate or propagate any data for this forecast. FEI also notes that in 2021, FEFN had a total of four residential customers added with two single-family dwellings and two multi-family dwellings. This supports the use of the CBOC forecast as the forecast provides the split between single- and multi-family dwellings. Please refer to Table 1 below which provides the CBOC BC 20-year housing starts growth rates forecast used for the Application (dated December 2019 as that was the most recent report at the time that FEI filed the Application). It can be seen that the CBOC's 20-year forecast for housing starts has a negative growth rate.

**Table 1 – CBOC Provincial Medium-Term Forecast (20-Year), December 5, 2019**

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
SFD	9,063	7,957	7,103	6,394	5,906	5,367	5,185	4,950	4,732	4,528	4,342
SFD GR %	(4.40)	(12.20)	(10.74)	(9.98)	(7.62)	(9.13)	(3.38)	(4.54)	(4.41)	(4.31)	(4.11)
MFD	28,789	26,933	25,771	25,006	24,405	22,883	21,716	21,017	20,353	19,735	19,161
MFD GR %	(20.57)	(6.45)	(4.31)	(2.97)	(2.41)	(6.23)	(5.10)	(3.22)	(3.16)	(3.04)	(2.91)

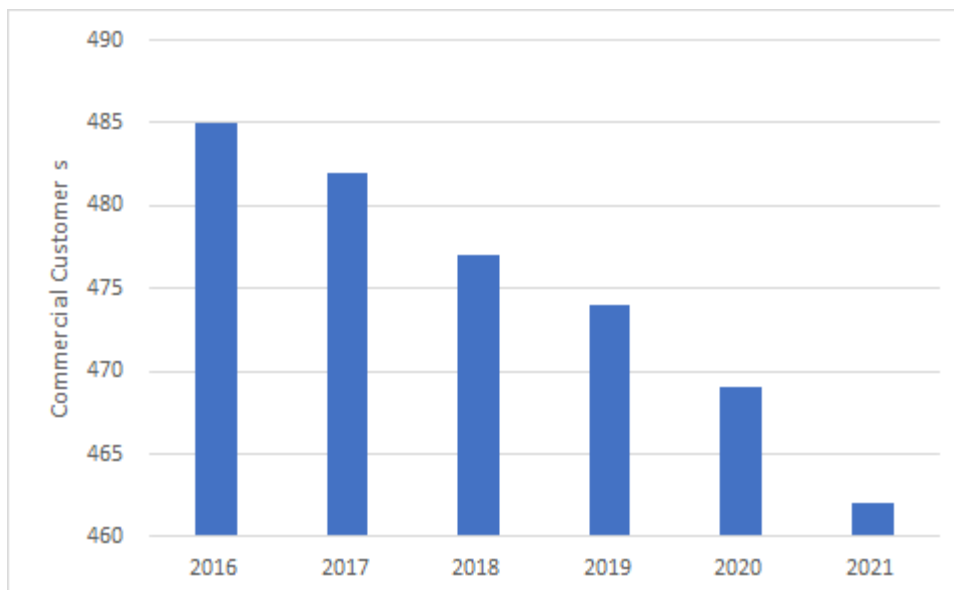
	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
SFD	4,168	4,006	3,850	3,703	3,561	3,423	3,291	3,162	3,041	2,930
SFD GR %	(3.99)	(3.89)	(3.88)	(3.82)	(3.84)	(3.86)	(3.86)	(3.91)	(3.84)	(3.66)
MFD	18,629	18,131	17,654	17,185	16,719	16,258	15,808	15,378	14,971	14,594
MFD GR %	(2.77)	(2.68)	(2.63)	(2.66)	(2.71)	(2.76)	(2.77)	(2.72)	(2.64)	(2.52)

For commercial customers, FEI uses the average of the three most recent years of actual additions. FEI agrees that this time series method (i.e., three-year average) would propagate any trends present in the actual data going forward; however, given the steady decline in commercial customer additions since 2016 as shown in Figure 1 below, the current forecast of a continuing decline is reasonable for FEFN.



FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 24

**Figure 1 – FEFN Actual Commercial Customer Count (2016-2021)**



7.3.1 Please explain how FEI's demand forecast methodology would capture a change in customer consumption pattern, such as a few years of declining consumption, followed by a few years of increasing consumption.

**Response:**

For the residential customer additions, if the CBOC shows an upward trend in their housing starts growth rate forecast, then this would be captured in FEI's forecasting method for residential customer additions. With an increasing number of residential customer additions (assuming more than the number of residential customers leaving FEI's natural gas system), then the increase should also be reflected in the total demand forecast as there would be more residential customers. For the use rate forecasts, FEI uses the Holt's Exponential Smoothing (ETS) method which dynamically places more emphasis on the long-term trend, if one exists, or the most recent levels if a trend does not exist. The ETS method establishes a unique balance based on the historical data used. In the case where declining consumption per customer was followed by increasing consumption, the ETS method could forecast a continuing trend of increased usage if the historical trend was significant enough. Depending on the inherent trend of the data over the long-term versus the most recent trend, the ETS method might forecast an increasing trend in all cases.

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 25

7.3.2 In light of changes in consumption due to the COVID-19 pandemic, please explain how the demand forecast methodology used by FEI for the FEFN service area is reasonable for decision making for the move to common rates at this time.

**Response:**

As explained on pages 19 to 21 of FEI's Rebuttal Evidence (A36), FEI did not observe any changes in the consumption pattern in FEFN that would be attributable to the COVID-19 pandemic. As Figures 1 and 2 of FEI's Rebuttal Evidence demonstrate, the declining trend of FEFN's residential and commercial demand since 2013/2014 has continued through to 2021 (in actual results). There does not appear to be any material difference in trends during the COVID-19 pandemic in 2020 and 2021 compared to the prior years.

In contrast, FEI observed an increase in residential demand but a small decline in commercial demand in a number of regions/municipalities within FEI's other service areas which could be due to individuals working from home or spending more time at home during the COVID-19 pandemic, offsetting the decline in commercial demand due to business closures.

7.4 Please explain why it is reasonable to use a methodology based on year-over-year changes in housing starts to approximate residential customer additions. If housing starts are greater than zero, would FEI not be connecting new customers?

**Response:**

It appears based on this question that there is a misunderstanding regarding FEI's forecasting method. The method relies on the housing starts growth rates, not housing starts. The growth rate in housing starts is applied to net customer additions as shown in the following hypothetical examples.

In the first example, the actual additions from the prior year is 10. The housing starts are forecast to grow by 10 percent, so the forecast for additions also grows by 10 percent to 11 additions.

**Table 1 – Working example of positive growth rate**

Actual Additions	Growth Rate	Forecast Additions
10	10%	11

In the next example, the actual additions from the prior year is 10, but there is no forecast change in housing starts. As a result, the forecast for customer additions is also unchanged at 10.

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 26

**Table 2 – Working example of zero growth rate**

Actual Additions	Growth Rate	Forecast Additions
10	0%	10

In the final example, the actual additions from the prior year is 10, but the housing starts are forecast to contract by 10 percent. As a result, the forecast of additions is also reduced by 10 percent to 9 additions. Even though the forecast growth rate for housing starts is negative, the forecast for customer additions remains positive because the actual additions in the prior year were positive.

**Table 3 – Working example of negative growth rate**

Actual Additions	Growth Rate	Forecast Additions
10	-10%	9

7.4.1 Please explain whether there are supplementary approaches for forecasting residential demand growth, such as occupants per household based on census data. If so, please provide FEI's assessment of such approaches in residential load forecasting.

**Response:**

FEI's forecasting method for residential customer additions and demand have been tested and refined over the years with BCUC review, and has proven to result in a relatively small variance between forecast and actual when compared to the industries from the ITRON survey results. Without further exploration and testing for improvements in accuracy, FEI does not believe there is value in including a supplementary approach to FEI's existing forecasting method. Additionally, FEI does not believe occupants per household based on census data will be suitable for utility demand forecasts since censuses are completed approximately every five years while FEI's forecasts are completed every one or two years for rate setting purposes. Nor does FEI have any data to support the impact of occupants per household on the use per customer.

7.4.2 Please explain whether it is reasonable to forecast residential customer additions based on the historical three-year average residential customer additions. If not reasonable, please explain why not. In the response,

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 27

please provide the calculation of three-year historical residential customer additions for each of the years 2017 through 2022.

**Response:**

A residential customer additions forecast based on a three-year average of customer additions could be developed. FEI notes that using the three-year average method suggested in this IR would propagate the current declining trend already existing in FEFN's residential customer additions and therefore would not capture any growth in housing starts if the CBOC's forecast includes such trends in the future. As shown in Table 1 below using actual data from 2015 to 2021, using the method suggested in this IR (row 4 of the table) would result in the residential customer additions forecasts being negative for all years due to the declining trend in actuals.

**Table 1 – Comparison Between Residential Additions Forecast Based on 3-year Average and FEI's Existing Method**

Rate Schedule 1 - Residential	2015	2016	2017	2018	2019	2020	2021
Actual	1,963	1,945	1,927	1,919	1,898	1,880	1,860
Additions	1	-18	-18	-8	-21	-18	-20
Forecast residential additions (proposed method)			-12	-15	-16	-16	-20
Forecast residential additions (ex. method)	13	13	1	1	32	-23	-16

7.5 Please provide FEI's assessment of the likelihood of an economic recovery and increase in population in Fort Nelson over the next ten years. Please explain the basis of that assessment.

**Response:**

FEI is unable to predict the likelihood (or magnitude) of an economic recovery or the likelihood (or magnitude) of an increase in Fort Nelson's population over the next ten years. However, based on the recent downward trend in actual demand and customer count levels and the provincial government's focus on decarbonization, FEI does not anticipate a significant positive upswing in natural gas consumption in the Fort Nelson service area.

FEFN's natural gas demand and customer count have been on a continuous decline since 2014 and FEI's key account managers have received no indication that new large commercial or industrial customers are planning to commence natural gas service in the FEFN service area. In reference to NRRM's statements quoted in the preamble, BC Stats has recommended that FEI refrain from using the Fort Nelson population forecasts. Further, as shown in Figure 5 of FEI's Rebuttal Evidence, the BC Stats forecast is unexplainable statistically.

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 28

**8.0 Reference: LONG-TERM CUSTOMER DEMAND FORECAST METHODOLOGY**

**Exhibit B-1, Appendix A3; FortisBC Energy Inc. 2022 Long Term Gas  
Resource Plan Application (2022 LTGRP Application) proceeding,  
Exhibit B-1, pp. 4-1, 4-9**

**FEI Long Term Gas Resource Plan Demand Forecast**

On May 9, 2022, FEI submitted its 2022 LTGRP Application to the BCUC for review. On page 4-1 of the 2022 LTGRP Application, FEI states:

The current planning environment is undergoing rapid change and therefore subject to more uncertainty than seen in resource planning processes over the past two decades or more. FEI recognizes that its customers are using gas in different ways and amounts than they did in the past and that reducing global carbon emissions is a key priority. Heating equipment installed in new buildings and in retrofit situations is more efficient and, in some cases, results in a different demand profile than the older equipment it replaces. Potential new demand from the transportation and industrial sectors may also impact FEI's overall demand profile. While recent demand history is appropriate for short-term demand forecasting, a method which relies on modelling long-range changes in energy end uses is more appropriate for longer forecast horizons. [Emphasis added]

On page 4-9 of the LTGRP Application, FEI states:

For resource planning purposes, FEI uses the "End Use Annual Method" of demand forecasting.... FEI has improved on its End Use Annual Method for the 2022 LTGRP to enhance FEI's ability to examine the Reference Case annual demand forecast and analyse how annual demand behaves across alternate future scenarios.

8.1 Please explain FEI's long-term demand forecast methodologies as submitted in FEI's 2022 LTGRP Application. In the response, please highlight any improvements to the preferred method.

**Response:**

FEI's 2022 LTGRP contains demand forecasts for the following categories of customers: (a) residential, commercial, and industrial; (b) low carbon transportation (LCT) and global LNG; and (c) new large industrial. Among these categories, the only one that applies to Fort Nelson is the (a) residential, commercial, and industrial category, however, since FEI does not have any industrial customers, only the residential and commercial forecasts would be applicable to FEI.

Please refer to Sections 4.3 and 4.4 of FEI's 2022 LTGRP for an explanation of the forecasting methods used for the long-term customer count and long-term demand, respectively. These sections also include a description of the improvements made to the "End Use Annual" method since the 2017 LTGRP was prepared. The LTGRP long-term demand forecast extends to the

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 29

1 year 2042 and, due to the preparation cycle for the LTGRP, uses 2019 as a base year. As part  
2 of the LTGRP, FEI developed long-term demand forecasts for its Reference Case as well as six  
3 alternative future scenarios that were based on the “End Use Annual” method. For comparison,  
4 FEI also developed a long-term demand forecast under a Business As Usual (BAU) in the LTGRP  
5 using its “Traditional Annual” method, which is FEI’s existing forecasting method used in this  
6 Application.

7  
8  
9 8.2 Please compare and contrast FEI’s demand forecast methodology for FEFN in  
10 Appendix A3 of the Application to the “End Use Annual Method” long-term demand  
11 forecast methodology for FEI as presented in the 2022 LTGRP Application.  
12

13 **Response:**

14 The Traditional Annual method referred to in the LTGRP is FEI’s forecasting method used in this  
15 Common Rate Application. Please refer to the response to BCUC IR1 7.1 on FEI’s Rebuttal  
16 Evidence for an explanation why the End Use Annual method is not used to forecast demand for  
17 FEFN separately. Please also refer to Section 4.4.1.4 of FEI’s 2022 LTGRP which provided a  
18 comparison between the Traditional Annual method and the End Use Annual method which  
19 showed the result produced by the two methods would be similar under the same demand  
20 scenario (i.e. reference case versus the BAU case).

21 Considering Fort Nelson does not have any industrial customers, nor anticipated growth in low  
22 carbon transportation and global LNG, the End Use Annual method would show a downward  
23 trend for the future demand in FEFN given the increasing demand-side management activities  
24 and electrification in FEI’s Diversified Energy (Planning) Scenario impacting residential and  
25 commercial demand. As such, FEI anticipates that applying the End Use Annual method under  
26 FEI’s Diversified Energy (Planning) Scenario to FEFN would show a similar declining trend as the  
27 FEFN demand forecasts from 2021 to 2030 presented in the response to BCUC IR1 3.3 in the  
28 Common Rates component of the proceeding using the Traditional Annual method.

29  
30  
31 8.2.1 Please discuss whether the “End Use Annual Method” would be  
32 appropriate for forecasting long-term demand in FEFN. Please explain  
33 why or why not.  
34

35 **Response:**

36 Please refer to the response to BCUC IR1 8.2 on FEI’s Rebuttal Evidence.  
37  
38

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 30

8.3 Please provide FEI's long-term demand forecast, by rate class, for FEFN from FEI's 2022 LTGRP Application for each year through 2030 in a table format. In the response, please explain any discrepancies between the response and the long-term demand forecast provided in response to BCUC IR 3.3.

8.3.1 Please provide the resulting rates for FEFN for each of the years 2021 through 2030 using the demand forecast provided in the IR response above.

8.3.1.1 Please provide the difference in FEFN customer bill impacts in dollars and percentages terms between the rates in the preceding IR and common rate Options 2 through 4 (with and without the residential customer phase-in rate rider), inclusive of the cumulative revenue requirement impacts of all FEI major capital projects identified in the GCOC and CTS TIMC Application proceedings.

**Response:**

FEI did not prepare a separate demand forecast for FEFN within the 2022 LTGRP and therefore cannot provide the requested information. As discussed in the response to BCUC IR1 8.2 on FEI's Rebuttal Evidence, FEI expects FEFN demand forecast using the "End Use Annual" method from the LTGRP, if it was employed just for FEFN separately from the rest of FEI demand forecast, would be similar to the 10-year FEFN demand forecast from 2021 to 2030 provided in BCUC IR1 3.3 on the Common Rates Application which was prepared using the Traditional Annual method described in the 2022 LTGRP.

Since the FEFN demand forecast using the "End Use Annual" method would be similar to the forecast already shown in the Application, the bill impacts due to common rates would be similar.

8.4 Please provide a long-term demand forecast for FEFN assuming that the BC-wide demand growth rate from the 2022 LTGRP applies to the FEFN rate classes (i.e. a province-wide x% annual increase in demand). In the response, please comment on the reasonableness of this demand forecast for FEFN.

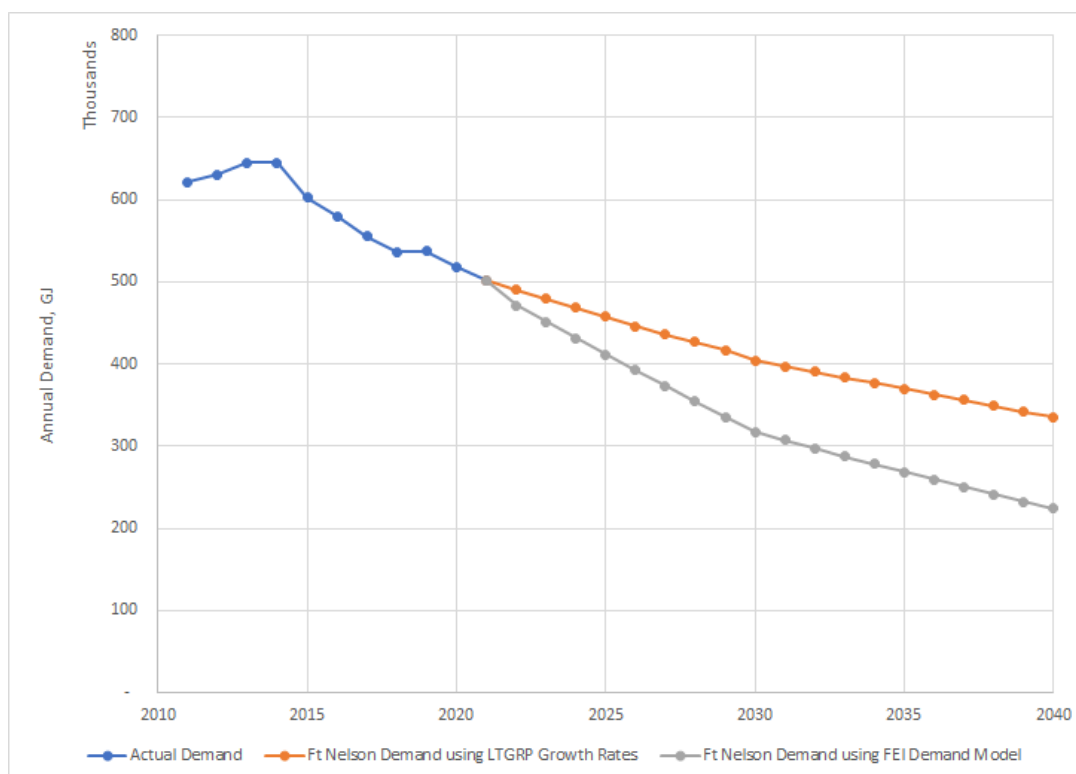
**Response:**

Please refer to Figure 1 below which shows FEFN's demand forecast (i.e., the orange line) to 2040 using the BC-wide demand growth rates from FEI's 2022 LTGRP under the Diversified Energy Planning Scenario. Specifically, FEI applied the BC-wide residential demand growth rates under the Diversified Energy Planning Scenario to FEFN's residential rate class, and the BC-wide commercial demand growth rates under the Diversified Energy Planning Scenario to FEFN's commercial rate classes.

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 31

For comparison purposes, FEI includes in Figure 1 below the demand forecast using FEI's existing method (i.e., the demand forecast as provided in BCUC IR1 3.3 of FEI's Common Rate Application which is based on the Traditional Annual Method in FEI's LTGRP), which is shown by the grey line. It can be seen from the figure below that using the forecast suggested by this IR produces a similar declining trend to FEI's existing method.

**Figure 1 – Comparison between FEFN Demand Forecast based on LTGRP Growth Rates under the Diversified Energy Planning Scenario and FEFN's Existing Forecasting Method**



8.4.1 Please provide the resulting rates for FEFN for each of the years 2021 through 2030 using the demand forecast provided in the IR response above.

8.4.1.1 Please provide the difference in FEFN customer bill impacts in dollars and percentages terms between the rates in the preceding IR and common rate Options 2 through 4 (with and without the residential customer phase-in rate rider), inclusive of the cumulative revenue requirement impacts of all FEI major capital projects identified in the GCOC and CTS TIMC Application proceedings.



FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 32

1    **Response:**

2    FEI is unable to provide the resulting delivery rates based on the demand forecasts shown in the  
3    response to BCUC IR1 8.4 on FEI's Rebuttal Evidence. The demand forecast is only one of many  
4    components required to develop a detailed delivery rate forecast. Please refer to the response  
5    to BCUC IR1 3.2 and 3.3 on FEI's Rebuttal Evidence on reasons on why detailed delivery rate  
6    forecasts for FEI and FEFN cannot be developed specifically for this proceeding, and given the  
7    small size of FEFN, FEI has not identified "major" capital projects as far in advance.

8    FEI also notes that the difference between FEI's existing forecast for 2023 and the forecast using  
9    the BC-wide demand growth rates under the Diversified Energy Planning Scenario from FEI's  
10    2022 LTGRP provided in the response to BCUC IR1 8.4 on FEI's Rebuttal Evidence would be  
11    small; therefore, regardless of which demand forecast is used, the immediate impact to FEFN's  
12    customers due to common rates will be similar.

13

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 33

**9.0 Reference: LONG-TERM CUSTOMER DEMAND FORECAST METHODOLOGY**

**Exhibit B-1, Appendix A3; Exhibit B-15, Q40, p. 24; Exhibit C2-8,  
BCUC IR 5.4.1**

**CSCW Systems Corporation (CSCW)'s Demand Forecast  
Methodology for FEFN**

On page 24 of Exhibit B-15, FEI states:

Figure 5 below shows the population for the Fort Nelson LHA from the BC Stats website with green showing the actuals from 2000 to 2020, and red showing the forecasts from 2021 to 2041. After reviewing this information, FEI investigated the unusually sharp turnaround from 2020 onwards as FEI could not explain this statistically.

[....]

BC Stats further explained that the forecast method and software were currently under review for potential replacement. BC Stats recommended FEI refrain from using the Fort Nelson forecast until such time as these updates are complete.

9.1 Please discuss whether FEI plans to use Fort Nelson Local Health Area (LHA) population statistics once BC Stats' review and/or updates to its software and methodology are complete for residential customer count forecasting. If not, please explain why not.

**Response:**

FEI does not see any reason to or have any intention to change its forecasting method to use the BC Stats population forecasts for the Fort Nelson LHA regardless of any updates made by BC Stats to its software and/or methodology. FEI uses the CBOC single- and multi-family housing starts forecast for its residential customer additions forecasting. As noted in the response to BCUC IR1 7.3 on FEI's Rebuttal Evidence, FEFN had two single-family dwelling and two multi-family dwelling residential new attachments in 2021, supporting the use of the CBOC forecast. As highlighted on page 21 of FEI's Rebuttal Evidence (A37), the variance in FEFN's forecasts from 2011 to 2011 (11 years) has been relatively small with a MAPE of 4.4 percent which is comparable to other utilities.

9.1.1 Please explain if FEI agrees that the Fort Nelson LHA population statistics, once confirmed to be accurately generated by BC Stats, are a better input for demand forecasting for the Fort Nelson service territory than the BC-wide population or housing starts statistics. If not, please explain why not.

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 34

**Response:**

FEI cannot agree. The BC Stats forecast does not include the single- and multi-family forecasts that are available from the CBOC forecasts. Please refer to FEI's response to BCUC IR1 9.1 on FEI's Rebuttal Evidence regarding why FEI has no intention of changing its forecasting method for residential customer additions to use the BC Stats population forecasts for the Fort Nelson LHA regardless of any updates made by BC Stats to its software and/or methodology.

Furthermore, without any information on the potential change in BC Stats forecasting method, it is not possible to know whether any updated forecast developed by BC Stats would result in a better or worse method. Moreover, FEI would require approximately five years of re-forecast data to be able to verify the accuracy of any new methods prior to considering any changes. If back-forecasting was not available than the new methods would need to be monitored for a period of time<sup>2</sup> prior to contemplating a change to the current FEI residential customer additions method. This is a multi-year process that could not be done as part of this proceeding or part of this IR response.

9.2 Please explain the advantages and disadvantages and rate impacts, if any, if the proposal to move to common rates were deferred to a later date, for example to three or five years hence.

**Response:**

FEI notes that the preamble to this IR references FEI's communications with BC Stats and BC Stats' recommendation that FEI refrain from using the Fort Nelson forecast until such time as BC Stats updates its forecast method and software. FEI's existing load forecasting method, which uses the CBOC forecast for residential customer additions, continues to be a reasonable approach to forecasting demand; therefore, irrespective of whether BC Stats revises its method, FEI would continue to utilize its existing forecast method.

Furthermore, there would not be any advantage to deferring the move to common rates three or five years later. The rate impact due to common rates on FEFN's residential customers might be higher or lower in three or five years as it depends on various factors from both FEI and FEFN. However, the reasons for and benefits to be gained from common rates will not change in three or five years. These benefits have been described in detail in the Application and in previous IR responses.

The time to make a decision on the issue of common rates for FEFN is now. There has already been a significant investment of cost and effort in this proceeding. Deferring the proposed move to common rates for three or five years will require FEI, the BCUC and interveners to restart the

<sup>2</sup> As described in 2020-2024 MRP Application, Appendix B2 – FEI Forecasting Method Study – FEI gathered forecast variance data for multiple years prior to recommending a method change.

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 35

regulatory process from the beginning thereby doubling the regulatory effort and cost for no discernable benefit to any party. As discussed in the response to BCUC IR2 40.1 on FEI's Common Rate Application, FEI was already forecasting the costs of this proceeding to be approximately \$194 thousand (excluding the RRA portion). FEI notes this estimate was prior to the additional regulatory processes for intervenor evidence and FEI's rebuttal evidence, as well as the number of IRs received on FEI's Rebuttal Evidence. Based on the current regulatory processes for the common rates portion of the Application, FEI's updated forecast for the regulatory cost of this proceeding is approximately \$259 thousand. To provide an understanding of the materiality of these costs to FEFN customers, based on FEFN's approved 2022 delivery margin, this is equivalent to a delivery rate impact of 10.3 percent, assuming the costs are amortized into rates over a one-year period.

As discussed in BCUC IR1 3.3 on FEI's Rebuttal Evidence, to help address the concerns over the impact to FEFN's residential customer, FEI is amenable to extending the proposed phase-in for FEFN's residential customers thereby keeping their delivery rates similar to FEFN's status quo scenario over a longer period of time.

In Exhibit C2-8, in response to BCUC IR 5.4.1 on NRRM's intervenor evidence, CSCW explains its forecast methodology as follows: "Using the Actual BC Stats LHA Households and Fortis Gas Demand (Tjs) Totals for 2011 to 2020 the regression equation predicted demand for households each year from 2021 onwards."

CSCW provides the following alternative long-term demand forecast (CSCW forecast) for FEFN:

The projected demand in Tjs for 2021 to 2041 is shown in the following Table.

Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Households	2129	2154	2182	2213	2243	2283	2319	2353	2385	2414	2443
Demand FN-DM	527	535	543	552	561	573	584	594	604	613	621
Year	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	
Households	2471	2496	2515	2539	2555	2572	2588	2606	2622	2639	
Demand FN-DM	630	637	643	650	655	660	665	670	675	680	
* Calculated demand values rounded.											

9.3 Assuming that the Fort Nelson LHA household data used to generate the forecast above is reasonable, using a reasonable method please separate CSCW's forecast into customer classes and provide the resulting rates, by customer class, for FEFN for each of the years 2021 through 2030.

9.3.1 Please provide the difference in FEFN bill impacts in dollars and percentages terms between the rates in the preceding IR and common

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 36

rate Options 2 through 4 (with and without the residential customer phase-in rate rider), inclusive of the cumulative revenue requirement impacts of all FEI major capital projects identified in the GCOC and CTS TIMC Application proceedings.

### **Response:**

It is not reasonable or appropriate to assume the forecast provided by CSCW is reasonable when the BC Stats information generates a forecast which, as shown in Figure 5 of FEI's Rebuttal Evidence, is not reasonable, and BC Stats itself, which is the source of the inputs used by CSCW's forecast method, has advised that FEI refrain from using the BC Stats forecast for population and households for Fort Nelson. Using such a forecast to estimate future rate impacts will create an inaccurate and false assessment of the impact (or benefit) due to common rates. As such, FEI respectfully declines to provide a demand forecast by rate class as well as the resulting rate impact due to common rates using CSCW's forecasts.

9.4 In a scenario where the forecast number of households/customers was averaged between FEI's demand forecast methodology and CSCW's demand forecast methodology for each of the years 2021 through 2030, please provide a resulting demand forecast for each year.

9.4.1 Please provide the resulting rates for FEFN for each of the years 2021 through 2030 using the demand forecast provided in the IR response above.

9.4.1.1 Please provide the difference in FEFN bill impacts in dollars and percentages terms between the rates in the preceding IR and common rate Options 2 through 4 (with and without the residential customer phase-in rate rider), inclusive of the cumulative revenue requirement impacts of all FEI major capital projects identified in the GCOC and CTS TIMC Application proceedings.

### **Response:**

FEI does not believe there is value in developing this forecast nor is it appropriate to do so. As discussed on pages 25 and 26 of FEI's Rebuttal Evidence (A42):

The MAPE of CSCW's forecasting method, based on the linear regression between the BC Stats household numbers and FEFN's total demand, is 9.1 percent, which is double the MAPE of FEI's forecast method of 4.5 percent. FEI also observes that CSCW's forecasting method always over-forecasts FEFN's total demand from 2011 to 2020, which is a sign that this forecasting method would

FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
Response to British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on Rebuttal Evidence	Page 37

1 be overly optimistic in the relationship between household growth and actual  
2 natural gas demand.

3 Further, as noted in the response to BCUC IR1 9.3 on FEI's Rebuttal Evidence, BC Stats, which  
4 is the source of the inputs used by CSCW's forecast method, has advised that FEI refrain from  
5 using the BC Stats forecast for population and households for Fort Nelson.

6 FEI considers it unreasonable to blend FEI's forecasting method with CSCW's forecasting method  
7 and estimate the resulting rate impact due to common rates. Doing so will create an inaccurate  
8 and false assessment of the impact of a move to common rates.

9