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March 31, 2015

Via Email
Original via Mail

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

Attention: Mr. Christopher P. Weafer

Dear Mr. Weafer:

Re: FortisBC Energy Inc. (FEI)

Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)

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

On December 3, 2014, FEI filed the Application as referenced above. In accordance with Order G-34-15 setting out the Amended Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to CEC IR No. 2.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc: Commission Secretary
Registered Parties (e-mail only)



FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 1

1 **1.0 Reference: Exhibit B-4, CEC 1.1.2**

24 **Response:**

25 Effective April 1, 2014, as per Commission Order G-39-14, the Commission directed FEFN to
26 increase FEFN's Gas Cost Recovery Charge by \$1.929 per gigajoule (GJ), (from \$2.846 per GJ
27 to \$4.775 per GJ). This increase resulted in a burner-tip increase effective April 1, 2014, for a
28 residential customer with an average consumption of 140 GJs per year of approximately 33
29 percent. The resulting increases for commercial customers with average annual consumptions
30 of 460 GJs and 3,100 GJs were approximately 31 percent and 33 percent respectively. The
31 one transportation service customer was not impacted by the increase in FEFN's Gas Cost

2

3 1.1 Please provide the average increases and decreases by dollar value and
4 percentage for each customer class over the last 10 years.

5

6 **Response:**

7 Please refer to Attachment 1.1 for the average burner-tip increases or decreases (in dollar value
8 and percentage), for the applicable rate change period from October 1, 2004 to January 1, 2015
9 for FEFN Rate Schedules 1, 2.1, 2.2 and 25.

10

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 2

1 **2.0 Reference: Exhibit B-4, CEC 1.1.3 and Exhibit B-2, BCUC 1.2.1**

23 Deferral account treatment of costs or revenue deficiencies/surpluses is a short term option that
24 can provide some rate stability in certain situations. Deferral treatment, for example, can be
25 effectively used to smooth the impact of one-time or short-term expenses. The deferral
26 approach, however, cannot be effectively used to defer the impact of capital investment in the
27 system, such as those of the Muskwa River Crossing Project, which are already capitalized and
28 will be depreciated over long periods of time. Nor can deferral account treatment change the
29 underlying cause of rate instability in Fort Nelson.

30 In FEI's opinion, due to the existing small customer base and limited forecast growth, the only
31 real long term solution for rate stability in Fort Nelson is the adoption of common rates with FEI.
32 Although this option provides increased rate stability, it may also result in a fairly substantial
33 initial increase to the existing rates of Fort Nelson customers.

1 As suggested by the Commission in their Decision pertaining to Order G-21-14 (page 19), FEI
2 will be reviewing the inclusion of Fort Nelson in common rates as part of the comprehensive rate
3 design application that will be filed before December 31, 2016.

11 **Response:**

12 The Muskwa River Crossing Project causes an approximate 18.72 percent (\$365 thousand /
13 \$1,950 thousand delivery margin) increase in the delivery component of the rate in 2015. This
14 is just over 77 percent of the total 24.26 percent delivery rate increase.

2
3 2.1 Please provide FEFN's view of the underlying causes of rate instability in Fort
4 Nelson.

6 **Response:**

7 Due to the small customer base, rates in Fort Nelson are more likely to experience greater
8 volatility than the rest of the province due to the implementation of major projects, changes in
9 demand and other factors affecting the revenue requirement.

10
11

12
13 2.2 Has FEI received feedback from customers indicating dissatisfaction with the
14 instability of historical or expected rates?

15
16 **Response:**

17 FEI has not received specific feedback from individual FEFN customers indicating
18 dissatisfaction with the instability of historical rates, but notes that the letter of comment on
19 process filed by the Fort Nelson Chamber of Commerce (Exhibit C1-3) appears to express
20 dissatisfaction with expected rate increases. Further, market research, in addition to past
21 regulatory proceedings for FEI and British Columbia Hydro and Power Authority, indicate that
22 customers are generally concerned about rate fluctuations and do not like rate increases.



FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 3

1
2
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2.2.1 If yes, please provide an overview of the types of comments that FEI has received and when.

Response:

Please refer to the response to CEC IR 2.2.2.

2.2.2 If no, is it FEI's position that rate stability is not an issue for customers?

Response:

FEI believes that rate stability is an important consideration for all customers. Although the cost of the Muskwa River Crossing is a significant contributor to the rate increase in Fort Nelson, FEI has a requirement to provide safe and reliable service, and the Muskwa River Crossing is necessary to maintain the reliability of the system.

2.3 Please confirm, or otherwise explain, that common rates would not have mitigated the present proposed increase for FEI Fort Nelson.

Response:

This question is outside of the scope of this proceeding. This is also a hypothetical question that FEI cannot answer as FEI does not know the implementation and phase-in approach that the Commission would approve if common rates were to be approved for Fort Nelson customers.

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 4

1 2.4 Please confirm or otherwise explain that if FEI proceeds with, and is successful
2 in a Common Rates application in 2016, that FEFN customers would be
3 expected to experience further increases.

4
5 **Response:**

6 This series of questions is out of the scope of this proceeding and is speculative in nature. As
7 such, FEI has not responded to the remaining questions in this series.

8 FEI has yet to determine what, if any, proposals will be made with respect to the potential
9 inclusion of FEFN customers in common rates in the forthcoming Rate Design Application.
10 FEFN customers may experience further increases with or without common rates.

11
12

13

14 2.4.1 If yes, please provide a rough approximation of the additional expected
15 increase that FEFN customers might expect to receive as a result of
16 common rates.

17

18 **Response:**

19 Please refer to the response to CEC IR 2.2.4.

20

21

22

23 2.4.2 If yes, to the extent that the Muskwa River Crossing Project causes an
24 approximate 18% increase in delivery rates proposed at the present,
25 and accounts for approximately 77% of the proposed delivery rate
26 increase, would the Muskwa River Crossing Project increases have
27 been mitigated to some extent by Common Rates if undertaken earlier?
28 Please explain why or why not.

29

30 **Response:**

31 Please refer to the response to CEC IR 2.2.4.

32

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FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 5

1 2.4.3 If yes, would deferral of the increases related to the Muskwa River
2 Crossing Project until after determination of a Common Rates
3 application enable FEFN customers to receive a greater benefit from
4 Common Rates than would otherwise be achieved? Please explain
5 why or why not.
6

7 **Response:**

8 Please refer to the response to CEC IR 2.2.4.

9
10

11
12 2.5 What factors will FEI consider in their determination as to whether to proceed or
13 not with an application for common rates in FEFN?
14

15 **Response:**

16 Please refer to the response to CEC IR 1.2.4.

17

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 6

1 **3.0 Reference: Exhibit B-4, CEC 1.2.1**

8 There are many factors implicit in the declining use per customer (UPC). Energy Efficiency and
9 Conservation (EEC), customer behavior, improved appliance efficiency and housing stock are
10 four factors that may be affecting the decline. While factors that may be contributing to the
11 decline can be identified, the relative contribution of each factor cannot be identified. All factors
12 are intrinsic in the historic data used to prepare the forecast.

13 The following three charts provide a graphic representation of the relationship between account
14 growth and declining UPC, highlighting that the growth in customer accounts is not sufficient to
15 offset the impact of the decline in UPC on the forecast.

16 The following chart shows that residential accounts are increasing, which would, all else equal,
17 lead to an increase in demand;

3
4 3.1 Please explain how 'housing stock' affects UPC in Fort Nelson.

5
6 **Response:**

7 Housing stock can affect UPC in Fort Nelson primarily due to newer dwellings having
8 improvements in energy efficiency compared to older dwellings, due to changes in building
9 codes. FEI assumes newer houses are built with improved technology and materials such as
10 better insulation. Newer homes built to improved building standards tend to use less gas,
11 leading to a decline in the average use rate.

12
13
14
15 3.2 What would FEFN identify as the key factors affecting UPC for Commercial Rate
16 Schedules 2.1 and 2.2?

17
18 **Response:**

19 FEI cannot explicitly state what individual factors influence the UPC from one year to the next.
20 The variability is within a reasonable range relative to the historical variations seen in preceding
21 periods. The customers in these commercial rate schedules represent a wide range of
22 commercial sectors in Fort Nelson. Each of these sectors is influenced in different ways by a
23 broad range of factors. As a result, pinpointing the causes of a change to the aggregate UPC
24 within this normal level of variability in a given year is not possible.

25

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 7

1 **4.0 Reference: Exhibit B-4, CEC 1.2.4**

8 FEI's on-line home energy calculator is also available to help FEFN customers reduce their
9 energy consumption by allowing the customer to undertake a range of energy use comparisons
10 of various space and water heating equipment, thereby allowing the customer to make new
11 equipment purchasing choices with better information about energy efficiency.

2

3 4.1 How many of FEFN's customers have made use of the on-line home energy
4 calculator?

5

6 **Response:**

7 To the best of FEI's ability to track the location of users, it appears that eight separate users
8 from Fort Nelson accessed the on-line home energy calculator a total of nine times since the
9 tool was launched in late 2012.

10

11

12

13 4.2 Are all the customers making use of the energy calculator residential, or is this
14 available for commercial purposes as well?

15

16 **Response:**

17 Currently, the home energy calculator is primarily for use by residential customers, though all
18 customers have access to it.

19

20

21

22 4.2.1 If commercial customers are also able to use the energy calculator,
23 please estimate the proportionate mix of users as being residential or
24 commercial.

25

26 **Response:**

27 FEI is not able to determine if users of the tool are commercial or residential customers;
28 however, the Home Energy Calculator is intended for use by residential customers and FEI
29 expects that the users who have accessed the tool have used it for residential usage
30 comparisons.

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 8

1
2
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4
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4.3 What products and services are available to commercial customers to assist in the reduction of energy use? Please list.

Response:

Energy Efficiency and Conservation (EEC) programming is the only product or service available to commercial customers in Fort Nelson to assist in reducing their energy use. This includes on-line energy savings tips for businesses. The full list of commercial EEC programs and energy savings tips available to Fort Nelson customers is the same as those available to all FEI customers and can be viewed at:
<http://www.fortisbc.com/NaturalGas/Business/Pages/default.aspx>.

4.3.1 Please provide the use rates if available for each product or service available to commercial customers.

Response:

From 2012 to 2014, there have been three participants in commercial EEC programs in Fort Nelson: one in the Continuous Optimization Program and two in the Custom Design (Retrofit) Program.

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 9

1 **5.0 Reference: Exhibit B-4, CEC 1.2.5**

2 **Response:**

3 The programs offered to customers in the FEFN service area that will increase a customer's
4 natural gas use are the activities that FEI undertakes throughout the province generally and
5 include customer education, awareness and outreach programs, the advancement of natural
6 gas end-use technologies and applications and community investment in education. Each of
7 these is described briefly below:

- 8 • **Customer Education, Awareness, and Outreach Programs:** This initiative is aimed at
9 increasing preferences and demand for natural gas use through comprehensive
10 customer education, awareness and outreach programs.
- 11 • **Advancing Natural Gas end-use Technologies and Applications:** This initiative is
12 aimed at advancing gas end-use technologies to support the efficient use of gas
13 applications in the residential, commercial and industrial market and ensuring they are
14 more affordable and widely available, by working collaboratively with key stakeholders,
15 including industry and the Canadian Gas Association (CGA).
- 16 • **Community Investment in Education:** This initiative is to build and foster relations
17 amongst educational institutions in the province, as these establishments are becoming
18 increasingly influential in municipal and provincial policy changes.

2

3 5.1 Please confirm or otherwise explain that the load building programs FEI
4 undertakes generally throughout the province are equally applicable to
5 customers in the FEFN service area, and are also equally accessible to FEFN
6 customers, particularly including Commercial customers.

7

8 **Response:**

9 Confirmed.

10

11

12

13 5.2 Are there load building programs and services which exist or might be developed
14 to address specific characteristics of the FEFN services area? Please explain
15 why or why not.

16

17 **Response:**

18 FEI has not developed any load building programs specifically designed for Fort Nelson. FEI
19 expects that if a load building program or service can be cost effectively delivered in Fort
20 Nelson, such a program or service would also be viable and available elsewhere in the



FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 10

1 Province. FEI is open to considering new load building opportunities anywhere in its service
2 territory, including Fort Nelson.

3
4

5

6 5.2.1 If yes, please provide descriptions of the types of programs and/or
7 services that exist or might be developed/employed in the Fort Nelson
8 area to build load.

9

10 **Response:**

11 Please refer to the response to CEC IR 2.5.2.

12

13

14

15 5.2.1.1 Please provide the approximate costs of developing and implementing
16 such programs/services.

17

18 **Response:**

19 Please refer to the response to CEC IR 1.5.2

20

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23 5.2.2 If not, please explain why not.

24

25 **Response:**

26 Please refer to the response to CEC IR 2.5.2.

27

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 11

1 **6.0 Reference: Exhibit B-4, CEC 1.2.6 and Exhibit B-1, Pages 22 and 23**

7 **Response:**

8 Any costs that have been incurred to add customers and/or increase the use per customer
9 reside in FEI's ES&ER departmental O&M. Costs for ES&ER department O&M expenditures
10 are allocated from FEI to FEFN based on the formula approach that is described in the
11 Application. FEI does not track costs at the level of detail that would be required to provide the
12 dollars associated with these activities within the ES&ER department since they are undertaken
13 by existing FEI staff as part of their overall responsibilities.

The 2015 proposed rates use the same methodology as approved in Order G-27-08. Based on the 2015 forecast average number of customers for FEI, FEVI, FEW and FEFN of 952,655 and FEFN of only 2,459 (Section 9, Schedule 14, Line 14), respectively, the allocation factor is 0.257%. The reduction in the allocation factor

compared to 2014 is due to including FEVI and FEW customers in the total customers for FEI (due to the amalgamation of the three utilities effective December 31, 2014). As noted above, this is offset by a larger pool of O&M costs due to the inclusion of FEVI and FEW O&M. The new allocation factor of 0.257% has been used for 2015 and 2016 proposed rates.

2

3 6.1 Please confirm that FEFN does not have access to all the service offerings, such
4 as the Customer Choice program that are currently available to FEI customers.

5

6 **Response:**

7 Confirmed.

8

9

10

11 6.1.1 If confirmed, please provide a list of the services and programs that are
12 available to FEI customers and are not available to FEFN customers.

13

14 **Response:**

15 The services / programs provided by the ES&ER department that are available to FEI
16 customers but are not available to customers in Fort Nelson are the Customer Choice and
17 Biomethane service offerings.

18

19

20



FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 12

1 6.1.2 If confirmed, are there expenses associated with the programs and
2 services not available to FEFN customers included in the O&M
3 allocation attributed to FEFN? Please explain.

4
5 **Response:**

6 Yes, there is less than \$1 thousand of O&M costs from Customer Choice and Biomethane
7 service offerings that are allocated to FEFN as part of the general allocation of O&M, as follows:

	2014	2015	2016
Customer Choice related O&M costs included in total FEI O&M Allocation Amount *	\$305,171	\$307,668	\$312,568
Biomethane related O&M costs included in total FEI O&M Allocation Amount	\$20,000	\$78,000	\$79,242
Total Customer Choice and Biomethane related O&M included in the FEI O&M Allocation Amount	\$325,171	\$385,668	\$391,810
% Allocation to FEFN	0.300%	0.253%	0.253%
Total Customer Choice and Biomethane related O&M Allocated to FEFN	\$976	\$976	\$991

8 * The Customer Choice amounts are calculated as the \$300 thousand of program costs approved to be
9 included in FEI's 2013 O&M Base escalated by the PBR formula for each of 2014, 2015 and 2016.

10
11 As shown in the table above, the total of these costs amounts to less than \$1 thousand each
12 year. The O&M allocation from FEI is an annual estimate that is accepted as a reasonable
13 basis to allocate a suite of services to FEFN and is not based on a line by line determination of
14 whether each and every cost is applicable to Fort Nelson. In some years, more time will be
15 spent on Fort Nelson activities by certain departments than what is reflected in the allocation
16 percentage, and in other years it may be less, but FEI considers that it remains a reasonable
17 method to establish an O&M allocation for FEFN. As such, it would not be appropriate to
18 dissect and review an individual cost element outside of an overall review of all of the
19 components of the allocation that would consider any elements that should be excluded and any
20 elements that should be included.

21
22

23
24 6.1.2.1 If there are costs that are included in the FEFN allocation
25 related to programs or services which are not available to
26 FEFN, please list the programs/services and provide
27 quantification of the program costs where possible and their
28 percentage total for O&M allocation amounts.



FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 13

1

2 **Response:**

3 Please refer to the response to CEC IR 2.6.1.2.

4

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 14

1 **7.0 Reference: Exhibit B-4, CEC 1.2.7**

22 **Response:**

23 Approximately \$25 thousand has been spent on EEC programming including incentives for
24 FEFN customers and education and outreach activities targeting FEFN customers. This level of
25 spending equals approximately \$10 per customer during this period.² This amount does not
26 include additional O&M expenditures, such as those one-time costs incurred for the
27 development and maintenance of the on-line home energy calculator, that are administered on
28 behalf of FEFN through the O&M Shared Services allocation formula approved by the
29 Commission. FEI does not track these other O&M expenditures in a manner that allows a
30 breakout of these costs as requested.

² Using the 2013 year end customer count of 2,438.

2

3 7.1 Over what period of time did FEFN undertake the \$25 thousand in EEC
4 programming?

5

6 **Response:**

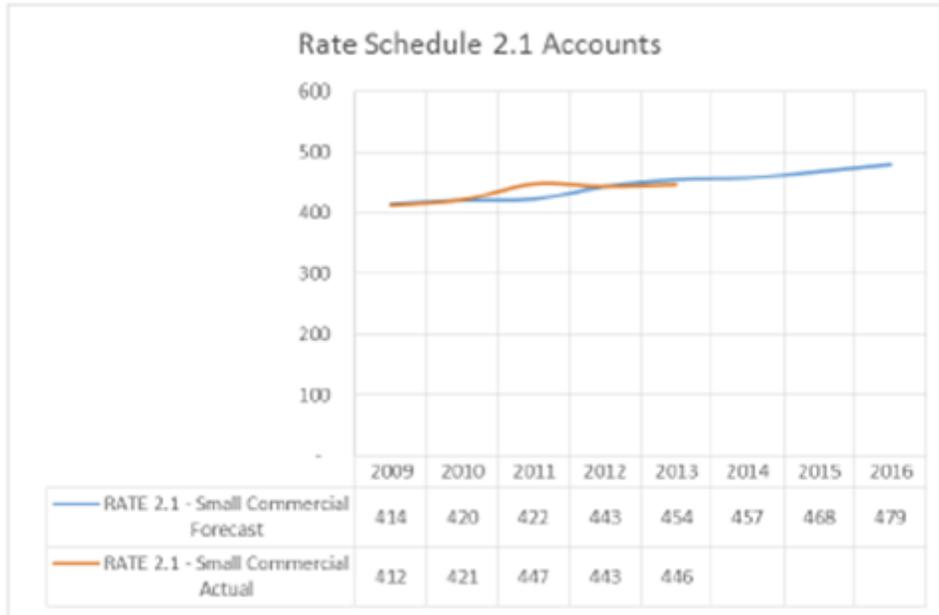
7 The approximately \$25 thousand in EEC programming applicable to Fort Nelson customers took
8 place over the years 2012 to 2014.

9 FEI notes that when it prepared its Annual Reports to the BCUC for 2012 and 2013, it did not
10 include the additions to the EEC deferral account for those years due to an oversight; similarly,
11 there were no forecast additions to the EEC deferral account in 2012 or 2013. FEI has now
12 recorded the 2012 through 2014 additions in 2014 such that the 2015 opening balance in its
13 financial schedules is correct.

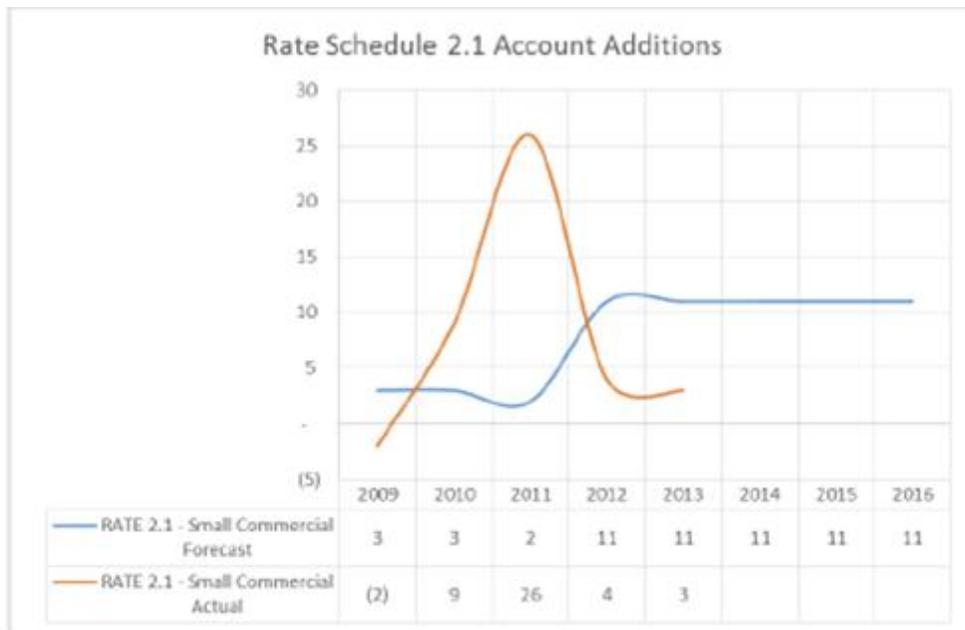
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FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 15

1 **8.0 Reference: Exhibit B-2, BCUC 1.4.1.1**



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8.1 What was the cause of the significant increase in small commercial additions in 2010 and 2011?



FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 16

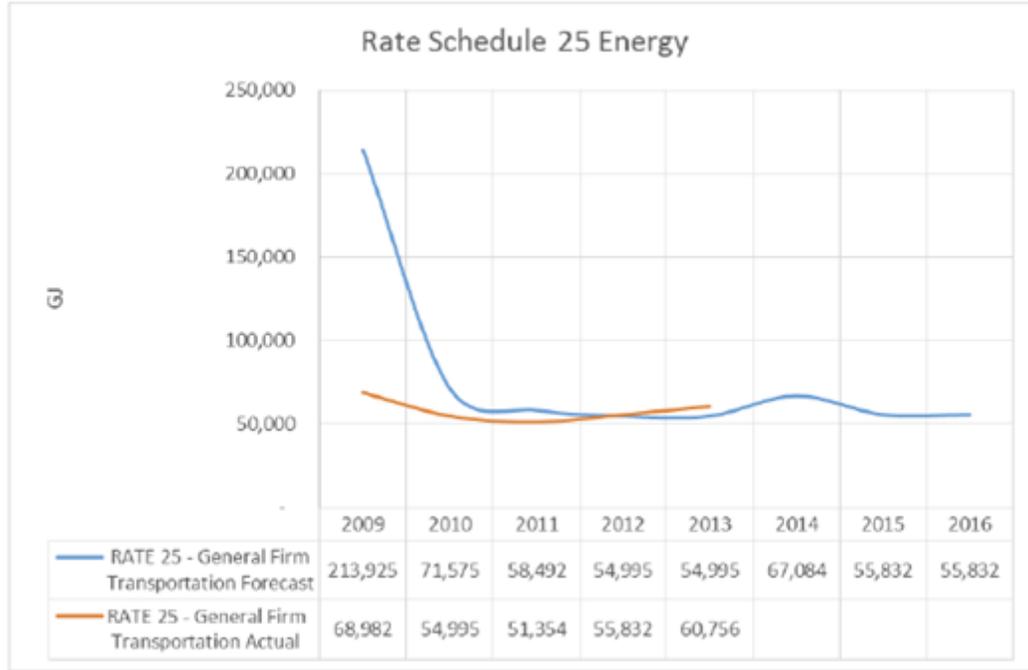
1 **Response:**

2 In addition to general growth additions, the primary cause for the increase in commercial
3 additions was a multi-meter commercial facility attaching to the system.

4

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 17

1 **9.0 Reference: Exhibit B-2, BCUC 1.4.1.1**



2

3 9.1 What was the cause of the significant differential between the forecast and the
4 actual in Rate Schedule 25 Energy for 2009 and 2010?

5

6 **Response:**

7 As discussed on page 18 of the Application, FEI has only one Industrial customer served under
8 FEFN's Rate Schedule 25. In 2008, this customer's two facilities in Fort Nelson were closed
9 and now only consume gas to heat the facilities. The history related to this customer and the
10 closing of their facilities in 2008 has been well documented in previous FEFN Revenue
11 Requirement Applications and does not affect or impact the forecast for this filing.

12 The above table shows the Original FEFN 2009 R25 forecast that was revised from 214 TJ in
13 the Original FEFN 2009 RRA (filed September 4, 2008) to 14 TJ in Amended FEFN 2009 RRA
14 (filed October 30, 2008) due to the announcement by the customer on October 8, 2008 that their
15 Tackama mill would close at the end of that month. The amended 2009 forecast ended up
16 being lower than the 2009 actual; however any margin variations arising from any difference
17 between forecast and actual deliveries would be captured through the RSAM account as noted
18 in FEFN's applications. As discussed in the Amended FEFN 2009 RRA, the 14 TJ/annum
19 forecast was believed to be a fair and reasonable estimate at the time as both the customer and
20 FEFN had very little confidence in the accuracy of the customer's forecasted natural gas usage



FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 18

1 since this was the first time the customer had to heat their facilities in this manner. Please refer
2 to the 2009 Fort Nelson Revenue Requirement for any further details.

3

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 19

1 **10.0 Reference: Exhibit B-4, CEC 1.6.4 and Exhibit B-2, BCUC 1.5.1 and 1.5.2**

2

a) Determine CBOC Housing Starts

FEFN uses the CBOC Provincial Medium Term Forecast that is available at the time that the forecast is produced. This forecast provides the single and multi-family family housing starts for the Province for the forecast period. For this Application, the CBOC forecast available at the time the forecast was produced was published in December 2013 (please see below for the impact of using the more recent CBOC forecast that is now available).

	2013	2014	2015	2016
BRITISH COLUMBIA	8,296	8,206	8,947	9,161

FEI has also reviewed the BC Stats forecasts for population growth for Local Health Area 81 (Fort Nelson) which projects a growth rate of +2 percent in 2015 and +2.1 percent in 2016. The 2016 forecast aligns well with the CBOC forecast used, although the 2015 forecast by BC Stats is lower than CBOC. If FEFN were to adopt the BC Stats forecast rather than the CBOC, the impact would be a reduction of one customer to 2015 (instead of 13 customer additions, there would be 12 customer additions), and no impact to 2016.

- 6 Note that since the forecast was prepared a new CBOC forecast has been released. The new
7 forecast is showing -9 percent for single family dwellings in 2015. Using the new CBOC forecast
8 would result in an additions forecast of 11 customers in 2015 and 2016 instead of the 13 filed.
9 This would not have a material impact on the demand forecast.

3

4 10.1 When was the Local Health Area 81 forecast done?

5

6 **Response:**

7 The Local Health Area 81 forecast was released in September of 2014 and is reflective of July
8 1, 2014 data.

9

10

11

12 10.1.1 Please provide any updates to the BC Stats Local Health Area 81
13 forecast.

14

15 **Response:**

16 The BC Stats forecast referenced in the preamble was published in September of 2014. There
17 are no further updates.

18

19

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 20

1
2 10.2 Please provide the BC Stats Local Area 81 growth rates for each of the last 5
3 years.

4
5 **Response:**

6 Local Health Area 81 household growth rates from BC Stats for 2010-2014 are as follows:

Year	Growth Rate
2010	3.0%
2011	3.1%
2012	2.1%
2013	1.4%
2014	1.9%

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10.3 Please confirm that the new CBOC forecast being referenced is from December 2014.

15 **Response:**

16 Not Confirmed. The CBOC forecast being referenced is from November 24, 2014.

10.3.1 If not confirmed, please provide the date for the new CBOC forecast.

22 **Response:**

23 Please refer to the response to CEC IR 2.10.3.



FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 22

1 **Response:**

2 Although using this forecast may be reasonable, an update based on a forecast of 11 customer
3 additions rather than 13 is not necessary because it does not have a material impact on the
4 demand forecast.

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8 10.6.1 If no, please explain why not.

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10 **Response:**

11 Please refer to the response to CEC IR 2.10.6.

12

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 23

1 **11.0 Reference: Exhibit B-2, BCUC 1.5.2**

a) Determine CBOC Housing Starts

FEFN uses the CBOC Provincial Medium Term Forecast that is available at the time that the forecast is produced. This forecast provides the single and multi-family family housing starts for the Province for the forecast period. For this Application, the CBOC forecast available at the time the forecast was produced was published in December 2013 (please see below for the impact of using the more recent CBOC forecast that is now available).

	2013	2014	2015	2016
BRITISH COLUMBIA	8,296	8,206	8,947	9,161

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11.1 Please provide the breakdown of the forecast by single family and multifamily.

Response:

The December 2013 CBOC forecast broken down by single family and multifamily is shown below:

		2015	2016
SFD	Housing Starts (SFD)	8,947	9,161
MFD	Housing Starts (MFD)	21,579	22,146

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11.2 Does FEFN have a similar single family/multifamily ratio profile as that of the province in general?

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Response:

This response also addresses CEC IR 2.11.2.1.

Based on FEI's capture rate data, the single family to multifamily profile in Fort Nelson is not similar to the province in general. The capture rate data indicates that Fort Nelson is 100 percent single family dwellings whereas the rest of the province is forecast as a mix of SFDs and MFDs.

The following table provides a comparison of the single family/multifamily profile that is currently used in FEI's residential customer forecasts:

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FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 24

	Lower Mainland	Inland	Columbia	Vancouver Island	Whistler	Fort Nelson
% SFD	80%	88%	85%	87%	100%	100%
% MFD	20%	12%	15%	13%	0%	0%

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11.2.1 If not, please provide the ratio of single family/multifamily in the province and in FEFN.

Response:

Please refer to the response to CEC IR 2.11.2.

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 26

Naive	Naïve forecasts are the most cost-effective forecasting model, and provide a benchmark against which more sophisticated models can be compared. For stationary time series data, this approach says that the forecast for any period equals the historical average.	Applicable because accurate historic data is available and forecast period is short term. Volatility in the historic data is high so variance in the forecast may be high but unavoidable.	Third to Econometric and Time Series due to volatility in data.
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12.1 Over what period is the correlation statistic for FEFN determined?

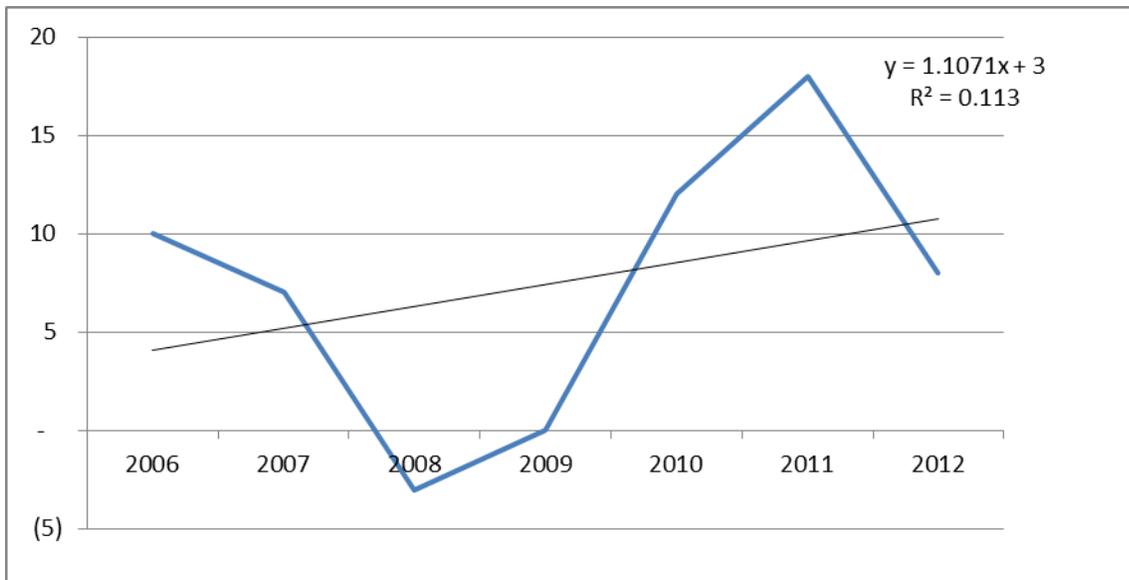
Response:

The correlation statistic for FEFN was determined for the period 2006-2012.

12.2 Please provide the correlation statistic for FEFN for the Time Series and the Naive forecasting methods using the same period of data if available.

Response:

Using the time series model, the correlation statistic is 0.113 or 11.3 percent.



15 The correlation statistic between the forecast using the Naive method and the actual additions is
16 6.2 percent.



FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 27

	Additions	Naïve forecast
2005	69	
2006	10	69
2007	7	10
2008	(3)	7
2009	-	(3)
2010	12	-
2011	18	12
2012	8	18
Correlation		6.2%

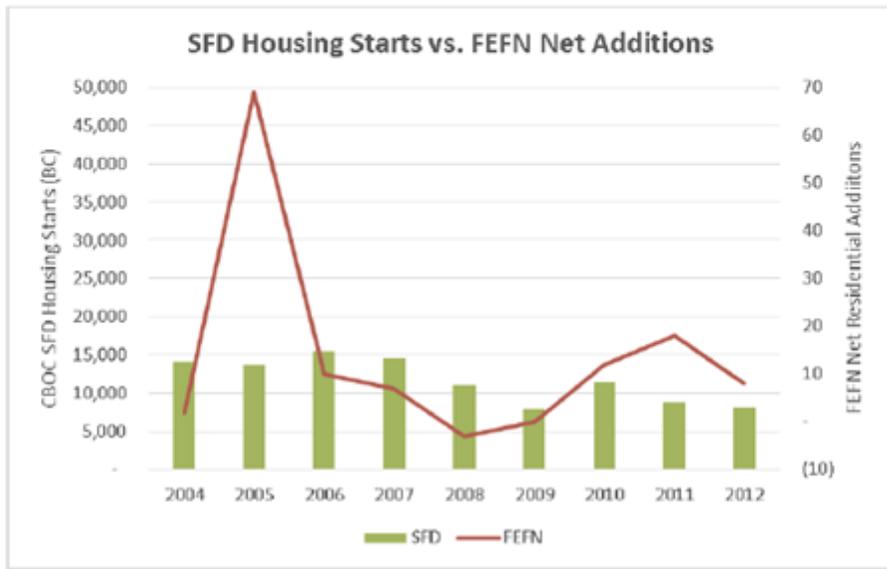
- 1
- 2 FEI believes that it is inappropriate to select a forecast method solely based on a consideration
- 3 of the relative magnitude of correlation coefficients. FEI has chosen the CBOC method because
- 4 it is a causal forecast and because it is consistent with both past practice and other regions of
- 5 FEI.
- 6

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 28

1 **13.0 Reference: Exhibit B-2, BCUC 1.5.3**

	2010		2011		2012		2013	
	Actual	Forecast	Actual	Forecast	Actual	Forecast	Actual	Forecast
Accounts Additions	12	10	18	10	8	11	12	13
Variance		(2)		(8)		3		1

- 1
- 2 Additionally, using the existing method is appropriate given the efficiency that the consistency of
- 3 a single methodology affords. That is, using a single methodology is more efficient and costs
- 4 less compared to developing and supporting multiple models.
- 5 In Fort Nelson all additions are assumed to be single family dwellings. A plot of the CBOC
- 6 Single Family Additions forecast compared to actual FEFN residential additions is shown below.



- 2
- 3 13.1 Why are all Fort Nelson additions assumed to be single family dwellings?
- 4

5 **Response:**

6 Please refer to the response to CEC IR 2.11.2.

- 7
- 8
- 9
- 10 13.2 Please confirm the following statements with respect to the above chart and
- 11 graph.
- 12 • In 2012 the Single Family Dwellings forecast from CBOC was slightly
 - 13 lower than the 2011 Single Family Dwellings forecast from CBOC. (i.e.,
 - 14 forecast of slightly declining growth)

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 29

- 1 • All additions are assumed to be single family.
- 2 • In 2012 the FEFN forecast derived using CBOC data anticipated a growth
- 3 increase of 11 additions or about 10% over the forecast from 2011, which
- 4 was for 10 additions.
- 5 • In 2012 there were 3 fewer account additions than were forecast.
- 6

7 **Response:**

8 The numbers below refer to the bullet points in the question.

- 9 1. Not confirmed. The graph in the preamble shows actual values, not forecast values.
- 10 2. Confirmed.
- 11 3. Confirmed. The 2012 customer additions forecast was one more than the 2011 customer
- 12 additions forecast.
- 13 4. Confirmed.

14

15

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 30

1 **14.0 Reference: Exhibit B-2, BCUC 1.8.1**

14 **Response:**

15 Confirmed.

16 The value of 60.8 TJs for 2013 is an actual consumption number and the 2014, 2015 and 2016
 17 values are from the response of FEFN's single industrial customer to the annual Industrial
 18 Survey completed in the fall of 2013.

19 Consistent with past methodology, annual forecasts are collected from individual industrial
 20 customers via the Industrial Survey web site. The survey approach remains the most efficient
 21 and relevant way to forecast the energy demand of Industrial customers because of the unique
 22 nature of each industrial customer.

2

3 14.1 Please provide the value that would be used from the 2014 response to the
 4 Annual Industrial Survey.

3

4

5

6

Response:

7 The table below provides industrial customer demand based on the 2014 survey response as
 8 compared to the 2013 survey response:

7

8

Year	2013 Industrial Survey, TJs	2014 Industrial Survey, TJs
2015	55.8	55.6
2016	55.8	49.0

9

10 Please note that variations in industrial customer use from forecast are captured in the RSAM
 11 account.

12

13

14

15

14.1.1 Would FEFN find the use of the 2014 response as the basis for the
 16 forecast to be reasonable if different than the 2013 information?

16

17

18

Response:

19 Yes, FEI would find the use of the 2014 industrial survey response as reasonable.

20 Please note that because the 2014 survey response indicates a minor reduction in 2015 of 0.2
 21 TJs and a reduction of 6.8 TJs in 2016 demand as compared to what was embedded in the
 22 Application, updating the revenue requirement with this forecast will result in an immaterial

20

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FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 31

1 change in 2015 and an increase to the revenue deficiency of approximately \$18 thousand or
2 approximately 1 percent to the delivery component of the rate in 2016. .

3

4

5

6

14.1.1.1 If no, please explain why not.

7

8 **Response:**

9 Please refer to the response to CEC IR 2.14.1.1.

10

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 32

1 **15.0 Reference: Exhibit B-4, CEC 1.6.2**

16 FEI is aware that there is potential for development in the Horn River Basin over the next five
17 years and FEI believes it is a reasonable assumption that long term growth in Fort Nelson may
18 be partially tied to this development.

19 It is FEI's understanding, however, that there is still some uncertainty around the degree and
20 timing of this growth, particularly within the short term. The Conference Board of Canada
21 (CBOC), for example, published an article in The Province newspaper on April 24, 2014, and
22 stated that they, "expect Canadian gas production to begin rising again by the end of this
23 decade".

24 FEI has not applied any incremental adjustments to its customer additions forecast to reflect the
25 potential development in the Horn River Basin for 2015 and 2016. Consistent with past practice
26 and other FEI service territories, residential customer growth in FEFN is forecast based on the
27 provincial housing starts forecast from the CBOC. As a result, the FEFN forecast of residential
28 additions considers development in the Horn River Basin to the same extent that the CBOC
29 forecast considers development in the Horn River Basin. FEI is unable to determine what
30 assumptions around development in the Horn River Basin, if any, are embedded in the CBOC
31 forecast and thus embedded in the forecast of residential customer additions.

2

3 15.1 Would FEI agree that development in the Horn River is likely to be of significantly
4 greater proportionate influence on FEFN than it is to the rest of the province?

5

6 **Response:**

7 Without any data to rely on, and development not imminent, FEI does not wish to speculate on
8 how this development might affect the region or the province. FEI does not incorporate
9 speculation into any aspect of the forecasting process.

10

11

12

13 15.1.1 If so, would FEI find it not unreasonable to make adjustments to its
14 forecast of customer additions when development in the Horn River
15 Basin is more certain? Please explain why or why not.

16

17 **Response:**

18 When the development of the Horn River Basin becomes more certain, FEI expects that the
19 CBOC will incorporate the impact into their forecast, which will then be used in FEI's forecast of
20 customer additions.

21

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 33

1 **16.0 Reference: Exhibit B-4, CEC 1.7.1.1.1**

13 **Response:**

14 Yes. The existing methodology is based on the use of historical data only and FEI believes the
15 most recent 3 years' data are the best indicator given the volatility of additions data. FEI
16 believes that holding the 3 year average constant is a better approach than a rolling approach
17 which would use a forecasted 2014 value to forecast the 2015 value. Further the 2016 value
18 would be based on only a single actual value (from 2013) and two forecasted values (from 2014
19 and 2015).

2

3 16.1 Does holding the three year average constant contribute in any way to rate
4 stability? Please explain.

5

6 **Response:**

7 No, the methodology used to determine the number of additions of commercial customers has
8 no impact on rate stability for 2015 and 2016 in Fort Nelson.

9 Regardless of the methodology, the relative size of customer additions in comparison to the
10 existing customer base is not significant enough to affect the stability of rates. Furthermore, and
11 generally speaking, additional revenues forecast from customer additions are offset by the
12 capital and operating costs associated with the new customers, resulting in little impact on the
13 revenue requirement and thus delivery rates.

14

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 34

1 **17.0 Reference: Exhibit B-4, CEC 1.7.2**

11 Although the customer additions of 29 in 2011 are certainly significantly greater than most
 12 years, FEI does not agree that 2011 should be considered an outlier and ignored. Commercial
 13 additions in Fort Nelson are small and as a result volatile. As such, customer additions of 2 may
 14 be considered an outlier in some circumstances. For example, a simple outlier test on the years
 15 2007 through 2013 indicates that 4 out of the 7 data points could be considered outliers:

Year	2007	2008	2009	2010	2011	2012	2013
Commercial Additions	7	4	-2	8	29	4	3
MAD	3						
Median	4						
Result	Normal	Normal	Outlier	Outlier	Outlier	Normal	Outlier
Source	http://www.examiner.com/article/statistical-outliers-detection-microsoft-excel-worksheet						

16

2

3 17.1 Is FEI aware of any economic factors that contributed to the significant increase
 4 in commercial additions in 2011?

5

6 **Response:**

7 FEI is not aware of any specific economic factors that contributed to the significant increase in
 8 commercial additions in 2011. Please refer to the response to CEC IR 2.8.1.

9

10

11

12 17.1.1 If yes, please briefly discuss.

13

14 **Response:**

15 Please refer to the response to CEC IR 2.17.1.

16

FortisBC Energy Inc. (FEI or the Company) Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: March 31, 2015
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2	Page 35

1 **18.0 Reference: Exhibit B-2, BCUC 1.13.1**

16 13.1 Please explain why it is appropriate for the 2015 and 2016 Employee Expense
17 forecasts to both be increased by \$11 thousand compared to 2014 Projected,
18 given that it appears that the majority of the capital work is planned to be
19 performed in 2015.

20
21 **Response:**

22 As described in the response to BCUC IR 1.12.3, the nature of the work performed by both
23 managers includes the need to provide management oversight and support in terms of setting
24 performance objectives and expectations, assessments of work quality, coaching, training, work
25 planning, prioritization and execution.

26 Additional trips to Fort Nelson are planned for 2015 and 2016 to meet internal requirements to
27 assess and manage the quality of both O&M and recurring and project capital work. In
28 particular, the assessments and coaching are performed on employees on routine recurring
29 activities such as meter exchanges, service installations and gas odor calls. This allows the
30 managers to verify that employees are performing these tasks efficiently and in accordance with
31 work standards.

32 The employee travel expenses related to the capital projects in 2015 are charged directly to
33 capital for the duration of the project. The description of the travel expenses on page 24 of the
34 Application was in reference to the travel expenses associated with providing management
35 oversight on O&M and recurring routine capital activities (small dollar jobs such as new
36 services) that are in O&M and that will be at similar levels in both 2015 and 2016.

2

3 18.1 Please confirm or otherwise explain that the managers were also required to
4 provide oversight and support in the following activities in 2014:

- 5 • Setting performance objectives and expectations
6 • Assessment(s) of work quality
7 • Coaching
8 • Training
9 • Work planning
10 • Prioritization and execution.

11

12 **Response:**

13 Confirmed, but not to the same extent as in 2015. Please refer to the responses to BCUC IRs
14 1.13.1 and 2.1.1.

15

Attachment 1.1

Approximate Annual Bill Changes, 2004-2015

Rate Schedule	Rate Change Period																											
	1-Oct-2004		1-Oct-2005		1-Jan-2006		1-Apr-2006		1-Jul-2006		1-Jan-2007		1-Jan-2008		1-Feb-2008		1-Apr-2008		1-Jul-2008		1-Oct-2008		1-Jan-2009		1-Apr-2009		1-Oct-2009	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
1- Residential Service	\$ 54	5.42%	\$ 296	27.90%	\$ 5	0.40%	\$ (108)	-7.96%	\$ (98)	-7.82%	\$ 5	0.41%	\$ 6	0.49%	\$ 62	5.29%	\$ 203	16.51%	\$ 236	16.53%	\$ (290)	-17.41%	\$ 51	3.67%	\$ (202)	-14.12%	\$ (98)	-7.99%
2.1- General Service	\$ 179	5.22%	\$ 972	26.98%	\$ 18	0.39%	\$ (356)	-7.75%	\$ (322)	-7.60%	\$ 16	0.40%	\$ 19	0.48%	\$ 242	6.12%	\$ 643	15.34%	\$ 777	16.07%	\$ (954)	-16.99%	\$ 210	4.50%	\$ (662)	-13.60%	\$ (322)	-7.64%
2.2 - General Service	\$ 1,206	5.39%	\$ 6,553	27.78%	\$ 131	0.40%	\$ (2,399)	-7.93%	\$ (2,170)	-7.79%	\$ 105	0.41%	\$ 127	0.49%	\$ 1,401	5.40%	\$ 4,371	15.99%	\$ 5,236	16.52%	\$ (6,426)	-17.40%	\$ 1,044	3.42%	\$ (4,464)	-14.15%	\$ (2,167)	-8.00%
25- Transportation Service	Note ²	Note ²	Note ²	Note ²	\$ 269	2.99%	Note ²	Note ²	Note ²	Note ²	\$ 234	2.53%	\$ 282	2.98%	\$ 2,147	21.97%	\$ (541)	-4.54%	Note ²	Note ²	Note ²	Note ²	\$ 6,045	53.11%	Note ²	Note ²	Note ²	Note ²

Rate Schedule	Rate Change Period																					
	1-Jan-2010		1-Jul-2010		1-Jan-2011		1-Oct-2011		1-Jan-2012		1-Apr-2012		1-Jan-2013		1-Jan-2014		1-Apr-2014		1-Oct-2014		1-Jan-2015	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
1- Residential Service	\$ 85	7.56%	\$ (74)	-6.06%	\$ (39)	-3.39%	\$ (87)	-7.87%	\$ (6)	-0.61%	\$ (118)	-11.71%	\$ 29	3.25%	\$ (108)	-11.70%	\$ 270	33.27%	\$ (72)	-6.68%	\$ 91	9.06%
2.1- General Service	\$ 280	7.21%	\$ (242)	-5.80%	\$ (85)	-2.16%	\$ (285)	-7.42%	\$ (20)	-0.57%	\$ (388)	-10.97%	\$ 99	3.13%	\$ (353)	-10.89%	\$ 887	30.68%	\$ (237)	-6.28%	\$ 354	9.98%
2.2 - General Service	\$ 1,888	7.57%	\$ (1,628)	-6.07%	\$ (863)	-3.43%	\$ (1,919)	-7.89%	\$ (136)	-0.61%	\$ (2,613)	-11.74%	\$ 664	3.38%	\$ (2,381)	-11.72%	\$ 5,980	33.34%	\$ (1,600)	-6.69%	\$ 2,006	8.99%
25- Transportation Service	\$ (1,371)	-7.87%	Note ²	Note ²	\$ 3,361	20.93%	Note ²	Note ²	\$ (303)	-1.56%	Note ²	Note ²	\$ 1,454	7.61%	\$ (420)	-2.04%	Note ²	Note ²	Note ²	Note ²	\$ 4,618	22.92%

Notes:

¹Average annual consumptions are as follows: Rate Schedule 1 - 140 GJs, Rate Schedule 2.1 - 460 GJs, Rate Schedule 2.2 - 3,100 GJ, Rate Schedule 25 - 6,890 GJs.

²Rate Schedule 25 customers are not impacted by FEFN's Gas Cost Recovery Charge rate changes.