



Diane Roy
Director, Regulatory Services

Gas Regulatory Affairs Correspondence
Email: gas.regulatory.affairs@fortisbc.com

Electric Regulatory Affairs Correspondence
Email: electricity.regulatory.affairs@fortisbc.com

FortisBC
16705 Fraser Highway
Surrey, B.C. V4N 0E8
Tel: (604) 576-7349
Cell: (604) 908-2790
Fax: (604) 576-7074
Email: diane.roy@fortisbc.com
www.fortisbc.com

September 1, 2016

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

Attention: Ms. Laurel Ross, Acting Commission Secretary and Director

Dear Ms. Ross:

Re: FortisBC Energy Inc. (FEI)

Project No. 3698885

Application for 2017 and 2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)

Response to the British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1

On June 30, 2016, FEI filed the Application referenced above. In accordance with Commission Order G-108-16 setting out the Regulatory Timetable for the review of the Application, FEI respectfully submit the attached response to BCUC IR No. 1.

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 Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 1

	Page No.
1 Table of Contents	
2 A. BACKGROUND AND APPROVALS SOUGHT	2
3 B. GAS SALES AND DEMAND	3
4 C. OPERATING AND MAINTENANCE EXPENSES.....	13
5 D. RATE BASE AND CAPITAL ADDITIONS	34
6	



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 2

1 **A. BACKGROUND AND APPROVALS SOUGHT**

2 **1.0 Reference: SUMMARY**

3 **Exhibit B-1, Application, Section 1.1, p. 2**

4 **Rate smoothing**

5 FortisBC Energy Inc. (FEI) states on page 2 of the Application:

6 To smooth the impact on rates over the two year Test Period, and consistent with
7 the approach taken in the 2015-2016 Test Period, FEFN [FEI Fort Nelson] is
8 proposing to defer in a non-rate base deferral account \$148 thousand (\$110
9 thousand after-tax) of the 2017 revenue deficiency for recovery in 2018.
10 [emphasis added]

11 1.1 Please confirm, or explain otherwise, that the above statement is incorrect and
12 that there was no rate smoothing in the 2015-2016 Test Period.

13 **Response:**

14 Confirmed. The statement is incorrect and there was no rate smoothing mechanism in the
15 2015-2016 Test Period.

17
18

19
20 1.1.1 If not confirmed, please provide the relevant section of the Commission
21 decision regarding the FEI 2015-2016 Revenue Requirements and
22 Rates Application for the Fort Nelson Service Area (FEFN 2015-2016
23 RRA Decision) where rate smoothing was approved.

24 **Response:**

25 Please refer to the response to BCUC IR 1.1.1.

27

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 3

1 **B. GAS SALES AND DEMAND**

2 **2.0 Reference: DEMAND FORECAST**

3 **Exhibit B-1: Section 3.2, pp. 12–13; Appendices A1, A2, A3;**

4 **FEFN 2015-2016 RRA proceeding: Exhibit B-2, BCUC IR 5.2, 7.1**

5 **Responses to Commission directives re demand forecast**

6 On pages 12 and 13 of the Application, FEI re-states Directive 6 of Order G-97-15
7 attached to the FEFN 2015-2016 RRA Decision, in which the Commission directed FEI
8 to include the following information in its future RRAs for the Fort Nelson service area:

- 9 • The most recent 10 years of historical forecast and actual data broken down by
10 customer classes; and
- 11 • Calculations and accompanying explanations showing how the residential and
12 commercial use per customer (UPC) and customer additions forecasts are
13 calculated.

14 Appendix A1 to the Application provides the Conference Board of Canada Report.

15 Appendix A2 to the Application provides the historical demand and forecast demand
16 data and the percentage error data.

17 Appendix A3 to the Application provides a description of the demand forecast
18 methodology.

19 2.1 Please confirm, or explain otherwise, that FEI has not provided in the
20 Appendices or in Section 3 of the Application the supporting calculations for the
21 residential and commercial UPC and customer additions forecasts.

22

23 **Response:**

24 FEI has provided explanations showing how the residential and commercial UPC and customer
25 additions are calculated in Appendix A3 of the Application in compliance with the Commission's
26 direction. If the Commission had intended that FEI also provide the calculations themselves for
27 the 2017 and 2018 forecast residential and commercial UPC and customer additions, FEI
28 confirms those have not been provided. However, FEI has now provided the calculations in the
29 responses to BCUC IRs 1.2.2 and 1.2.3 and FEI will endeavor to include these calculations in
30 future RRAs.

31

32

33

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 4

1 2.1.1 If confirmed, please explain why not.

2

3 **Response:**

4 FEI did not believe that the intention of the directive was to show the detailed calculations
5 behind UPC and customer additions every year. Rather FEI believed the purpose of the
6 directive was to confirm the methods used and how the calculations are undertaken. The
7 current set of methods use basic mathematics such as averages and percentage growth rates
8 and FEI does not normally provide documentation of each step of the calculation in these
9 situations. However, these calculations are now provided in the responses to BCUC IRs 1.2.2
10 and 1.2.3.

11

12

13

14 2.1.2 If not confirmed, please indicate where in the Application and / or
15 Appendices these calculations have been provided.

16

17 **Response:**

18 Please refer to the response to BCUC IR 1.2.1.

19

20

21

22 2.2 Please provide the calculations and accompanying explanations for the Forecast
23 2017 and Forecast 2018 residential customer additions in a format similar to
24 FEI's response to BCUC Information Request (IR) 5.2 in the FEFN 2015-2016
25 RRA proceeding.

26

27 **Response:**

28 The forecast of residential customer additions is calculated as follows:

29 ***Determine CBOC Housing Starts:***

30 FEFN uses the CBOC Provincial Medium Term Forecast that is available at the time that the
31 forecast is produced. This forecast provides the single and multi-family housing starts for the
32 province for the forecast period. For this Application, the CBOC forecast available at the time
33 the forecast was produced was published in November 2015.



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 5

11/3/2015				
Provincial Medium Term				
Forecast: 20153 Run: 16				
Table 156 and 157				
BRITISH COLUMBIA	2015	2016	2017	2018
Forecasted Single-Family Housing Starts (Units)	10,499	9,808	9,188	9,125

1

2 **Calculate Annual Growth Rate:**

3 Using 2017 as an example, from these housing starts the annual growth rate is developed as:

$$2017 \text{ Growth Rate} = \frac{2017F}{2016F}$$

4 The results are:

BRITISH COLUMBIA	2015	2016	2017	2018
Forecasted Single-Family Housing Starts (Units)	10,499	9,808	9,188	9,125
Growth Rate		93.4%	93.7%	99.3%

5

6 **Apply Growth Rate to Actual Additions:**

7 FEFN uses the most recent full year of actual additions to begin the forecast. As such, for this
 8 Application, the 2015 actual residential additions of 1 was used. The 2016 annual growth rate is
 9 then applied to the 2015 actual residential additions to generate the 2016 additions forecast.
 10 The 2017 annual growth rate is applied to the 2016 additions forecast to generate the 2017
 11 additions forecast, and so on. The results are then rounded to the nearest whole number.

BRITISH COLUMBIA	2015	2016	2017	2018
Forecasted Single-Family Housing Starts (Units)	10,499	9,808	9,188	9,125
Growth Rate		93.4%	93.7%	99.3%
Actual Additions	1			
Additions Forecast		0.9	0.9	0.9

12

13 **Round Forecast Additions to Nearest Whole Number:**

BRITISH COLUMBIA	2015	2016	2017	2018
Forecasted Single-Family Housing Starts (Units)	10,499	9,808	9,188	9,125
Growth Rate		93.4%	93.7%	99.3%
Actual Additions	1			
Additions Forecast		0.9	0.9	0.9
Rounded Additions Forecast		1	1	1

14

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 6

1 This results in the customer additions forecast as shown in Figure 3-2 on page 15 of the
 2 Application (Exhibit B-1).

3
 4

5

6 2.3 Please provide the calculations and accompanying explanations for the Forecast
 7 2017 and Forecast 2018 residential and commercial customer UPCs in a format
 8 similar to FEI's response to BCUC IR 7.1 in the FEFN 2015-2016 RRA
 9 proceeding.

10

11 **Response:**

12 The forecast UPC for each rate schedule was developed by applying one of the two methods
 13 described in Sections 5 and 6 of Appendix A3 in this Application. At the time the forecast was
 14 prepared, 2015 actual annual UPC rates were available.

15 **Rate Schedule 1:**

16 Rate schedule 1 uses the three year average method. The annual UPC rates for 2012, 2013,
 17 2014 and 2015 were 138.8, 138.6, 136 and 135.5, respectively. With four annual UPC rates,
 18 FEI calculated three annual growth rates. For example, the Rate Schedule 1 growth rate in 2013
 19 was:

$$2013 \text{ Growth Rate} = \frac{(138.6 - 138.8)}{138.8} = -0.1\%$$

20 Growth rates were developed in the same fashion for 2014 and 2015. The values were -1.6
 21 percent and -0.7 percent, respectively. The three-year average growth rate is then calculated as
 22 follows:

$$\text{Three Year Avg Growth Rate} = \frac{(-0.1 + (-1.6) + (-0.7))}{3} = -0.8\%$$

23

Rate Schedule 1	2012 A	2013 A	2014 A	2015 A	Average
Annual UPC, GJ	138.8	138.6	136.5	135.5	
Growth Rate		-0.1%	-1.6%	-0.7%	-0.8%

24 The three-year average growth rate of -0.8 percent is then applied to the 2015 UPC rate of
 25 135.5 resulting in a 2016 seed year forecast UPC of 134.4 GJ.

$$\text{Rate Schedule 1 2016 Seed} = 135.5 \times (100\% - 0.8\%) = 134.4 \text{ GJ/yr}$$

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 7

1 The same growth rate is applied to the 2016 forecast value to derive the 2017 forecast value of
 2 133.4 GJ. The 2018 forecast is derived by applying the growth rate of -0.8% to the 2017
 3 forecast to arrive at the forecast of 132.3 GJs.

Rate Schedule 1	2016 S	2017 F	2018 F
Forecast UPC, GJ	134.4	133.4	132.3

4
 5 **Rate Schedule 2.1:**

6 The large one-time switch of customers from rate schedule 2.2 to 2.1 in 2015 required FEI to
 7 restate the 2013 and 2014 results as if the customer switch had happened January 1, 2013.
 8 This restatement provided comparable figures across the three years of test data to more
 9 accurately forecast 2017 and 2018 demand.

10 As per Section 6 of Appendix A3 in this Application, the use per customer for commercial rate
 11 schedules was calculated by first evaluating the results from a 36 month rolling trend analysis.
 12 In the case of rate schedule 2.1 the R² of the regression line was 88%, which exceeded the
 13 50% threshold. As a result, the trend option was used for rate schedule 2.1. Note that the slope
 14 of the regression, -1.57, is a monthly change in UPC and is applied to the 2015 actual UPC
 15 value of 482.0. For rate schedule 2.1, the 2016 Seed value is calculated as:

$$\text{Rate Schedule 2.1 2016 Seed} = 482 + (-1.57 \times 12) = 463.2 \text{ GJ/yr}$$

16 and

$$\text{Rate Schedule 2.1 2017 Forecast} = 463.2 + (-1.57 \times 12) = 444.3 \text{ GJ/yr}$$

17 2018 also used the same monthly regression of -1.57, or -18.84 annually, which was added to
 18 the 2017 forecast amount. The years 2015 through 2018 are shown below:

Rate Schedule 2.1	2015 A	2016 S	2017 F	2018 F
UPC Forecast, GJ	482.0	463.2	444.3	425.5

19
 20 **Rate Schedule 2.2:**

21 The method used for the rate schedule 2.2 UPC forecast is consistent with that described in
 22 Appendix A3, Section 6 in this Application, but a detailed proof of the calculation requires a
 23 further discussion of how the historic actual data was segmented for analysis. In typical
 24 forecasts the consumption data for all customers in a rate schedule in a given year is used. In
 25 the case of rate schedule 2.2 rate switching resulted in a significant decline in the number of
 26 customers in 2015. As a result, FEI felt that segmenting the historic actual data by premise
 27 instead of rate schedule would result in a more reasonable forecast. The seven premises that
 28 remained in rate schedule 2.2 in 2015 were forecast as a group, using their premise specific
 29 data from 2012-2015.

1 Further analysis of this group of seven customers revealed that the use rate for one of the
 2 customers was substantially higher (in excess of 21,000 GJ/Yr) compared to the average of the
 3 other six (less than 6,000 GJ/yr). FEI was concerned about the forecast error that could be
 4 introduced by forecasting this small group without further segmentation of the data. To further
 5 understand the future demand, FEI contacted the single large customer and determined that
 6 this customer was consuming to the full potential for their premise and unable to grow further.
 7 With this information FEI applied the normal rolling average method to the six smaller customers
 8 and then added the single large customer as a flat load.

9 The details of the segmentation follow.

10 First the growth rate of the six smaller customers was calculated. The three year average was
 11 0.4%.

Rate Schedule 2.2	2012 A	2013 A	2014 A	2015 A	Average
Six customers UPC, GJ	5,746	6,516	6,368	5,743	
Six customers UPC growth rate		13.4%	-2.3%	-9.8%	0.4%

12
 13 The UPC forecast for the six smaller customers was then calculated using the average growth
 14 rate of 0.4% and the 2015 actual UPC of 5,743 to produce the forecast as follows:

$$\text{Rate Schedule 2.2, six customers 2016 Seed} = 5,743 \times (100\% + 0.4\%) = 5,768 \text{ GJ/yr}$$

Rate Schedule 2.2	2015 A	2016 S	2017 F	2018 F
Six customers UPC, GJ	5,743	5,768	5,794	5,819

15
 16 The UPC for the single large customer in 2015 was 21,808 GJ and, based on discussions with
 17 the customer, was assumed to remain constant for the test period.

18 Adding the large customer results in the following forecast:

Rate Schedule 2.2	2016 S	2017 F	2018 F
Six customers UPC, GJ	5,768	5,794	5,819
Single large customer UPC, GJ	21,808	21,808	21,808
Total (7 customers), GJ	56,418	56,570	56,722

19
 20 The final UPC forecast was calculated by averaging the total demand across the seven
 21 customers as follows:



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 9

Rate Schedule 2.2	2016 S	2017 F	2018 F
Six customers UPC, GJ	5,768	5,794	5,819
Single large customer UPC, GJ	21,808	21,808	21,808
Total (7 customers), GJ	56,418	56,570	56,722
UPC, GJ	8,060	8,081	8,103

1

2

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 10

1 **3.0 Reference: DEMAND FORECAST**

2 **FEI Annual Review of 2015 Delivery Rates Decision dated May 27,**
3 **2015 and accompanying Order G-86-15, pp. 8–10; Letter L-30-15**
4 **dated July 31, 2015**

5 **FEI demand forecast methodology**

6 On pages 8 through 10 in the Commission decision on the FEI Annual Review of 2015
7 Delivery Rates application, the Commission directed FEI to perform the following load
8 forecasting analysis and to file this analysis as part of its 2016 annual review application.
9 In Letter L-30-15, the Commission subsequently granted FEI’s extension request to file
10 the analysis in the 2017 annual review application:

- 11 • Review alternative methodologies for forecasting residential and commercial
12 customer UPC; and
- 13 • Consider alternative methods for forecasting commercial customer additions
14 which are appropriately sensitive to the business cycle.

15 3.1 Please confirm, or explain otherwise, that FEI has provided the above-referenced
16 load forecasting analysis as part of its Annual Review of 2017 Delivery Rates
17 application filed with the Commission on August 2, 2016.

18

19 **Response:**

20 Confirmed. However, Fort Nelson was not within the scope of the forecasting analysis
21 undertaken as the Mainland service area was used to conduct the review.

22
23

24

25 3.1.1 If confirmed, please discuss whether, in the event that FEI is directed to
26 make changes to its UPC or customer additions forecasting
27 methodologies, FEI would likely propose to adopt the methodology
28 changes for the Fort Nelson service area. Please also indicate
29 when/how FEI would propose to incorporate these changes (if any) into
30 the Fort Nelson demand forecasts.

31

32 **Response:**

33 If the recommendations proposed in the Annual Review of 2017 Rates, which were based on an
34 evaluation of FEI Mainland customers only, are accepted, FEI will begin evaluating the
35 proposed alternate methods for Fort Nelson, Vancouver Island and Whistler customers as well



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 11

1 over the remaining term of the existing PBR. If at the end of the PBR period the alternate
2 methods are determined to perform substantially better than the current methods for the
3 majority of service areas, FEI would implement the alternate method for all regions, including
4 Fort Nelson, in future demand forecasts from that point onwards.

5



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 12

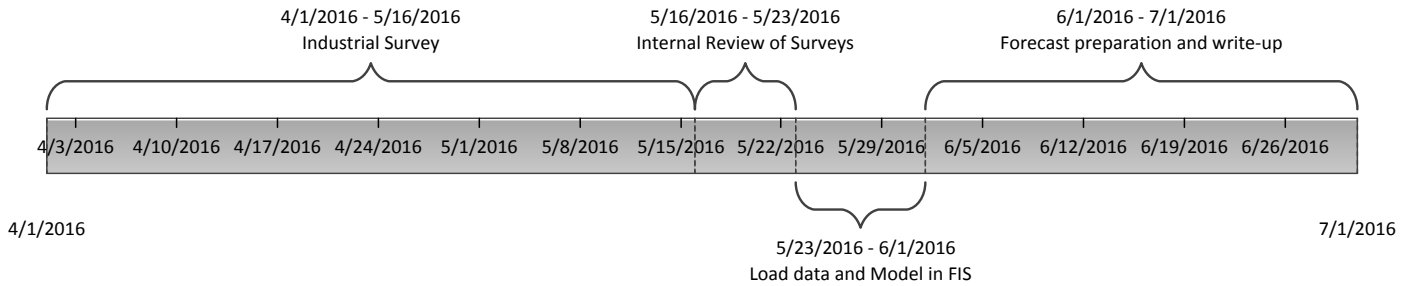
1 **4.0 Reference: DEMAND FORECAST**
2 **Exhibit B-1: Section 3.6, pp. 22–23; Appendix A3**
3 **Industrial energy demand forecast**

4 4.1 Please confirm, or explain otherwise, that the web-based survey for the 2017 and
5 2018 industrial demand forecast was conducted during May and June of 2016.
6

7 **Response:**

8 Not confirmed.

9 For the 2017 Forecast, customers completed the survey in April and May 2016. The survey was
10 launched as close as possible to the filing date to mitigate potential variances in the forecast.
11 The survey needed to be complete by May 15, 2016 to allow sufficient time for internal review of
12 the results, loading of data in FEI's Forecasting Information System (FIS), preparing the forecast
13 and drafting the Application. Since the survey requires six weeks, the latest possible start date
14 for the survey was April 1, 2016. The timeline is shown below:



15

16

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 13

1 **C. OPERATING AND MAINTENANCE EXPENSES**

2 **5.0 Reference: OPERATING AND MAINTENANCE EXPENSES**

3 **Exhibit B-1, Section 5.2, Table 5-1, pp. 26–28;**

4 **FEFN 2015-2016 RRA proceeding, Exhibit B-1, p. 23**

5 **Shared services allocation**

6 The forecast Fees and Administration Costs provided in Table 5-1 of the Application are
7 \$533 thousand in 2017 and \$543 thousand in 2018.

8 FEI states the following on page 26 of the Application:

9 The 2017 and 2018 O&M costs used in the allocation is consistent with the basis
10 used in calculating the approved 2015 and 2016 shared services fee. The
11 calculation uses the gross O&M FEI expects to forecast for 2017, taking into
12 consideration the formula drivers approved under the PBR [Performance Based
13 Ratemaking] as well as the forecast of the O&M items that are excluded from the
14 formula calculation.

15 5.1 Please provide the detailed calculation of the Fees and Administration Costs
16 forecast for 2017 and 2018, including the FEI Gross Operating and Maintenance
17 (O&M) forecast for 2017, and please include the applicable reference to the FEI
18 Annual Review of 2017 Delivery Rates application.

19

20 **Response:**

21 Included in the 2017 and 2018 Forecast Fees and Administration Costs provided in Table 5-1 of
22 the Application is the 2017 and 2018 forecast shared services fee of \$528 thousand \$538
23 thousand, respectively. The remaining \$5 thousand of Fees and Administrative Costs in each
24 year is made up of miscellaneous administrative expenses incurred directly by FEFN.

25 Below is the detailed calculation of the 2017 and 2018 forecast shared services fee allocated to
26 FEFN.



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 14

(\$000s)	2017 Forecast	2018 Forecast
FEI Gross O&M ¹	271,088	276,305
Less: O&M not subject to allocation ²	54,533	55,705
O&M Allocation Base	216,555	220,600
Multiplied by Allocation Factor	0.00244	0.00244
Shared Services Fee	528	538
Average Number of Customers		
FEFN	2,445	
FEI	997,783	
Total	1,000,228	
1 Allocation Factor (FEFN/Total)	0.00244	

2 Notes:

3 ¹ The 2017 Forecast Gross O&M included in FEI's Annual Review for 2017 Rates was \$270,585
4 thousand¹ which is \$503 thousand lower than the amount used in the calculation above. This is
5 because the Fort Nelson RRA was filed prior to the filing of the FEI Annual Review application, and
6 between these two dates, there were updates to the inflation factors for BC-CPI and BC-AWE in the
7 O&M formula. However, the O&M included in the Annual Review will not be finalized until the BC-AWE
8 is known for the month of June 2016. FEI will include the final O&M figure in its Compliance filing when
9 calculating the Fort Nelson rates. The 2018 Forecast Gross O&M used in the allocation is the 2017
10 Forecast Gross O&M inflated by a forecast of the formula factor for that year.

11 ² These are Distribution common costs that do not provide functional support to Fort Nelson. Instead, the
12 costs that are incurred for Fort Nelson for these services are charged directly to FEFN.

13

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FEI further states on page 28 of the Application:

18

19

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21

22

The \$513 thousand projected shared services fee in 2016 is a decrease of \$38 thousand from the \$551 [thousand] approved shared services fee due to a decrease in allocation factor from 0.252% to 0.248% resulting from changes in the 2016 Projected average number of customers for FEI and FEFN and 2016 Projected Gross O&M for FEI.

¹ FEI Annual Review for 2017 Rates - Section 11, Schedule 20, lines 33 and 34.



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 15

1 5.2 Please provide the calculations for the Actual 2015 and Projected 2016 Fees and
2 Administration Costs, including the Actual 2015 / Projected 2016 average
3 number of customers for FEI and FEFN and the Actual 2015 / Projected 2016
4 gross O&M for FEI.
5

6 **Response:**

7 The following is a breakdown of the 2015 Actual and 2016 Projected Fees and Administration
8 Costs provided in Table 5-1 of the Application.

Breakdown of Fees and Administration Costs (\$ thousands)

Particulars	Type of Cost	2015 Actual	2016 Projected
Fees and Adm. Costs	Direct Cost	5	4
Fees and Adm. Costs - Shared Services Fee	Shared Services Cost	516	513
9 Total Fees and Administration Costs		\$ 521	\$ 517

10 Below is the detailed calculation of the 2015 Actual and 2016 projected shared services fee
11 allocated to FEFN of \$516 thousand and \$513 thousand, respectively.

(\$000s)	2015 Actual	2016 Projected
FEI Gross O&M ¹	259,024	260,161
Less: O&M not subject to allocation ²	52,790	53,506
O&M Allocation Base	206,234	206,655
Multiplied by Allocation Factor	0.00250	0.00248
 Shared Services Fee	 516	 513
 Average Number of Customers		
FEFN	2,424	2,442
FEI	968,765	984,046
Total	971,189	986,487
 Allocation Factor (FEFN/Total)	 0.00250	 0.00248

12

13 **Notes:**

14 ¹ The 2015 Actual Gross O&M is the sum of lines 27 and 28, page 21.1 of FEI's 2015 BCUC Annual
15 Report. The 2016 Projected FEI Gross O&M is the 2016 Approved FEI Gross O&M of \$270,661



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 16

1 thousand² less \$10,500 thousand³ in O&M savings that was projected at the time of filing the Fort
2 Nelson RRA.

3 ² These are Distribution common costs that do not provide functional support to Fort Nelson. Instead, the
4 costs that are incurred for Fort Nelson for these services are charged directly to FEFN.

5
6

7
8

9 FEI states the following on page 23 of Exhibit B-1 in the FEFN 2015-2016 RRA
10 proceeding:

11 In consideration of the fact that the 2015 and 2016 O&M for FEI has not yet been
12 approved by the Commission, FEFN proposes that any variation in the allocated
13 O&M to FEFN that results from the approval of the FEI O&M is accounted for in
14 the existing Fort Nelson Revenue Surplus/Deficit [Deferral] Account and to be
15 refunded or collected from customers in future years.

16 5.3 Please confirm, or explain otherwise, that the variances in FEI's allocated O&M
17 to FEFN for 2015 and 2016 have been captured in the Fort Nelson Revenue
18 Surplus/Deficit Deferral Account.

19

20 **Response:**

21 Not confirmed.

22 Page 4 of BCUC Decision G-97-15 approving the 2015/2016 Fort Nelson RRA reads as follows:

23 The Panel approves FEI's proposal to continue to use FEFN customers served as a
24 proportion of its total customers served as a means of allocating costs to FEFN
25 customers. In addition, any variances in the O&M allocation resulting from the FEI
26 Annual Review of 2015 Delivery Rates proceeding are to be accounted for in the Fort
27 Nelson Revenue Surplus/Deficit Account.

28 In the decision, the Commission approved only the 2015 variance to be captured in the deferral
29 account. As discussed on page 2 of the Compliance Filing submitted July 10, 2015 for the
30 FEFN 2015-2016 RRA,⁴ given the Commission decision on the FEI Annual Review of 2015

² FEI Compliance Filing for 2016 Rates Section 11 Schedule 21 lines 28 and 29.

³ This amount was subsequently revised to \$11,100 thousand in the FEI Annual Review for 2016 Rates Application. The amounts projected for Fort Nelson for 2016 do not affect any of the rate proposals in this Application.

⁴ "Since the approved 2015 O&M is now available, FEI has updated the allocation to reflect the approved amount. Thus, FEI does not expect there to be a variance in the Fort Nelson Revenue Surplus/Deficit



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 17

1 Rates was received May 27, 2015 and the FEI Compliance Filing submitted June 30, 2015,
2 before the final Compliance Filing for FEFN was submitted, FEFN was able to update the
3 allocation of O&M from FEI to FEFN to reflect the final FEI approved amounts. Therefore, there
4 was no variance to record in the Fort Nelson Revenue Surplus/Deficit Deferral Account in 2015.

5 With respect to 2016, FEI has not included any variances related to 2016 in the Fort Nelson
6 Revenue Surplus/Deficit Deferral Account as approval was not granted to do so.

7 For illustrative purposes, had FEFN recorded the difference between the approved 2016
8 allocated O&M of \$551 thousand and the \$545 thousand⁵ that would have been calculated had
9 the final FEI 2016 Approved O&M been utilized as the base for Fort Nelson's calculation, \$6
10 thousand credit would have been recorded in the Fort Nelson Revenue Surplus/Deficit Deferral
11 Account with the account balance being amortized in 2017.

12
13

14

15 5.3.1 If confirmed, please provide the amounts which were recorded in this
16 deferral account for 2015 and 2016.

17

18 **Response:**

19 Please refer to the response to BCUC IR 1.5.3.

20

21

22

23 5.3.2 If confirmed, please clarify what FEI's proposal is for amortizing this
24 balance in the Fort Nelson Revenue Surplus/Deficit Deferral Account
25 into FEFN rates.

26

27 **Response:**

28 Please refer to the response to BCUC IR 1.5.3.

29

30

Account for this item. This change reflects the impact of the change in gross O&M net of capitalized overhead."

⁵ Calculated as FEI's 2016 Approved O&M Base for Fort Nelson of \$215,649 thousand multiplied by the customer allocation percentage of 0.00253.

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 18

1
2 5.4 Please explain if FEI is proposing to record any variations in the allocated O&M
3 to FEFN that results from the approval of FEI's 2017 and 2018 O&M in the Fort
4 Nelson Revenue Surplus/Deficit Deferral Account.

5
6 **Response:**

7 While FEI had not proposed recording variations in the allocated O&M to FEFN that result from
8 the approval of FEI's 2017 and 2018 O&M to the Fort Nelson Revenue Surplus/Deficit Deferral
9 Account, FEI would be amenable to doing so.

10

11

12

13 As provided in Table 5-1 of the Application, the Actual 2015 Fees and Administration
14 Costs were \$24 thousand less than the Approved 2015 costs, and the Projected 2016
15 costs are \$36 thousand less than the Approved 2016 costs.

16 5.5 Please discuss whether it would be appropriate to record all variances between
17 forecast and actual annual Fees and Administration Costs (i.e. variances
18 resulting from FEI's O&M as well as variances resulting from FEI's forecast
19 number of customers) in the Fort Nelson Revenue Surplus/Deficit Deferral
20 Account.

21

22 **Response:**

23 FEI does not believe it would be appropriate to record variances between forecast and actual
24 annual Fees and Administration Costs in the Fort Nelson Revenue Surplus/Deferral Account
25 given reductions to FEI's O&M are generally the result of efficiency savings under a PBR
26 mechanism which is not applicable to the Fort Nelson service area. However, FEI would be
27 amenable to recording these variances in the deferral account.

28

29

30

31 5.5.1 As part of the above response, please discuss whether the Fees and
32 Administration Costs are more appropriately classified as "controllable"
33 or "non-controllable" expenditures, and whether the controllability of
34 these costs are relevant when considering the appropriateness of
35 establishing deferral account treatment for forecast versus actual
36 variances.

37



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 19

1 **Response:**

2 Under FEI's PBR Plan, the specific costs that are being allocated to Fort Nelson have been
3 defined as controllable and therefore subject to the PBR formula.

4 FEI does propose deferral account treatment for some items that are non-controllable – where
5 they are outside of the Company's control or where the Company has limited ability to influence
6 the costs. Examples of these items are income tax rates, interest rates, property taxes.
7 Deferring the variances from the forecast level of costs for these activities reduces the exposure
8 for both the utility and customers due to significant variances in these amounts, and serves to
9 avoid windfall gains or losses to the Company or to customers.

10 In the circumstance of the O&M costs being allocated to Fort Nelson, the costs would not meet
11 the non-controllable definition that FEI applies in considering whether deferral account treatment
12 is appropriate.

13

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 20

1 **6.0 Reference: DIRECT O&M EXPENSES**

2 **Exhibit B-1, Section 5.3, Table 5-1, p. 27;**

3 **FEFN 2015-2016 RRA proceeding, Exhibit B-1, p. 24**

4 **Labour costs**

5 Table 5-1 on page 27 of the Application shows the “O&M Resources Required for FEFN”
6 for the following years: Approved and Actual 2015; Approved and Projected 2016; and
7 Forecast 2017 and 2018.

8 6.1 How many months of actual 2016 costs are included in the Projected 2016
9 amounts?

10
11 **Response:**

12 The 2016 Projection was based on 5 months of actual data for 2016.

13

14

15

16 Table 5-1 shows the following amounts for “M&E Costs”: (i) Approved 2015 and 2016 -
17 \$15 thousand; (ii) Actual 2015 and Projected 2016 - \$18 thousand; and (iii) Forecast
18 2017 and 2018 - \$19 thousand.

19 On page 24 of Exhibit B-1 in the FEFN 2015-2016 RRA proceeding, FEI stated: “A
20 portion of the Prince George Operations management team salary is allocated to FEFN
21 based on the level of support provided for management oversight of operation,
22 maintenance, and recurring capital activities (i.e. mains, services).”

23

24 6.2 Please confirm, or explain otherwise, that the description provided in the FEFN
25 2015-2016 RRA regarding the Prince George Operations management team
26 salary is applicable to the “M&E Costs” shown in Table 5-1 of the Application.

27

28 **Response:**

29 Confirmed.

30

31

32

33 6.3 Please explain the variances of \$3 thousand between the Approved and Actual
34 2015 M&E Costs and between the Approved and Projected 2016 M&E Costs.

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 21

1
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Response:

The response to this IR addresses BCUC IRs 1.6.3 and 1.6.4.

The variance of \$3 thousand between the Approved and Actual M&E costs is due to an increased level of support for O&M activities that was required during 2015 which resulted in an increase in the percentage of the Prince George Operations team salaries allocated to O&M (more O&M activities were required and less capital activities were required). Further, FEI projects the same level of support that was required in 2015 for O&M activities will also be required in 2016 through 2018.

6.4 Please explain why FEI forecasts an increase of approximately 2.7 percent for 2017 and 2018 M&E Costs compared to the Approved 2015 and 2016 amounts.

Response:

Please refer to the response to BCUC IR 1.6.3.

6.5 Please explain why Actual 2015 IBEW labour costs were \$14 thousand less than the Approved 2015 amount and why the Projected 2016 IBEW labour costs are expected to be \$19 thousand less than the Approved 2016 amount.

Response:

The response to this IR addresses BCUC IR 1.6.5 and 1.6.6.

Table 5-1 has been updated to include the 2015 Fort Nelson training costs which were inadvertently excluded in the 2015 BCUC Annual Report. FEI notes that the additional \$43 thousand in 2015 training costs (including time charged to training and related travel and other non labour costs) relates to the two existing full-time employees, as well as the new employee training costs discussed below. The 2016 Projected amount has also been updated to reflect the year end projection that results from considering the most recent available year to date actuals.

Table 5-1: O&M Resources Required for FEFN (\$ thousands)

Particulars	2015	2015	Add	2015	2016	2016	2017	2018
	Approved	Actual	Training costs	Restated Actual	Approved	Updated Projected	Forecast	Forecast
M&E Costs	\$ 15	\$ 18		18	\$ 15	\$ 18	\$ 19	\$ 19
COPE Costs	-	-			-	-	-	-
COPE Customer Services Costs	-	-			-	-	-	-
IBEW Costs	334	320	32	352	345	340	330	339
Labour Costs	349	338	32	370	360	358	349	358
Vehicle Costs	43	38	3	41	44	44	44	45
Employee Expenses	29	18	8	26	29	29	29	30
Materials and Supplies	1	8		8	1	8	8	8
Fees and Administration Costs	545	521		521	553	517	533	543
Contractor Costs	5	31		31	5	20	21	21
Facilities	12	16		16	12	27	41	42
Recoveries & Revenue	(2)	(2)		(2)	(2)	(2)	(2)	(2)
Non-Labour Costs	633	630	11	641	642	643	674	687
Total Gross O&M Expenses	982	968	43	1,011	1,002	1,001	1,023	1,045
Less: Capitalized Overhead	(118)	(118)		(118)	(120)	(117)	(123)	(125)
Total O&M Expenses	\$ 864	\$ 850	\$ 43	\$ 893	\$ 882	\$ 884	\$ 900	\$ 920

1

2

3 Based on the restated Actual 2015 costs, the IBEW labour costs were \$18 thousand higher than
 4 the Approved 2015 amount due to some overlap in employees and associated training costs.
 5 One of the full time IBEW technicians transferred to Kamloops in September 2015 and a new
 6 employee was hired in August 2015 as a replacement, resulting in almost two full months of an
 7 additional employee and their associated wage costs. As well, the new employee required
 8 training, which is an O&M activity, and resulted in more of the new employee's time being
 9 allocated to O&M than would have been the case had there been no turnover..

10 The full time IBEW employee hired in August 2015 then moved to 100 Mile House in July 2016
 11 and a new employee was hired in June 2016. The same O&M impact that occurred in 2015
 12 occurred again in 2016 but to a lesser extent because the overlap of the employees was only for
 13 approximately one month.

14 The 2017 Forecast IBEW labour costs are anticipated to be less than the Projected 2016 IBEW
 15 labour costs as the employee overlap that existed in 2016 will no longer exist in 2017. This
 16 results in reduced labour and training costs related to the overlap, while partially offset by labour
 17 and benefits inflation for all IBEW employees.

18 The increase in IBEW labour in 2018 is due to the 2 percent annual wage increase as per the
 19 IBEW Gas Collective Agreement for 2015-2019 as well as the associated pension and benefit
 20 overhead loadings.



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 23

1
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6.6 Please describe the cause(s) of the increases in IBEW Costs forecast for 2017 and 2018 compared to the Actual 2015 and Projected 2016 amounts.

Response:

Please refer to the response to BCUC IR 1.6.5.

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 24

1 **7.0 Reference: DIRECT O&M EXPENSES**

2 **Exhibit B-1, Section 5.3, Table 5-1, p. 27;**

3 **FEFN 2015-2016 RRA proceeding: Exhibit B-1, p. 24; Exhibit B-2,**
4 **BCUC IR 13.1**

5 **Employee expenses**

6 On page 24 of Exhibit B-1 in the FEFN 2015-2016 RRA proceeding, Employee
7 Expenses are described as follows: “These expenses are forecast to be higher in the
8 Test Period owing to the Prince George Operations management team anticipating
9 additional trips to FEFN to provide oversight for O&M and capital activities.”

10 FEI further states in response to BCUC IR 13.1 in the FEFN 2015-2016 RRA
11 proceeding:

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

18
19 7.1 Please explain why Actual 2015 Employee Expenses were \$11 thousand less
20 than the Approved 2015 amount.

21
22 **Response:**

23 The response to this IR addresses BCUC IRs 1.7.1, 1.7.2 and 1.7.3.

24

25 The following table is a breakdown of the Employee Expenses by category as provided in Table
26 5-1 of the Application but updated for the additional training costs for 2015 as described in the
27 response to BCUC IR 1.6.5.

28



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 25

In (\$000s)	2015 Approved	2015 Actual ¹	2016 Approved	2016 Projected	2017 Forecast	2018 Forecast
Employee Travel	23	21	23	23	23	24
Meals and Entertainment	4	2	4	4	4	4
Employee Allowance	2	3	2	2	2	2
Total Employee Expenses	29	26	29	29	29	30

¹ The 2015 Actual includes \$8 thousand employee expenses related to training that were inadvertently excluded in the 2015 BCUC Annual Report

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After this correction, the 2015 Actual employee expenses were very similar to the 2015 Approved employee expenses. FEI expects the Projected 2016, and the Forecast 2017 and 2018 employee expenses to remain at Approved 2015 and 2016 levels. FEI is anticipating the training related travel expenses resulting from the new employee hired in 2016 to continue into 2017 and 2018.

7.2 Please further breakdown the Employee Expense amounts shown in Table 5-1 of the Application into the following categories: (i) Employee Travel; (ii) Meals and Entertainment; (iii) Employee Allowance; and (iv) Other (if there is an “other” expense item, please describe it).

Response:

Please refer to the response to BCUC IR 1.7.1.

7.3 Please explain why FEI expects the Forecast 2017 and 2018 Employee Expenses to remain at Approved 2015 and 2016 amounts as opposed to returning to the levels experienced in Actual 2015 and in years prior to 2015.



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 26

- 1 **Response:**
- 2 Please refer to the response to BCUC IR 1.7.1.
- 3

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 27

1 **8.0 Reference: DIRECT O&M EXPENSES**

2 **Exhibit B-1: Section 5.3, Table 5-1, pp. 27–28; Section 7.2.1, pp. 33–**
3 **34**

4 **Contractor costs**

5 Table 5-1 on page 27 of the Application shows the following amounts for Contractor
6 Costs: (i) Approved 2015 and 2016 - \$5 thousand; (ii) Actual 2015 - \$31 thousand; (iii)
7 Projected 2016 - \$20 thousand; and (iv) Forecast 2017 and 2018 - \$21 thousand.

8 FEI states the following on page 28 of the Application:

9 These are contractor costs incurred mostly for corrective maintenance work. In
10 2014 and 2015, actual costs were higher than approved mainly due to leak
11 repairs, excavation, paving and flagging costs required to fix the below ground
12 leaks detected on the gas main. The contractor costs are forecast to increase
13 beginning in 2016 onwards based on past history as one or two leaks may have
14 a major impact on the costs.

15 8.1 Please discuss whether the leaks that needed repairs in 2014 and 2015 could
16 have been foreseen. If no, please explain.

17
18 **Response:**

19 FEI does not believe the leaks that needed repairs in 2014 and 2015 could have been foreseen.
20 The leaks in question occurred in areas where little leak history was available. Due to the many
21 factors that impact the likelihood of a leak occurring and the limited opportunities available to
22 inspect underground gas mains, leaks are difficult to predict. However, based on historical
23 trends and experience with leaks since 2014 in the Fort Nelson service area, FEI believes it is
24 reasonable to assume that future leaks will occur on the system. Absent information that would
25 suggest historic trends are likely to change, FEI believes recent leak history is a good indication
26 of what is likely to happen in the future.

27
28

29
30 8.2 Please explain the cause(s) of the below ground leaks detected on the gas main.

31
32 **Response:**

33 In 2014, five underground leaks were repaired in the Fort Nelson service area, all occurring on
34 or at the service tee. One of these leaks was caused by corrosion, two others were caused by

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 28

1 ground movement, and for the remaining two there was not enough information available to
2 identify the cause.

3 In 2015, three underground leaks were repaired in the Fort Nelson service area, with two of
4 them occurring on or at the service tee and one occurring on the service line. There was not
5 enough information available to identify the cause of the two leaks on or at the service tee,
6 however, the leak on the service line was due to corrosion.

7
8

9

10 8.3 How often is the gas main inspected and maintained? Please discuss.

11

12 **Response:**

13 FEI undertakes a number of activities to ensure the integrity of its natural gas distribution mains.
14 These activities include leak surveys, the application of cathodic protection (CP), and the
15 inspection of valves. Leak surveys are typically performed once every five years in residential
16 areas and annually in commercial areas. CP is applied to natural gas distribution mains to
17 mitigate the risk of corrosion, and remote monitors enable FEI to measure the CP levels at least
18 once every eight days. In addition, a full CP survey is completed annually in order to ensure
19 FEI is meeting the criteria set out in its standards. Valves may be inspected periodically for
20 operability; depending on the size, purpose, and location of the valve, inspections typically occur
21 on an annual or bi-annual basis.

22 In addition to the activities undertaken to ensure the integrity of gas mains, FEI sometimes has
23 the opportunity to inspect the gas mains themselves. When performing activities such as main
24 or service line installations or alterations, or other maintenance where gas mains are exposed, a
25 Pipe and Coating Report is completed and submitted by the field crew, which provides
26 information related to the condition of the gas main that has been exposed.

27

28

29

30 8.4 What leaks, if any, have been detected and repaired in 2016? What is the actual
31 cost incurred thus far in 2016 to repair these leaks?

32

33 **Response:**

34 One leak has been detected and repaired to date in the Fort Nelson service area. The actual
35 cost incurred to repair the leak was \$1,299.



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 29

1
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8.5 Please explain where FEI is anticipating leaks to occur in 2017 and 2018 (i.e. on the transmission plant, distribution plant, general plant, or other). As part of this response, please explain the basis for FEI’s forecasts of future leaks.

Response:

FEI anticipates that leaks in 2017 and 2018 would likely occur on the distribution plant. As discussed in the response to BCUC IR 1.8.1, a review of recent history indicates leaks have been occurring on the distribution plant. As FEI does not have information available that suggests this trend is going to change, recent history serves as the basis for FEI’s forecast of future leaks.

8.6 Please provide the actual historical contractor costs for FEFN relating to corrective maintenance work for years 2010 through 2015.

Response:

Below is a table for FEFN 2010 to 2015 actual contractor costs relating to corrective maintenance work.

Particular	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual
Corrective Contractor Costs (\$000)	4	0	3	9	16	28

FEI states on page 34 of the Application regarding Transmission Plant additions: “In 2017 and 2018 there is only one large project, which relates to the replacement of two valves at one site due to ongoing leaks (\$75 thousand).”

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 30

1 FEI further states on page 34 regarding Distribution Plant additions: “The other forecast
2 additions to distribution plant in 2017 and 2018 are related to...The replacement of steel
3 distribution mains and services to address those that are prone to leaks...”

4 8.7 Do the Forecast 2017 and 2018 Contractor Costs of \$20 thousand and \$21
5 thousand, respectively, include work to be performed by contractors for leaks on
6 both the Transmission and Distribution Plant systems? Please explain.
7

8 **Response:**

9 As discussed in response to BCUC IR 1.8.5, FEI anticipates leaks in 2017 and 2018 will be
10 related to distribution plant. Therefore, the forecast 2017 and 2018 Contractor Costs of \$20
11 thousand and \$21 thousand, respectively, is for work anticipated to be performed by contractors
12 for leaks on the Distribution Plant system.

13
14

15
16 8.8 Please confirm, or explain otherwise, that the Forecast 2017 and 2018
17 Transmission and Distribution Plant capital additions do not include contractor
18 costs.
19

20 **Response:**

21 The Forecast 2017 and 2018 Transmission and Distribution Plant capital additions may or may
22 not include contractor costs. This work is typically assigned to the Project Management Office
23 which arranges for material and labour resources to carry out the work. If FEI labour resources
24 are unavailable, insufficient or not qualified to carry out specific tasks within the work, or if it is
25 more cost effective, then the Project Management Office may seek out Contractor resources to
26 undertake all or portions of the work.

27

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 31

1 **9.0 Reference: DIRECT O&M EXPENSES**

2 **Exhibit B-1, Section 5.3, Table 5-1, pp. 27–28;**

3 **FEFN 2015-2016 RRA proceeding, Exhibit B-2, BCUC IR 14.2**

4 **Facilities**

5 In response to BCUC IR 14.2 in the FEFN 2015-2016 RRA proceeding, FEI provided the

6 following tabular breakdown of Facilities costs:

In \$000s	2013 Approved	2013 Actual	2014 Forecast ¹	2014 Prelim Actual	2015 Forecast	2016 Forecast
Heat, Light, Gas and Water	7	13	7	8	7	7
Janitorial Services	1	1	1	1	1	1
Other Facilities Costs ²	3	4	3	7	3	3
Communication Costs	0	0	0	12	12	13
Line Heater Fuel	0	0	0	12	13	13
Total Facilities Costs	11	18	11	39	37	37

7

8

9 9.1 Please update the above table for the following years: (i) Actual 2013 through

10 2015; (ii) Projected 2016; and (iii) Forecast 2017 and 2018.

11

12 **Response:**

13 The response to this IR addresses BCUC IRs 1.9.1, 1.9.1.1, 1.9.1.2 and 1.9.1.3.

14 The following is the breakdown of the Facilities costs which include the information requested as

15 well as the Approved amount for 2013, the Forecast amount for 2014 and the Approved

16 amounts for 2015 and 2016.

17

In \$000s	2013 Approved	2013 Actual	2014 Forecast ¹	2014 Actual ²	2015 Approved	2015 Actual	2016 Approved	2016 Projection ³	2017 Forecast	2018 Forecast
Heat, Light, Gas and Water	7	13	7	8	7	8	7	8	8	8
Janitorial Services	1	1	1	1	1	1	1	1	1	1
Other Facilities Costs	3	4	3	7	3	7	3	18	7	8
Communication Costs	0	0	0	12					12	12
Line Heater Fuel	0	0	0	12					13	14
Total Facilities Costs	11	18	11	39	12	16	12	27	41	42

18



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 32

1 Notes:

2 ¹ FEI has used the 2014 Forecast O&M as filed in the FEI Ft Nelson 2014 Deferral Account Treatment
3 Application as FEFN did not have an approved number for 2014. Note that there was no breakdown for
4 the Total Gross O&M included in the Deferral Account Treatment Application.

5 ² 2014 Actual as per the BCUC Annual Report. The communications/line heater costs were later
6 returned to customers as part of the revenue surplus/deficit account in 2015.

7 ³ 2016 Projected costs increased by \$11 thousand from what was included in the Application based on
8 the most recent available year to date actual costs.

9

10

11 The type of costs included in the “Other Facilities Costs” line item are: maintenance of life safety
12 systems, electrical, roof and yard, as well as garbage, landscaping, security, snow removal and
13 other facilities miscellaneous costs.

14 The variance between 2015 Actual and Approved and 2016 Projected and Approved is mainly
15 attributed to the higher “Other Facilities Costs”. Prior to 2014, the Other Facilities Costs
16 included rental income which partially offset the maintenance costs. In 2014, the License
17 Agreement that provided FEFN with rental income was terminated. In addition, the 2016
18 Projected amount now includes \$11 thousand for actual costs incurred for roofing maintenance
19 and leak repairs on the buildings at the Fort Nelson office site.

20 Other than the increase in Forecast 2017 and 2018 related to the inclusion of communication
21 and line heater fuel costs, FEFN has realized higher costs in the Other Facilities line item due to
22 the loss of rental income discussed above, making 2017 and 2018 comparable to the actual
23 amounts incurred in 2014 and 2015.

24

25

26

27 9.1.1 Please provide a description of the costs included in the “Other
28 Facilities Costs” line item.

29

30 Response:

31 Please refer to the response to BCUC IR 1.9.1.

32

33

34

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 34

1 **D. RATE BASE AND CAPITAL ADDITIONS**

2 **10.0 Reference: GROSS PLANT ADDITIONS**

3 **Exhibit B-1, Section 7.2.1, Table 7-2, p. 33; FEFN 2015-2016 RRA**
 4 **Decision, pp. 13-16;**

5 **FEFN 2015-2016 RRA proceeding, Exhibit B-1, Table 7-2, p. 30**

6 **Summary of gross plant additions**

7 FEI provided the following table on page 30 of Exhibit B-1 in the FEFN 2015-2016 RRA
 8 proceeding:

Table 7-2: Summary of Gross Plant Additions, excluding Muskwa River Crossing Project (\$000s)

	Approved 2013	Actual 2013	Projected 2014	Forecast 2015	Forecast 2016
INTANGIBLE PLANT	-	64	62	62	62
TRANSMISSION PLANT	10	20	601	845	63
DISTRIBUTION PLANT	256	229	381	449	119
GENERAL PLANT	10	75	61	204	76
TOTAL ADDITIONS	\$ 276	\$ 389	\$ 1,105	\$ 1,560	\$ 320

9

10 The Commission made the following determinations on pages 13-16 of the FEFN 2015-
 11 2016 RRA Decision regarding FEFN's 2015 and 2016 gross plant additions:

- 12 • The Panel approves the remaining 2015 forecast Transmission Plant capital
 13 expenditures of \$435 thousand.
- 14 • The Panel approves the 2016 forecast Transmission Plant capital expenditures
 15 of \$63 thousand.
- 16 • The balance of 2015 forecast Distribution Plant capital expenditures totaling \$364
 17 thousand is approved.
- 18 • The Panel approves the 2016 forecast Distribution Plant capital expenditures of
 19 \$119 thousand as proposed.
- 20 • The Panel approves the 2015 and 2016 forecasts of \$204 thousand and \$76
 21 thousand, respectively, for General Plant capital expenditures.

22 FEI provides the following Table 7-2 on page 33 of the Application:

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 35

	Approved 2015	Actual 2015	Approved 2016	Projected 2016	Forecast 2017	Forecast 2018
Intangible Plant	-	11	-	-	46	46
Transmission Plant	399	288	60	165	75	15
Distribution Plant	356	241	117	334	307	388
General Plant	200	40	75	157	50	50
Total Gross Plant Additions	955	580	252	656	478	499

Footnote 17 on page 33 of the Application states: "Table [7-2] excludes AFUDC [allowance for funds used during construction] and capitalized overhead."

10.1 Please explain why the 2015 and 2016 Transmission, Distribution and General Plant capital additions approved by the Commission on pages 13-16 of the FEFN 2015-2016 RRA Decision do not agree with the Approved 2015 and 2016 amounts provided in Table 7-2 of the Application. Please specifically explain each variance.

Response:

Before addressing the remaining IRs in this series, FEI is providing an amended Table 7-2 from the Application. FEI noticed an error in the 2015 actual amounts in this table in that they include AFUDC while the remaining numbers in the table exclude AFUDC. Note this change does not affect the opening forecasted 2017 plant balances contained in the financial schedules in Section 9 of the Application given those amounts are inclusive of AFUDC.

	Approved 2015	Actual 2015	Approved 2016	Projected 2016	Forecast 2017	Forecast 2018
Intangible Plant	-	11	-	-	46	46
Transmission Plant	399	282	60	165	75	15
Distribution Plant	356	237	117	334	307	388
General Plant	200	40	75	157	50	50
Total Gross Plant Additions	955	570	252	656	478	499

The reconciliations between the amounts provided in Table 7-2 of the original 2015-2016 RRA, which included AFUDC, and the amounts in the 2015-2016 Approved columns in Table 7-2 of this Application (and in the amended Table 7-2 above), which exclude AFUDC, are provided below.



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 36

Transmission Plant (\$000s)	2015	2016
2015-2016 RRA Table 7-2	\$ 845	\$ 63
FNFN Right-of-Way per G-97-15, Page 12	(410)	-
AFUDC included in 2015-2016 RRA Table 7-2	(36)	(3)
2017-2018 RRA Table 7-2	<u>\$ 399</u>	<u>\$ 60</u>
Distribution Plant (\$000s)	2015	2016
2015-2016 RRA Table 7-2	\$ 449	\$ 119
Distribution system alteration per G-97-15, Page 14	(85)	-
AFUDC included in 2015-2016 RRA Table 7-2	(8)	(2)
2017-2018 RRA Table 7-2	<u>\$ 356</u>	<u>\$ 117</u>
General Plant (\$000s)	2015	2016
2015-2016 RRA Table 7-2	\$ 204	\$ 76
AFUDC included in 2015-2016 RRA Table 7-2	(4)	(1)
2017-2018 RRA Table 7-2	<u>\$ 200</u>	<u>\$ 75</u>

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FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 37

1 **11.0 Reference: GROSS PLANT ADDITIONS**

2 **Exhibit B-1: Section 7.2.1, Table 7-2, p. 33; Section 7.4.2, pp. 38–39**

3 **Transmission land rights**

4 FEI states on page 33 of the Application: “The 2015 actual Intangible Plant addition of
5 \$11 thousand related to the acquisition of Transmission Land Rights in Fort Nelson, and
6 does not relate to the allocation of Intangible Plant costs from FEI discussed below.”

7 FEI states on pages 38–39 of the Application: “As approved through Commission Order
8 G-97-15, a non-rate base deferral account was created to capture the actual costs
9 incurred to complete the Fort Nelson First Nations Right-of-Way Agreement.”

10 11.1 Please explain why FEI was required to incur \$11 thousand to acquire
11 Transmission Land Rights in Fort Nelson and why this expenditure was not
12 forecast in the FEFN 2015-2016 revenue requirements application.

13
14 **Response:**

15 In 2012 FEI discovered that a short section of existing transmission line was located outside of
16 the established pipeline statutory right of way; that is, it was in trespass on an adjacent land
17 parcel. As a result, FEI purchased a small portion of right of way in 2013 so that the pipeline
18 would not have to be replaced. The cost to replace the pipeline within the statutory right of way
19 would have been much more, at approximately \$50 thousand to \$100 thousand.

20 Although the purchase occurred in 2013, an accounting error resulted in the right of way
21 remaining in work-in-progress and not being recorded as plant in service until the error was
22 discovered in 2015. Therefore, the right of way was not forecast in 2015 or 2016 because it had
23 already been purchased.

24 The result is that the right of way was purchased and utilized but not included in rate base or
25 rates until it was included in opening plant in service in this 2017-2018 RRA.

26
27

28
29 11.2 Please clarify whether the \$11 thousand intangible plant addition is related to the
30 Fort Nelson First Nations Right-of-Way Agreement costs which are being
31 recorded in a non-rate base deferral account in accordance with Order G-97-15.
32



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 38

1 **Response:**

2 No, the \$11 thousand intangible plant addition was not related to the Fort Nelson First Nations
3 Right-of-Way Agreement costs. Please refer to the response to BCUC IR 1.11.1.

4
5

6
7 11.2.1 If yes, please explain why the \$11 thousand have not been recorded in
8 the non-rate base deferral account.

9

10 **Response:**

11 Please refer to the response to BCUC IR 1.11.2.

12



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 39

1 **12.0 Reference: GROSS PLANT ADDITIONS**
2 **Exhibit B-1, Section 7.2.1, Table 7-2, pp. 33-34;**
3 **FEFN 2015-2016 RRA proceeding, Exhibit B-1, p. 30**
4 **Transmission Plant**

5 FEI provides the following amounts and descriptions for the 2015 forecast transmission
6 plant additions on page 30 of Exhibit B-1 in the FEFN 2015-2016 RRA proceeding:

- 7 • The replacement of a complex valve assembly due to non-operable valves as a
8 result of wear and age (\$210 thousand);
- 9 • The replacement of the pipeline across a road to ensure code compliance and
10 maintain the existing operating pressure in the pipeline (\$150 thousand); and
- 11 • The installation of protection over the pipeline within a creek as the pipeline is
12 nearly exposed (\$75 thousand).

13 12.1 For each of the three Approved 2015 Transmission Plant projects described in
14 the above preamble, please provide the total actual capital expenditures and
15 indicate how much of the capital expenditures for each project were incurred in
16 2015 and in 2016.

17
18 **Response:**

19 For each of the three projects described, the capital expenditures (excluding AFUDC) incurred
20 for each project were, and are forecasted to be, as follows:

\$000s	2014 Actual	2015 Actual	2016 Projected	Total
Replacement of a complex valve assembly	3	254	8	265
Replacement of the pipeline across a road	1	150	3	154
Installation of protection over the pipeline within a creek	1	76	1	78
21 Total	5	480	12	497

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25
26 Table 7-2 on page 33 of the Application shows a total Actual 2015 Transmission Plant
27 amount of \$288 thousand and a total Projected 2016 amount of \$165 thousand.

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 40

1 12.2 Please confirm, or explain otherwise, that the Actual 2015 and Projected 2016
2 Transmission Plant additions shown in Table 7-2 of the Application relate entirely
3 to the Transmission Plant capital expenditures forecast and approved as part of
4 the FEFN 2015-2016 RRA proceeding.

5
6 **Response:**

7 FEI confirms that the Actual 2015 and Projected 2016 Transmission Plant additions shown in
8 Table 7-2 of the Application, and the revised Table 7-2 provided in the response to BCUC IR
9 1.10.1, relate entirely to the Transmission Plant capital expenditures forecast and approved as
10 part of the FEFN 2015-2016 RRA proceeding.

11 However, FEI notes that due to the timing of when projects are placed into service, capital
12 expenditures and capital additions should not be expected to be equal each year. Capital
13 expenditures not placed into service are captured in work-in-progress to be placed into service
14 in a future year.

15
16 On page 33 of the Application, FEI states: “In 2017 and 2018 there is only one large
17 project, which relates to the replacement of two valves at one site due to ongoing leaks
18 (\$75 thousand).”

19 12.3 Please discuss the urgency and relative importance of this project. Please also
20 discuss the risks, costs, benefits and impacts of deferring this project.

21
22 **Response:**

23 The replacement of the two valves, both at the same location, is required due to ongoing
24 leakage of natural gas from each into the environment. The leakage is believed to be due to
25 mechanical seals not performing as they did when the valves were installed. FEI has attempted
26 to “refresh” the seals by cleansing, lubrication and sealing however these actions have not been
27 successful in stopping the leakage.

28 The leakage of natural gas at the location of the valves does not represent a significant hazard
29 to personnel or the public as the leakage rate is very small; however the leakage of odorized
30 natural gas on an ongoing basis is believed to be a public nuisance. The valves are located
31 near a public highway and adjacent to a river where the public is often present.

32 An alternative to the actions planned by FEI would be to install casings around the valves to
33 contain the natural gas. However, due to the configuration of the valve assembly and because
34 these valves represent important components for operating and emergency response for the
35 pipelines, making the valves inaccessible by encasing them is not acceptable. Refurbishment of
36 the internal components of the valves is also not practical as to do so would require removal
37 and replacement of the valves, which would cost more than simply replacing them.



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 41

1 The Oil and Gas Activities Act (Section 37) requires that a permit holder for operating a pipeline
2 must prevent spillage. If spillage occurs, the permit holder must remedy the cause or source of
3 the spillage and contain and eliminate the spillage. CSA Standard Z662, Oil and Gas Pipeline
4 Systems (Clause 3.1.1) requires that the pipeline operator implement a documented safety and
5 loss management system for the pipeline system that provides for the protection of people, the
6 environment and property.

7 Considering the legislated requirements to address the leakage, FEI believes that deferral is not
8 an appropriate option for this work. The project also supports FEI's commitment to design,
9 construct and operate its gas system assets in a safe, reliable and environmentally responsible
10 manner.

11
12

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14 12.4 Please provide a breakdown and description of the forecast \$75 thousand project
15 cost.

16

17 **Response:**

18 For the replacement of two valves at one site due to ongoing leaks, the following represents a
19 Class 5 estimate for the forecasted \$75 thousand project cost.

	Forecasted Cost
Project Management	\$5,000
Engineering	\$7,000
Fabrication	\$10,000
Installation	\$32,000
Materials	\$21,000
Total	\$75,000

20

21

22

23 12.5 Please confirm, or explain otherwise, that FEI has explored other options to
24 prolong the life of the equipment, such as rehabilitation.

25

26 **Response:**

27 Please refer to the response to BCUC IR 1.12.3.

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 42

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12.5.1 If confirmed, please discuss the advantages and disadvantages of these alternatives, and provide an estimate of these costs.

Response:

Please refer to the response to BCUC IR 1.12.3.

12.6 Please provide the integrity management program technical criteria and value that supports FEI's determination that the equipment requires replacement. Please provide the measurement that shows the equipment has exceeded, or is expected to exceed those criteria in the near future, and therefore requires replacement at this time.

Response:

The leakage from the two valves typically does not fall within the FEI integrity management plan because the leakage is due to poor mechanical seals and this does not relate to the integrity of the pipeline system. However, FEI is obligated to comply with provincial legislation with respect to spillage as outlined by the following;

- The Oil and Gas Activities Act (Section 37) requires that a permit holder for operating a pipeline must prevent spillage. If spillage occurs, the permit holder must remedy the cause or source of the spillage and contain and eliminate the spillage.
- CSA Standard Z662, Oil and Gas Pipeline Systems (Clause 3.1.1) requires that the pipeline operator implement a documented safety and loss management system for the pipeline system that provides for the protection of people, the environment and property.

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 43

1 **13.0 Reference: GROSS PLANT ADDITIONS**

2 **Exhibit B-1, Section 7.2.1, Table 7-2, pp. 33–34;**

3 **FEFN 2015-2016 RRA proceeding: Exhibit B-1, pp. 30–31; Exhibit B-**
4 **2, BCUC IR 20.2**

5 **Distribution Plant**

6 Table 7-2 on page 33 of the Application shows a total Actual 2015 Distribution Plant
7 amount of \$241 thousand and a total Projected 2016 amount of \$334 thousand for a
8 cumulative two-year total of \$575 thousand.

9 Table 7-2 further shows a total Approved 2015 Distribution Plant amount of \$356
10 thousand and a total Approved 2016 amount of \$117 thousand for a cumulative
11 approved total of \$473 thousand.

12 FEI provides the following amounts and descriptions for the 2015 forecast Distribution
13 Plant additions on page 31 of Exhibit B-1 in the FEFN 2015-2016 RRA proceeding:

- 14 • The forecast installation of telemetry at the Fort Nelson Gate Station to better
15 monitor operating conditions and to ensure reliability (\$70 thousand); and
- 16 • A distribution capacity system improvement is required to increase the tail end
17 pressure to ensure adequate supply to customers (\$60 thousand).

18 FEI further describes the 2016 forecast distribution plant additions in response to BCUC
19 IR 20.2 in the FEFN 2015-2016 RRA proceeding as follows: “The distribution plant
20 capital additions of \$119 thousand forecast for 2016 consist of upgrades to the Fort
21 Nelson Gate Station.”

22 13.1 For each of the Approved 2015 and 2016 Distribution Plant projects described in
23 the above preambles, please provide the total actual capital expenditures
24 incurred for each project and indicate how much of the capital expenditures for
25 each project were incurred in 2015 and 2016.

26
27 **Response:**

28 For each of the Approved 2015 and 2016 Distribution Plant projects described in the above
29 preamble, the actual and projected capital expenditures, excluding AFUDC, are as follows:

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 44

(\$ 000)	Actual 2015	Projected 2016	Total by project
Telemetry at Fort Nelson Gate Station	156	3	159
System capacity improvement	0	26	26
Updated Regulators at Fort Nelson Gate Station	4	60	64
Total by year	160	89	

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13.2 Please confirm, or explain otherwise, that the Actual 2015 and Projected 2016 Distribution Plant additions shown in Table 7-2 of the Application relate entirely to the Distribution Plant capital expenditures forecast and approved as part of the FEFN 2015-2016 RRA proceeding.

Response:

13 In addition to the three amounts described in the preamble to this series of questions, which
 14 were forecast at a total of \$249 thousand, FEFN had an additional \$224 thousand in cumulative
 15 Approved 2015/2016 Distribution Plant additions for a total combined 2015/2016 Approved
 16 amount of \$473 thousand (as shown in the revised Table 7-2 provided in BCUC IR 1.10.1).
 17 Comparatively, the cumulative 2015 Actual/2016 Projected amounts shown in the revised Table
 18 7-2 are \$571 thousand. The difference of \$98 thousand is due to a number of items. FEFN has
 19 identified one specific item where it required \$30 thousand for the completion of alterations to
 20 the Fort Nelson Gate Station to provide a higher outlet pressure to a portion of the Fort Nelson
 21 distribution system that was identified after establishing the approved capital expenditures in the
 22 2015/2016 RRA. However, the majority of differences relate to the timing of capital
 23 expenditures compared to when the asset is placed in service (and results in a capital addition).
 24 These timing differences are common given it is often difficult to predict when the tasks of the
 25 capital process will be completed. Even once costs are complete, they are then reviewed for
 26 accuracy before removing them from work-in-progress and adding them to plant additions.
 27 Given these timing issues, actual capital expenditures should not be expected to equal actual
 28 capital additions during any specific test period.

29 As requested in BCUC IR 1.13.2.1, FEI has provided a breakdown of the Distribution Plant
 30 additions variance by asset class in the table below.



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 45

	Actual 2015	Projected 2016	Total	Approved 2015	Approved 2016	Total	Variance
472-00 Structures and Improvements	12	-	12	-	-	-	12
473-00 Services	42	33	75	39	40	79	(5)
474-00 House Regulators and Meter Installations	-	-	-	-	-	-	-
477-00 Meters/Regulators Installations	47	-	47	6	6	12	35
475-00 Mains	46	90	136	75	15	90	46
477-00 Measuring and Regulating Equipment	91	74	165	160	50	210	(45)
477-00 Telemetry	-	137	137	70	-	70	67
478-10 Meters	-	-	-	6	6	12	(12)
1 TOTAL	237	334	571	356	117	473	98

13.2.1 As part of the above response, please provide a breakdown and description of the cumulative 2015-2016 Actual/Projected Distribution Plant capital additions compared to the Approved 2015 and 2016 Distribution Plant capital additions and explain the cause(s) of the Actual/Projected capital additions exceeding the Approved capital additions by \$102 thousand.

Response:

Please refer to the response to BCUC IR 1.13.2.

Table 7-2 of the Application provides the Forecast 2017 and 2018 Distribution Plant capital additions of \$307 thousand and \$388 thousand, respectively.

On page 34 of the Application, FEI provides the following information for the Forecast 2017 and 2018 Distribution Plant capital additions:

- Growth-related distribution capital additions of \$37 thousand in 2017 and \$38 thousand in 2018;
- The installation of a new line heater burner management system at the Fort Nelson Gate Station (\$60 thousand in 2017); and
- The replacement of steel distribution mains and services (\$175 thousand in 2017 and \$275 thousand in 2018).

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 46

1 13.3 Please describe and quantify the remaining Forecast 2017 and 2018 Distribution
 2 Plant capital additions of \$35 thousand in 2017 and \$75 thousand in 2018 which
 3 have not been described on page 34 of the Application.

4
 5 **Response:**

6 The remaining Forecasted 2017 and 2018 Distribution Plant capital additions which have not
 7 been described on page 34 of the Application are as follows.

(\$ 000)	2017	2018	Explanation
Cathodic protection	5	30	Installation of remote monitoring device (2017) and contingency for groundbed replacement on distribution (2018)
Stations	0	15	Minor upgrade
Service line and main alterations (non-receivable)	20	20	Alterations to service lines and mains to address location of main or lack of cover
Service line alterations (receivable)	5	5	Alterations requested by property owners or municipality
Service line hazards mitigation	5	5	Mitigation of venting or protection hazards
Total	35	75	

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 11 13.4 Please discuss the urgency and relative importance of the line heater installation
 12 project and the steel distribution mains and services replacement project. Please
 13 also discuss the risks, costs, benefits and impacts of deferring these projects.

14
 15 **Response:**

16 The installation of a new line heater burner management system at the Fort Nelson Gate Station
 17 is required to address several deficiencies related to regulation, as contained in CSA Standard
 18 B149.3-15, *Code for the field approval of fuel-related components on appliances and*
 19 *equipment*, and industry standards. Specifically, the existing control system lacks three different
 20 shut-off mechanisms that would prevent the line heater from suffering or causing significant
 21 damage. These deficiencies were identified after release of the most recent version of the
 22 standard and similar upgrades are underway at other line heaters throughout FEI's system.
 23 Considering there is only a single line heater at the station, this upgrade needs to be undertaken
 24 to ensure the line heater operates safely within the desired operating parameters and thus also
 25 ensures the reliable, safe operation of the pressure control station, the primary supply of natural
 26 gas to Fort Nelson.



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 47

1 The replacement of steel distribution mains and services is proposed to address concerns
2 regarding unknown construction methods and a perceived increase in the frequency of leaks
3 occurring in the distribution system. Over the period from 2003 to 2015 there have been 35
4 leaks. Prior to this period there was another period of similar increases in leaks and it was dealt
5 with by lowering the system operating pressure to the point that the frequency of leak
6 occurrence was very low. Unless FEI installs significant additional system improvements, it is
7 not possible to further lower the pressure further as there would be insufficient supply to serve
8 all customers. This also would not eliminate the potential for leaks to occur. In both periods it
9 appears that the cause of the majority of the leaks is the aging of old types of seals (e.g. O-
10 rings) within specific fittings such as mechanical pipe couplings and service tees. Fortunately,
11 this means that the strength of the piping likely has not been compromised. However, because
12 Fort Nelson has a cold climate where deep frost is present for a greater extent of the year than
13 elsewhere in FEI's system and the response time to Fort Nelson is very long with the travel
14 being difficult for a significant portion of the year, any underground gas leakage would be prone
15 to spreading out much further making leak location identification difficult and costly. At the same
16 time if the gas leakage is able to spread out further there is more opportunity for it to find its way
17 into other utilities or into buildings, which will pose a safety risk to the public. Because of this risk
18 FEI intends to replace specific sections of main, based on age, known fittings prone to leakage
19 and probability of unusual or unknown construction methods, to reduce the risk to the public.
20 The steel pipe previously used for the mains and services would be replaced with polyethylene
21 pipe, reducing corrosion concerns, and during the replacements FEI would gain a better
22 understanding of how the original system was constructed in the 1950s in order to assist with
23 decision-making in the future.

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27 13.5 Please provide a breakdown and description of the costs forecast for the line
28 heater burner management system installation project and the steel distribution
29 mains and services replacement project.

30

31 **Response:**

32 For the installation of a new line heater burner management system at the Fort Nelson Gate
33 Station, a Class 5 cost estimate breakdown is provided in the table below.

(\$ 000)	2017 Forecast
Project Management	6
Design	12
Installation – Company Labour	5
Installation – Contractor Labour and Materials	37
Total	60

1
2 For the replacement of steel distribution mains and services, the breakdown of a Class 5 cost
3 estimate is provided in the table below.

(\$ 000)	2017		2018	
Planning Mains – Labour	20		30	
Materials Mains	2	Approx. 460 metres	3	Approx. 725 metres
Installation Mains – Labour	105		166	
Materials Services	2	Approx. 20 services	4	Approx. 30 services
Installation Services – Labour	46		72	
Total	175		275	

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8 13.6 Please confirm, or explain otherwise, that FEI has explored other options to
9 prolong the life of the distribution equipment, such as rehabilitation.

10
11 **Response:**

12 FEI confirms that it routinely considers options to prolong the life of the distribution equipment.

13 With regard to the installation of a new burner management system for the line heater at the
14 Fort Nelson Gate Station, this is in fact an action to extend the life of the line heater, as opposed
15 to replacing the entire line heater to a more modern type. Replacement of the line heater to a
16 more modern type may cost as much as 100% to 200% more.

17 With regard to distribution mains and services, which form part of a distribution system,
18 replacement of key portions of the system prolongs the life of the entire system. It is cost
19 prohibitive to expose steel distribution mains and services and remove undesirable fittings,
20 repair all corrosion defects, and recoat the pipe. It is much more cost effective to simply replace
21 these smaller diameter pipes since most of the cost is in excavating the pipe. Once this is
22 achieved, replacement is a lower cost than rehabilitation. Rehabilitating a main that has been
23 exposed may cost 50% to 100% more than simply replacing it.

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 49

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13.6.1 If confirmed, please discuss the advantages and disadvantages of these alternatives, and provide an estimate of the associated costs.

Response:

Please refer to the response to BCUC IR 1.13.6.

13.7 Please provide the integrity management program technical criteria and value that supports FEI's determination that the distribution equipment requires replacement. Please provide the measurement that shows the equipment has exceeded, or is expected to exceed those criteria in the near future, and therefore requires replacement at this time.

Response:

The integrity management program technical criteria that support FEI's determination that the distribution equipment requires replacement are as follows.

With regard to the installation of a new burner management system, FEI's Asset Design activity within its Integrity Management Program requires that "assets are designed, constructed, operated, maintained, de-activated, or abandoned to industry codes, company standards and government regulations". As the existing controls are no longer in compliance with regulation, they need to be replaced.

With regard to the replacement of steel distribution mains and services, FEI's Leak Management activity within its Integrity Management Program has the objective to reduce the probability of significant consequences should a failure or damage incident occur. It includes such activities as surveying for leaks, the classification of identified leaks and the repair of the leaks. This Integrity Management Program activity relies on two other company standards "Gas Leak Classification and Response" and "DP and IP Piping Replacement" which necessitate that Operations will undertake repair of leaks in a timely manner, depending on the risk associated with a leak at the specific location, and that Operations will consider replacement of mains and services when the frequency of leaks presents a safety hazard. Considering these standards FEI intends to select specific mains for replacement that will achieve these objectives, that is, to reduce the probability of a leak in locations that would result in a significant hazard to the public.



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 50

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 51

1 **14.0 Reference: GROSS PLANT ADDITIONS**

2 **Exhibit B-1: Section 1.1, p. 1; Section 3.4, pp. 13–16; Section 7.2.1,**
3 **pp. 33–34**

4 **System growth**

5 FEI states on page 1 of the Application: “The largest driver of the revenue deficiency is
6 the decrease in energy demand...Other contributing factors to the revenue deficiency
7 are upward pressures on FEFN’s revenue requirement. In particular: Rate base growth
8 due to capital expenditures required for system growth and maintenance contributes
9 \$103 thousand to the revenue deficiency.”

10 14.1 Please explain why FEI is forecasting system growth when there is a decrease in
11 energy demand. In particular, please explain why FEFN’s current system is not
12 capable of handling this decreased energy demand without requiring system
13 growth.

14
15 **Response:**

16 There is no direct link between growth capital expenditures and energy demand. FEI is
17 forecasting growth capital expenditures in 2017 and 2018 that relate to costs associated with
18 installing new gas mains, services and meters to attach new customers. The forecast related to
19 energy demand relates to lower overall gas volumes resulting from existing customers using
20 less gas. In a given year FEI could forecast lower energy demand, yet still incur costs related to
21 attaching new customers.

22
23

24
25

26 Figure 3-2 on page 15 of the Application shows one forecast residential customer
27 addition in each of 2017 and 2018. Figure 3-3 on page 16 shows two forecast
28 commercial customer additions in each of 2017 and 2018.

29 FEI states on page 34 of the Application: “The component of growth related distribution
30 capital (new mains, new services, and new meters) forecast for the Test Period is \$37
31 thousand in 2017 and \$38 thousand in 2018, consistent with 2015 actual and 2016
32 projected amounts. Growth capital investments are incurred to install gas mains,
33 services and meters to attach new customers.”

34 14.2 Is FEI’s forecast for system growth directly related to its forecast for new
35 customers? Please explain.

36



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 52

1 **Response:**

2 FEI's forecast for growth capital expenditures is related to attaching new service lines to the FEI
3 system. It is not directly linked to the additions in Figures 3-2 and 3-3 as those are net customer
4 additions. Net customer additions refers to the net incremental customer total after considering
5 new service line additions and any customers leaving the system.

6
7

8

9 14.3 Other than the \$37 thousand and \$38 thousand referenced in the above
10 preamble, please explain if FEI has included any other growth-related capital
11 expenditures in its 2017 and 2018 capital additions forecasts. If FEI has included
12 other growth-related capital expenditures in 2017 and 2018, please quantify
13 these expenditures.

14

15 **Response:**

16 No, FEI has not included any other growth-related capital expenditures in its 2017 and 2018
17 capital additions forecasts.

18
19

20

21 14.4 Please separately explain and quantify the components of rate base growth
22 which are contributing the \$103 thousand to FEFN's revenue deficiency. In
23 particular, please provide the amount which is related to system growth.

24

25 **Response:**

26 In the course of responding to this IR, FEI found a calculation error on Schedule 1, Line 24,
27 Rate Base Growth. FEI has corrected the calculation and submits a revised Schedule 1,
28 included as Attachment 14.4, which has resulted in a recalculated Rate Base Growth (effect on
29 deficiency) equal to \$0.016 million and a recalculated Financing Ratio Changes (effect on
30 deficiency) equal to \$0.013 million.

31 The effect that Rate Base Growth has on Fort Nelson's cumulative revenue deficiency is
32 effectively the difference between 2018 and 2016 rate base multiplied by Fort Nelson's weighted
33 average capital structure.

34 As described on page 34 of the application, the growth capital additions embedded in rate base
35 equal \$75 thousand (\$37 thousand in 2017 and \$38 thousand in 2018). The effect on the



FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 53

1 cumulative deficiency of growth capital equal to \$75 thousand is \$5.2 thousand. The remaining
 2 \$10.7 thousand of rate base growth is made up rate base changes for plant, CIAC, working
 3 capital and unamortized deferrals. The following table details the calculation of the deficiency
 4 from rate base growth.

\$000 unless otherwise stated

<u>Line</u>		<u>Forecast 2018</u>	<u>Approved 2016</u>		
<u>No</u>	<u>Particulars</u>	<u>Ratio</u>	<u>Rate</u>	<u>Product</u>	<u>Reference</u>
	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>
1	Long Term Debt	55.35%	6.11%	3.38%	Column 4 = Column 2 x Column 3
2	Short Term Debt	6.15%	2.00%	0.12%	Column 4 = Column 2 x Column 3
3	Equity	38.50%	8.75%	3.37%	Column 4 = Column 2 x Column 3
4				6.87%	Sum of Lines 1 through 3
5					
6					
7	<u>Rate Base Component</u>		<u>Rate Base Change</u> <u>(mid year)</u>	<u>Rate Base Change</u> <u>effect on Deficiency</u>	
8	Growth Capital		\$ 75.0	\$ 5.2	Column 4 = Line 4 x (Column 3, Line 8)
9	All other Net Plant		\$ 213.0	\$ 14.6	Column 4 = Line 4 x (Column 3, Line 9)
10	Net CIAC		\$ 55.0	\$ 3.8	Column 4 = Line 4 x (Column 3, Line 10)
11	Working Capital		\$ 5.0	\$ 0.3	Column 4 = Line 4 x (Column 3, Line 11)
12	Unamortized Deferred Charges		\$ (116.0)	\$ (8.0)	Column 4 = Line 4 x (Column 3, Line 12)
13	Total		\$ 232.0	\$ 15.9	Sum of Lines 8 through 12
14	Total (\$million)			<u>\$ 0.016</u>	Line 13 divided by 1000

5

6

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 54

1 **15.0 Reference: DEFERRAL ACCOUNTS**

2 **Exhibit B-1: Section 7.4, Table 7-3, p. 36; Section 9, Schedules 13.1,**
3 **14.1**

4 **Generic Cost of Capital Application deferral account**

5 Table 7-3 on page 36 of the Application shows a Forecast 2017 and Forecast 2018
6 balance of zero for the Generic Cost of Capital Application deferral account.

7 Schedules 13.1 and 14.1 in Section 9 of the Application show zero forecast additions to
8 the Generic Cost of Capital Application deferral account for 2017 and 2018.

9 15.1 Please explain whether FEI considers it appropriate to discontinue the Generic
10 Cost of Capital Application deferral account commencing either January 1, 2017
11 or January 1, 2018.

12
13 **Response:**

14 FEI confirms the Generic Cost of Capital Application deferral account will be fully amortized
15 December 31, 2016, so the deferral account will be discontinued January 1, 2017. To clarify,
16 FEI does not normally request discontinuance of deferral accounts where the balance is fully
17 amortized and the account will not be used to capture any further costs, rather it considers them
18 discontinued at that time.

19

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 55

1 **16.0 Reference: DEFERRAL ACCOUNTS**

2 **Exhibit B-1: Section 7.4, Table 7-3, p. 36; Section 9, Schedules 13.1,**
3 **14.1**

4 **2015-2016 Revenue Requirement Application deferral account**

5 Schedules 13.1 and 14.1 in Section 9 of the Application show a zero balance in the
6 2015-2016 Revenue Requirement Application deferral account at the end of 2017.

7 16.1 Please clarify if FEI is proposing to discontinue this deferral account once the
8 balance has been fully amortized at the end of 2017.

9

10 **Response:**

11 Given the balance in the 2015-2016 Revenue Requirement Application deferral account will be
12 fully amortized December 31, 2017 and the account will not be needed to capture costs in the
13 future, FEI would consider the account to be discontinued on January 1, 2018.

14

15

16

17 16.1.1 If yes, please clarify if FEI is seeking approval to discontinue the
18 deferral account as of January 1, 2018.

19

20 **Response:**

21 FEI is not seeking approval to discontinue the account as FEI would consider the account to be
22 discontinued once it was fully amortized and not needed to capture costs in the future.

23

24

25

26 16.1.2 If no, please explain why not.

27

28 **Response:**

29 Please refer to the response to BCUC IR 1.16.1.

30

FortisBC Energy Inc. (FEI or the Company) Application for Approval of 2017-2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the Application)	Submission Date: September 1, 2016
Response to British Columbia Utilities Commission (BCUC or the Commission) Information Request (IR) No. 1	Page 56

1 **17.0 Reference: DEFERRAL ACCOUNTS**

2 **Exhibit B-1, Section 7.4, Table 7-3, pp. 36–37**

3 **2016 Cost of Capital Application deferral account**

4 FEI states on page 37 of the Application that it is “seeking approval for a rate base
 5 deferral account to capture FEFN’s share of the costs related to the 2016 Cost of Capital
 6 proceeding of approximately \$3 thousand (on a pre-tax basis)” and that it is “also
 7 seeking approval to amortize these costs over three years, beginning in 2017, consistent
 8 with the recovery period FEI will request in the Annual Review of 2017 Rates.”

9 17.1 In consideration of the fact that FEFN’s estimated share of the 2016 Cost of
 10 Capital proceeding costs is only \$3 thousand, please discuss whether a one-year
 11 amortization period would be reasonable.

12
 13 **Response:**

14 FEI believes either a one-year or three-year amortization period is reasonable. A three-year
 15 amortization period is proposed as FEI seeks to use consistent amortization periods among all
 16 of its service areas for the same or similar deferral accounts to create accounting and regulatory
 17 efficiencies. However, given the cost amount and the relatively minor impact on rates provided
 18 in the response to BCUC IR 1.17.2, a one-year amortization period would also be reasonable.

19
 20

21
 22 17.2 Please provide the 2017 rate impact (if any) of amortizing the 2016 Cost of
 23 Capital Application costs over one year as opposed to the proposed three years.

24
 25 **Response:**

26 The rate impacts are shown in the table provided below. The proposed three-year amortization
 27 period results in a delivery rate impact of approximately 0.07 percent. Reducing the amortization
 28 period to one year would result in an increased revenue requirement of approximately \$2.7
 29 thousand in 2017, or an additional 0.12 percent increase in the delivery rate compared to a
 30 three-year amortization period.

FEFN Delivery Rate Impact	2017
3 year amortization	0.07%
1 year amortization	0.19%

31
 32

Attachment 14.4

**SUMMARY OF RATE CHANGE
FOR THE YEARS ENDING DECEMBER 31, 2017 and 2018
(\$millions)**

Line No.	Particulars	2017		2018		Cumulative		Cross Reference
	(1)	Forecast	(3)	Forecast	(5)	(6)	(7)	(8)
1	VOLUME/REVENUE RELATED							
2	Customer Growth and Volume	\$ 0.278		\$ 0.033		\$ 0.311		
3	Change in Other Revenue	<u>(0.006)</u>	0.272	<u>0.000</u>	0.033	<u>(0.006)</u>	0.305	
4								
5	O&M CHANGES							
6	Gross O&M Change	0.021		0.022		0.043		
7	Capitalized Overhead Change	<u>(0.003)</u>	0.018	<u>(0.002)</u>	0.020	<u>(0.005)</u>	0.038	
8								
9	DEPRECIATION EXPENSE							
10	Depreciation Rate Change (Depr Study)	(0.042)		(0.002)		(0.044)		
11	Depreciation from Net Additions	<u>(0.018)</u>		<u>0.007</u>		<u>(0.01)</u>		
12	Plant Depreciation		(0.060)		0.005		(0.055)	
13								
14	AMORTIZATION EXPENSE							
15	CIAC Rate Change (Depr Study)	0.008		0.000		0.008		
16	CIAC from Net Additions	<u>0.000</u>		<u>0.000</u>		<u>0.000</u>		
17	CIAC	0.008		0.000		0.008		
18	Net Salvage Rate Change (Depr Study)	0.036		0.000		0.036		
19	Deferrals	<u>0.049</u>	0.093	<u>(0.154)</u>	(0.154)	<u>(0.11)</u>	(0.061)	
20								
21	FINANCING AND RETURN ON EQUITY							
22	Financing Rate Changes	(0.050)		0.006		(0.044)		
23	Financing Ratio Changes	0.014		(0.001)		0.013		
24	Rate Base Growth	<u>0.012</u>	(0.024)	<u>0.004</u>	0.009	<u>0.016</u>	(0.015)	
25								
26	TAX EXPENSE							
27	Property and Other Taxes	0.002		(0.002)		0.000		
28	Other Income Taxes Changes	<u>0.000</u>	0.002	<u>(0.057)</u>	(0.059)	<u>(0.057)</u>	(0.057)	
29								
30	DEFERRED 2017 REVENUE DEFICIENCY		(0.148)		0.296		0.148	
31								
32	Revenue Deficiency (Surplus)	\$	0.153	\$	0.150	\$	0.303	Schedule 21 & 22, Line 11, Column 4
33								
34	Margin @ Existing Rates		2.229		(0.033)		2.196	Schedule 21 & 22, Line 15, Column 3
35	Rate Change		<u>6.86%</u>				<u>13.80%</u>	