Fasken Martineau DuMoulin LLP*
Barristers and Solicitors
Patent and Trade-mark Agents

550 Burrard Street, Suite 2900
Vancouver, British Columbia V6C 0A3
Canada

+1 604 631 3131 General
+1 604 631 3232 Fax
1 866 635 3131 Toll-free

fasken.com

FASKEN MARTINEAU

Christopher R. Bystrom
Direct +1 604 631 4715
Facsimile +1 604 632 4715
cbystrom@fasken.com

September 9, 2016
File No.: 240148.00809/15275

By Electronic Filing

British Columbia Utilities Commission
Sixth Floor, 900 Howe Street
Vancouver, BC V6Z 2N3

Attention: Laurel Ross, Acting Commission Secretary and Director

Dear Sirs/Mesdames:

Re: FortisBC Energy Inc. ("FEI") Application for 2017 and 2018 Revenue Requirements and Rates for the Fort Nelson Service Area Project No. 3698885

In accordance with the Regulatory Timetable set for this proceeding, we enclose for filing the electronic version of the Final Submission of FEI.

Yours truly,

FASKEN MARTINEAU DuMOULIN LLP

[original signed by Christopher R. Bystrom]

Christopher R. Bystrom
Personal Law Corporation

CRB/ta
Enclosure

BRITISH COLUMBIA UTILITIES COMMISSION

IN THE MATTER OF THE UTILITIES COMMISSION ACT,

R.S.B.C. 1996, CHAPTER 473

and

FORTISBC ENERGY INC.

APPLICATION FOR 2017 AND 2018

REVENUE REQUIREMENTS AND RATES FOR THE

FORT NELSON SERVICE AREA

FINAL SUBMISSION OF

FORTISBC ENERGY INC.

SEPTEMBER 9, 2016

TABLE OF CONTENTS

PART ONE: INTRODUCTION

1. FortisBC Energy Inc. ("FEI") filed its Application for 2017 and 2018 Revenue Requirements and Rates for the Fort Nelson Service Area (the "Application") on June 30, 2016.[1] As described in the Application, FEI respectfully requests approval of the following:

(a) Effective January 1, 2017, a 6.86 percent increase in delivery rates reflecting a revenue deficiency of approximately $153 thousand.

(b) Effective January 1, 2018, an additional 6.94 percent increase in delivery rates reflecting an incremental revenue deficiency of approximately $150 thousand.

(c) Effective January 1, 2017, the Revenue Stabilization Adjustment Mechanism (RSAM) Rate Rider to be set to $0.268 per GJ.

(d) Adoption of updated depreciation and net salvage rates starting in 2017, which have now been approved for FEI's other service areas by Order G-119-16, dated July 28, 2016.

(e) Deferral account requests as described in Sections 7.4.1 and 7.4.2 of the Application.

2. FEI provided a Draft Order in Exhibit B-1, as part of Appendix D. FEI notes that given the approval of FEI's proposed depreciation and net salvage rates in Order G-119-16, item 3 of FEI's Draft Order should now simply state: "The adoption of the proposed depreciation and net salvage rates starting in 2017 is approved."

3. The requested rates are required to recover the costs of service to customers in the Fort Nelson Service Area ("FEFN"). Based on the forecast energy demand for FEFN, FEFN's forecast revenue at 2016 Approved rates is not sufficient to recover FEFN's required revenue

[1] Exhibit B-1, Application.

requirement over 2017 and 2018 (the "Test Period"). Specifically, there is a revenue deficiency of $301 thousand in 2017 and an incremental revenue surplus of $146 thousand in 2018, for a cumulative 2018 revenue deficiency of $155 thousand compared to forecasted 2018 revenue at existing 2016 rates. The largest driver of the revenue deficiency is the decrease in energy demand. In the absence of declining demand, FEFN would be in a revenue surplus position over the Test Period.

4. According to the regulatory timetable approved by the Commission, one round of information requests ("IRs") was ordered for the proceeding.[2] IRs were received from the Commission, as well as the British Columbia Old Age Pensioners' Organization *et al.* ("BCOAPO"). FEI responded to these IRs on September 1, 2016. FEI submits that the evidence provided in this proceeding demonstrates that the approvals sought are just and reasonable and in the public interest.

5. The remainder of this submission will address the areas of the Application that were the subject of information requests during the proceeding. FEI will address any issues that may be raised by BCOAPO in its submissions in FEI's reply argument.

PART TWO: DEMAND FORECAST

6. FEI's demand forecast for FEFN is reasonable and derived using the same method used in past applications and previously approved by the Commission. The forecast of demand for FEFN in 2017 and 2018 is set out in section 3 of the Application. FEI is forecasting low customer growth and a declining use per customer, particularly amongst commercial customers. As a result, total energy demand is forecast to decline over the Test Period.[3] The main components of the demand forecast are reviewed below.

7. The energy demand forecast for each residential and commercial rate schedule is derived by multiplying the total forecast customers by the average use per customer (UPC)

---

[2] Exhibit A-2.

[3] Exhibit B-1, Application, p. 1.

forecast for each rate schedule.[4] FEI provided explanations showing how the residential and commercial UPC and customer additions are calculated in Appendix A3 of the Application. FEI provided the calculations of the forecast UPC and customer additions in response to BCUC IR 1.2.2 and 1.2.3.[5]

8. The method used to forecast residential customers is consistent with past practice. The residential customer count is calculated by using the customer count from the previous year and forecasting customer additions. The Conference Board of Canada ("CBOC") housing starts forecast provides a proxy for Fort Nelson's residential customer additions. The year-over-year growth rate is calculated for 2016 to 2018 based on the CBOC Provincial Medium Term forecast as of November 3, 2015.[6]

9. The commercial customer count is also calculated using the customer count from the previous year and forecasting the customer additions. The use of a three-year historical average is used to forecast the commercial additions.[7]

10. UPC projections are developed for each rate schedule on a weather-normalized basis.[8] One change to the demand forecast method was required due to the large one-time switch of commercial customers from Rate Schedule 2.2 to Rate Schedule 2.1 in 2015. The switch in rate schedules was due to the customers' volumes no longer being high enough to qualify for Rate Schedule 2.2.[9] Given that the forecast uses three years of actual data to calculate the average UPC for each customer class, FEI restated the 2013 and 2014 results as if the customer switch had happened January 1, 2013. This restatement provided comparable

---

4 Exhibit B-1, Application, pp. 13 to 23 and Appendix A3; Exhibit B-3, BCUC IR 1.2.2 and 1.2.3.

5 See also Exhibit B-4, BCOAPO IR 1.5.1.

6 Exhibit B-1, Application, p. 13 and Appendix A3.

7 Exhibit B-1, Application, p. 14 and Appendix A3.

8 Exhibit B-1, Application, p. 16 and Appendix A3.

9 Exhibit B-1, Application, pp. 17 and 18.

figures across the three years of test data to more accurately forecast 2017 and 2018 demand.[10]

11. The Rate Schedule 1 UPC is forecast to continue to decline through the Test Period.[11] FEI is also forecasting that the Rate Schedule 2.1 UPC will continue to decline throughout the Test Period, although a one-time increase in UPC was recorded in 2015 as a result of 24 customers switching from Rate Schedule 2.2 to Rate Schedule 2.1 as noted above.[12] FEI is forecasting the Rate Schedule 2.2 UPC to be stable based on the usage of the remaining Rate Schedule 2.2 customers. [13]

12. The industrial demand forecast reflects the forecast demand based on results of the April and May 2016 survey[14] for the one remaining FEFN industrial customer under Rate Schedule 25. The results of the survey indicate that only one plant will continue to maintain space heat load consumption over the Test Period. As shown in Figure 3-11, the industrial demand is forecast to decrease from 50 TJ in 2015 and 2016 to 40 TJ in 2017 and 2018.[15]

13. As noted above, FEI's demand forecast is based on a method consistent with past practice and has been previously approved by the Commission. As discussed in response to BCUC IR 1.3 series, FEI provided an analysis of alternative forecasting methodologies in its Annual Review of 2017 Delivery Rates Application. If FEI's proposals in that application are accepted, FEI would evaluate alternative methods over the remainder of FEI's PBR term. If it were determined that the alternative methods performed substantially better than the existing method, FEI would implement the alternate method in FEFN. However, until any alternative is proven to be substantially better, FEI's existing methods remain the most reasonable methods to use to forecast FEFN's demand.

---

[10] Exhibit B-4, BCOAPO IR 1.3.1; Exhibit B-3, BCUC IR 1.2.3.

[11] Exhibit B-1, Application, pp. 16 and 17.

[12] Exhibit B-1, Application, pp. 17 and 18.

[13] Exhibit B-1, Application, pp. 18 and 19.

[14] Exhibit B-3, BCUC IR 1.4.1.

[15] Exhibit B-1, Application, pp. 12, 14 and 23, Figure 3-11.

14. FEI submits that no IRs established any basis for questioning the results of FEI's demand forecast for FEFN and that the demand forecast should be approved as filed.

PART THREE: OPERATING AND MAINTENANCE EXPENSES

15. FEFN's operating and maintenance expenses ("O&M") are required to continue to operate the FEFN natural gas distribution system and meet the needs of customers in a safe and efficient manner. FEI's forecast O&M costs for FEFN are described in section 5 of the Application and related responses to IRs. As described on page 26 of the Application, FEFN's O&M costs consist of allocated costs from FEI departments that provide functional support to FEFN and direct costs. As discussed in the Application, the allocation of costs from FEI departments that support FEFN's operations is lower than the cost allocation approved for 2016. The reduction in allocated costs is, however, offset by the inclusion of FEFN's communication and line heater costs starting in 2017 and minor increases in materials and contractors costs.[16] FEI submits that its forecast O&M for FEFN is just and reasonable and should be approved.

16. FEI described the major changes in FEFN's gross O&M[17] on pages 27 to 28 of the Application, with further details provided in response to IRs. In the following subsections, the changes in FEFN's O&M requirements are described in more detail with a focus on those areas that were the subject of IRs.

A. Allocated Costs

17. Included in the 2017 and 2018 Forecast Fees and Administration Costs provided in Table 5-1 of the Application is the 2017 and 2018 forecast shared services fee of $528

---

[16] Exhibit B-1, Application, p. 1.

[17] As described on pages 26 to 27 of the Application, FEFN's gross O&M costs consist of direct costs plus allocated costs from FEI business units that provide functional support to FEFN. From these costs, 12% overhead capitalized is subtracted to reach the net O&M.

thousand $538 thousand, respectively.[18] These shared services costs include charges related to Information Systems, Energy Supply and Resource Development, Transmission, Customer Service, Energy Solutions and External Relations, Engineering Services, Finance and Regulatory, Operations Support, Governance, Human Resources, Environment, Health and Safety and Corporate.[19] As discussed below, FEI has appropriately calculated the Shared Service fee consistent with past practice and in accordance with the allocation factor previously approved by the Commission.

18. The 2017 and 2018 forecast shared services fees are less than 2016 Approved due to the reduction in the allocation factor from 0.252% to 0.244%.[20] The Shared Services allocation factor is based on FEFN's customers as a percentage of FEI's customers, as previously approved by the Commission.[21] Based on the 2017 forecast average number of customers for FEI and FEFN, the combined customer total is 1,000,228 and the FEFN portion is 2,445. Therefore, the allocation factor is 0.244%, which has been used for 2017 and 2018 proposed rates. The 2017 and 2018 O&M costs used in the allocation is consistent with the basis used in calculating the approved 2015 and 2016 Shared Services fee.[22]

19. A detailed calculation of the 2017 and 2018 forecast Shared Services fee allocated to FEFN was provided in response to BCUC IR 1.5.1. As discussed in that response, in its Compliance filing following the Commission's Decision in this proceeding, FEI proposes to calculate FEFN rates using the final O&M figure filed in FEI's Annual Review for 2017 Rates.

20. FEI has not proposed to do so, but would be amendable to recording variations in the allocated O&M to FEFN that result from the approval of FEI's 2017 and 2018 O&M to the

---

[18] Exhibit B-3, BCUC IR 1.5.1. (The remaining $5 thousand of Fees and Administrative Costs in each year is made up of miscellaneous administrative expenses incurred directly by FEFN.)

[19] Exhibit B-1, Application, p. 26.

[20] Exhibit B-1, Application, pp 27-28; Exhibit B-3, BCUC IR 1.5.1 and 1.5.2.

[21] Exhibit B-1, Application, p. 26.

[22] Exhibit B-1, Application, p. 26.

to the Fort Nelson Revenue Surplus/Deficit Deferral Account.[23] This approach was taken in BCUC Decision G-97-15 approving the 2015 and 2016 FEFN revenue requirements, where the Commission determined that any variances in the O&M allocation resulting from the FEI Annual Review of 2015 Delivery Rates proceeding are to be accounted for in the Fort Nelson Revenue Surplus/Deficit Deferral Account.[24] As this determination was limited to 2015, variances resulting from the final approval of FEI's 2016 rates were not included the Fort Nelson Revenue Surplus/Deficit Deferral Account.[25]

21. However, FEI does not believe it would be appropriate to record all variances between forecast and actual annual Fees and Administration Costs in the Fort Nelson Revenue Surplus/Deficit Deferral Account. The specific costs that are being allocated to FEFN are controllable costs that are subject to FEI's Performance Based Ratemaking ("PBR") formula. The reductions to FEI's controllable O&M are generally the result of efficiency savings under a PBR mechanism which is not applicable to FEFN.[26] Further, these costs would not meet the definition of non-controllable costs that FEI applies in considering whether deferral account treatment is appropriate.[27] In summary, FEI does not believe it is appropriate to record in the Fort Nelson Revenue Surplus/Deficit Deferral Account any variances in controllable costs due to efficiency savings achieved under FEI's PBR plan.

B. Direct Expenses

22. FEFN direct expenses include the labour for two employees, vehicle usage, and materials and services that are used in direct system operations. FEFN's direct expenses are set out in Table 5.1 of the Application, as updated in BCUC IR 1.6.5, and were explored in BCUC IRs 1.6 to 1.9. FEI has explained variances between 2015 Approved and 2015 Actual and between 2016 Approved and 2016 Projected, as well as the basis for its forecast over the Test Period.

---

[23] Exhibit B-3, BCUC IR 1.5.4.

[24] Exhibit B-3, BCUC IR 1.5.3.

[25] Exhibit B-3, BCUC IR 1.5.3.

[26] Exhibit B-3, BCUC IR 1.5.5.

[27] Exhibit B-3, BCUC IR 1.5.5.1.

The categories of direct O&M that were explored in IRs are discussed below. The evidence shows that FEFN's direct O&M costs have been reasonably forecast and should be approved.

Labour Costs

23. FEFN's 2015 Actual and 2016 Projected Labour costs in Table 5-1 of the Application were updated in response to BCUC IR 1.6.5 to include Fort Nelson training costs, which were inadvertently excluded from the annual results. The 2016 Projected amount was also updated to reflect the year-end projection that results from considering the most recent available year-to-date actuals.[28]

24. Based on the update described above, FEFN's 2015 Actual Labour costs were $21 thousand higher than 2015 Approved, and the 2016 Updated Projected amount is $2 thousand less than 2016 Approved. As described in response to BCUC IR 1.6.5., the higher costs in 2015 were due to employee turnover, resulting in employee overlap and higher than forecast training costs.

25. The turnover experienced in 2015 and, to a lesser extent 2016, is not forecast to occur over the test period. As a result, the 2017 Forecast labour costs are anticipated to be less than the Projected 2016 labour costs. The increase labour in 2018 is due to the 2 percent annual wage increase pursuant to the IBEW Gas Collective Agreement for 2015-2019 as well as the associated pension and benefit overhead loadings.[29]

Employee Expenses

26. In response to BCUC IR 1.7.1, FEI provided an update to its 2015 Actual and 2016 Projected employee expenses to correct for the employee training costs which were inadvertently excluded as discussed above.[30] After accounting for this update, FEFN's 2015

[28] Exhibit B-3, BCUC IR 1.6.5.

[29] Exhibit B-4, BCUC IR 1.6.5.

[30] Exhibit B-4, BCUC IR 1.6.5.

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.[31]

Contractor Costs

27. FEFN's contractor costs are reasonably forecast to increase in 2017 and 2018 compared to 2015 and 2016 approved amounts, based on the recent history of leaks on the FEFN system. In 2014 and 2015, FEFN's actual contractor costs were higher than approved mainly due to leak repairs, excavation, paving and flagging costs required to fix the below ground leaks detected on the gas main.[32] In 2014, five underground leaks were repaired in FEFN,[33] and, in 2015, three underground leaks were repaired.[34] As shown in Table 5-1, FEFN's 2015 Actual contractor costs were $26 thousand higher than the approved amount of $5 thousand. In 2016 to date, another leak has been detected and repaired in FEFN.[35] As FEI does not have information that suggests the trend of required leak repairs is going to change, FEI anticipates that in 2017 and 2018 leaks will continue to occur on the distribution plant.[36] The forecast 2017 and 2018 Contractor Costs of $20 thousand and $21 thousand, respectively, are therefore reasonably forecast for work anticipated to be performed by contractors.[37]

Facilities

28. FEFN's forecast facilities costs are required to operate and maintain the local office, including janitorial and telephone services, and line heater fuel for the distribution

---

[31] Exhibit B-4, BCUC IR 1.7.1.

[32] Exhibit B-1, Application, pp. 27-28.

[33] Exhibit B-3, BCUC IR 1.8.2.

[34] Exhibit B-3, BCUC IR 1.8.2.

[35] Exhibit B-3, BCUC IR 1.8.4.

[36] Exhibit B-3, BCUC IR 1.8.5.

[37] Exhibit B-3, BCUC IR 1.8.7.

station.[38] The increase in the 2017 and 2018 forecast costs reflects the inclusion of $25 thousand of communication costs and line heater fuel costs which are direct FEFN costs, but had not previously been recorded in FEFN and remained in FEI. FEI has removed the FEFN communication and line heater costs from its base O&M starting in 2017. The direct FEFN communication costs and line heater fuel costs are therefore appropriately included in the FEFN O&M forecast beginning in 2017.[39]

29. The variance between 2015 Actual and 2015 Approved and between 2016 Projected and 2016 Approved is mainly attributable to higher "Other Facilities Costs". Prior to 2014, the Other Facilities Costs included rental income which partially offset the maintenance costs. In 2014, the License Agreement that provided FEFN with rental income was terminated. In addition, the 2016 Projected amount includes $11 thousand for actual costs incurred for roofing maintenance and leak repairs on the buildings at the Fort Nelson office site, which are not forecast to continue over the Test Period.[40]

30. After taking into account the increase related to the inclusion of communication and line heater fuel costs, and the loss of rental income discussed above, the 2017 and 2018 forecast facilities costs are comparable to the actual amounts incurred in 2014 and 2015.[41]

31. FEI submits that FEFN's O&M expenses forecast for the Test Period are reasonable and should be approved.

PART FOUR: RATE BASE AND CAPITAL ADDITIONS

32. The forecast rate base and capital additions for FEFN are required to continue to provide safe and reliable service to customers. The forecast rate base and capital additions for FEFN are described in section 7 of the Application with information provided in response to IRs.

---

[38] Exhibit B-1, Application, pp. 27-28; FEI provided a breakdown of the Facilities costs in Exhibit B-3, BCUC IR 1.9.1.

[39] Exhibit B-1, Application, p. 28.

[40] Exhibit B-3, BCUC IR 1.9.1.

[41] Exhibit B-3, BCUC IR 1.9.1.

FEI notes that an amended Table 7-2, Summary of Gross Plant Additions, is provided in the response to BCUC IR 1.10.1, which removes the AFUDC which was inadvertently included the 2015 actual amounts in the original table.

33. The topics related to rate base and capital expenditures that were the focus of IRs in the proceeding are addressed below.

A. Intangible Plant

34. FEI has appropriately allocated Intangible Plant costs to FEFN beginning in 2017 and removed the costs from FEI's 2017 Base Capital in the FEI Annual Review of 2017 Rates. The amount of the addition to FEFN's Intangible Plant in 2017 and 2018 is $46 thousand, and is related to the purchase and sustainment of System Computer Software.[42]

35. BCUC IRs focussed only on the 2015 actual Intangible Plant addition of $11 thousand related to the acquisition of Transmission Land Rights in Fort Nelson as shown in Table 7-2 of the Application.[43] FEI explained in response to BCUC IR 1.11.1 that in 2012 FEI discovered that a short section of existing transmission line was located outside of the established pipeline statutory right of way. FEI purchased a small portion of right of way in 2013 to avoid the much higher cost of having to replace the pipeline.[44] Given that the alternative of replacing the pipe was significantly more costly, FEI's decision to purchase the right of way for $11 thousand was prudent in the circumstances.

36. FEI submits that its intangible plant additions are reasonably forecast and should be approved as filed.

---

[42] Exhibit B-1, Application, p. 33.

[43] Exhibit B-1, Application, p. 33.

[44] Exhibit B-3, BCUC IR 1.11.1.

B. Transmission Plant

37. The forecast additions to transmission plant in 2017 and 2018 are $75 thousand and $15 thousand, respectively. These additions total less than the combined approved additions for 2015 and 2016, reflecting fewer capital projects being undertaken over the Test Period.[45] The IRs focussed on FEFN's 2015 and 2016 additions and the forecast additions over the Test Period, as discussed below.

38. While the timing of the 2015 and 2016 additions varied from forecast, FEI confirmed that FEFN's 2015 Actual and 2016 Project Transmission Plant additions all related to capital expenditures that were forecast and approved as part of the FEFN 2015-2016 revenue requirements proceeding.[46] The actual capital expenditures incurred on each of the three major projects approved for 2015 and 2016 were provided in response to BCUC IR 1.12.1.[47]

39. FEI is forecasting only one large project over the Test Period, which relates to the replacement of two valves at one site due to ongoing leaks.[48] FEI provided a breakdown of the $75 thousand cost estimate for this project in response to BCUC IR 1.12.4. FEI explained the justification for the project as follows:[49]

> The replacement of the two valves, both at the same location, is required due to ongoing leakage of natural gas from each into the environment. The leakage is believed to be due to mechanical seals not performing as they did when the valves were installed. FEI has attempted to "refresh" the seals by cleansing, lubrication and sealing however these actions have not been successful in stopping the leakage.
>
> The leakage of natural gas at the location of the valves does not represent a significant hazard to personnel or the public as the leakage rate is very small; however the leakage of odorized natural gas on an ongoing basis is believed to

---

[45] Exhibit B-1, Application, p. 33.

[46] Exhibit B-1, Application, p. 33; Exhibit B-3, BCUC IR 1.12.2.

[47] Exhibit B-3, BCUC IR 1.12.2.

[48] Exhibit B-1, Application, p. 34; Exhibit B-3, BCUC IR 1.12.4.

[49] Exhibit B-3, BCUC IR 1.12.3.

> be a public nuisance. The valves are located near a public highway and adjacent to a river where the public is often present.
>
> An alternative to the actions planned by FEI would be to install casings around the valves to contain the natural gas. However, due to the configuration of the valve assembly and because these valves represent important components for operating and emergency response for the pipelines, making the valves inaccessible by encasing them is not acceptable. Refurbishment of the internal components of the valves is also not practical as to do so would require removal and replacement of the valves, which would cost more than simply replacing them.
>
> Considering the legislated requirements to address the leakage, FEI believes that deferral is not an appropriate option for this work. The project also supports FEI's commitment to design, construct and operate its gas system assets in a safe, reliable and environmentally responsible manner.

40. While the leakage from the two valves typically does not fall within the FEI integrity management plan, FEI is obligated to comply the *Oil and* Gas *Activities Act* and CSA Standard Z662. As stated in response to BCUC IR 1.12.6:[50]

> - 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.

41. In short, FEI has appropriately planned to replace the two valves in compliance with provincial legislation.

42. In summary, the evidence demonstrates that the forecast Transmission Plant work is prudent, necessary for service to customers and should be recovered in rates as forecast.

---

[50] Exhibit B-3, BCUC IR 1.12.6.

C. Distribution Plant

43. FEFN's 2017 and 2018 forecast Distribution Plant additions are $307 thousand and $388 thousand, respectively. The IRs in the proceeding focussed on 2015 Actual and 2016 Projected, as well the forecast Distribution Plant additions over the Test Period, as discussed below.

44. The total combined 2015 and 2016 approved amount of Distribution Plant additions was $473 thousand, as shown in revised Table 7-2 in the response to BCUC IR 1.10.1.[51] Comparatively, the cumulative 2015 Actual/2016 Projected amount shown in revised Table 7-2 is $571 thousand. The difference of $98 thousand is due primarily to differences in the timing of when capital was placed into service. In addition, $30 thousand of the variance is due to the completion of alterations to the Fort Nelson Gate Station to provide a higher outlet pressure to a portion of the Fort Nelson distribution system, which was identified after establishing the approved capital expenditures in the 2015/2016 RRA.[52]

45. FEFN's 2017 and 2018 forecast Distribution Plant Additions can be divided into the following four categories:

(a) **Growth:** Growth capital investments are incurred to install gas mains, services and meters to attach new customers. The component of growth related distribution capital (new mains, new services, and new meters) forecast for the Test Period is $37 thousand in 2017 and $38 thousand in 2018,[53] consistent with 2015 actual and 2016 projected amounts.[54]

(b) **New Line Heater Burner Management System:** The installation of a new line heater burner management system at the Fort Nelson Gate Station to add

---

[51] Exhibit B-3, BCUC IR 1.13.1 and 1.13.2.

[52] Exhibit B-3, BCUC IR 1.13.2.

[53] Exhibit B-3, BCUC IR 1.14.3.

[54] Exhibit B-1, Application, p. 34.

industry standard safety features to achieve regulatory compliance, improve reliability, and improve combustion efficiency ($60 thousand in 2017).[55]

(c) **Replacement of Steel Distribution Mains and Services:** The replacement of steel distribution mains and services to address those that are prone to leaks, and due to their location in Fort Nelson, of greater risk to public safety due to longer periods of frozen ground and remoteness from emergency repair personnel ($175 thousand in 2017 and $275 thousand in 2018).[56]

(d) **Other:** Cathodic protection, stations, service line and main alterations (non-receivable), service line alterations (receivable) and service line hazards mitigation (totalling $35 thousand in 2017 and $75 thousand in 2018).[57]

46. The IRs focussed on FEI's growth related additions, the new line heater burner management system and the replacement of steel distribution mains and services. Each of these topics is discussed below.

Growth

47. As noted above, growth capital investments are incurred to install gas mains, services and meters to attach new customers. There is no inconsistency between the occurrence of growth capital investments and a decrease in demand over the Test Period. This is because there is no direct link between growth capital expenditures and energy demand. While growth capital expenditures relate to costs associated with attaching new customers, the forecast related to energy demand relates to lower overall gas volumes from existing customers using less gas. Thus, in a given year FEI could forecast lower energy demand, yet still incur costs

---

[55] Exhibit B-1, Application, p. 34; breakdown and description of the costs forecast provided in Exhibit B-3, BCUC IR 1.13.5.

[56] Exhibit B-1, Application, p. 34; breakdown and description of the costs forecast provided in Exhibit B-3, BCUC IR 1.13.5.

[57] Exhibit B-3, BCUC IR 1.13.3; Exhibit B-4, BCOAPO IR 1.4.2.

related to attaching new customers.[58] Further, net customer additions refers to the net incremental customer total after considering new service line additions and any customers leaving the system.[59] For this reason, FEI may still require growth-related Distribution Plant to connect new customers, even though it has an overall low *net* customer additions forecast. FEI submits that its growth-related capital is reasonable, consistent with its demand forecast, and should be approved as filed.

New Line Heater Burner Management System

48. FEI provided a breakdown of the $60 thousand cost estimate to complete the new line heater burner management system, in response to BCUC IR 1.13.5. The new line heater burner management system is required to comply with CSA standards and to ensure the single line heater at the Fort Nelson Gate Station operates safely and reliably. FEI explained as follows:[60]

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

49. FEI clarified that the installation of a new burner management system is in fact an action to extend the life of the existing line heater, as opposed to replacing the entire line heater to a more modern type. Replacement of the line heater to a more modern type may

---

[58] Exhibit B-3, BCUC IR 1.14.1.

[59] Exhibit B-3, BCUC IR 1.14.2.

[60] Exhibit B-3, BCUC IR 1.13.4; see also BCUC IR 1.13.7.

cost as much as 100% to 200% more. [61] The decision to install the new burner management system is therefore reasonable and cost effective.

Replacement of Steel Distribution Mains and Services

50. FEI's forecast expenditures to replace steel distribution mains and services are necessary to address those that are prone to leaks and of greater risk to public safety due to longer periods of frozen ground and remoteness from emergency repair personnel.[62] FEI explained the justification for these expenditures in more detail as follows:[63]

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

---

[61] Exhibit B-3, BCUC IR 1.13.6.

[62] Exhibit B-1, Application, p. 34; breakdown and description of the costs forecast provided in Exhibit B-3, BCUC IR 1.13.5.

[63] Exhibit B-3, BCUC IR 1.13.4; see also BCUC IR 1.13.7.

> better understanding of how the original system was constructed in the 1950s in order to assist with decision-making in the future.

51. FEI also explained that replacement is a more cost effective approach than rehabilitation of the mains and services, stating:[64]

> It is cost prohibitive to expose steel distribution mains and services and remove undesirable fittings, repair all corrosion defects, and recoat the pipe. It is much more cost effective to simply replace these smaller diameter pipes since most of the cost is in excavating the pipe. Once this is achieved, replacement is a lower cost than rehabilitation. Rehabilitating a main that has been exposed may cost 50% to 100% more than simply replacing it.

52. The evidence shows that FEI has prudently and cost-effectively planned for the replacement of steel distribution mains and services, and that its forecast costs should be approved.

D. General Plant

53. Additions in the General Plant category return to more normal levels after the replacement of the septic system at FEI's Fort Nelson office in 2016. In 2017 and 2018, FEI is planning some upgrades to the Fort Nelson office building including:

(a) the replacement of the roof which is at the end of its useful life; and

(b) the replacement of the HVAC units which need to be replaced to comply with the phasing out of hydro chlorofluorocarbons as required by the Federal Government.[65]

54. There were no IRs inquiring into the forecast General Plant additions over the Test Period. FEI submits that its forecast is reasonable and prudent and should be approved as filed.

---

[64] Exhibit B-3, BCUC IR 1.13.6.

[65] Exhibit B-1, Application, p. 34.

E. Depreciation and Net Salvage Rates

55. As discussed in Section 7.2.3 of the Application, the depreciation and net salvage rates used for 2017 and 2018 are the same as the depreciation and net salvage rates that were proposed by FEI in its Annual Review for 2016 Rates, based on the utility's most recent depreciation study. At the time of filing the Application, FEI's proposed depreciation and net salvage rates had not yet been approved by the Commission. For this reason, FEI had requested approval of the rates subject to any determination by the Commission with respect to those rates in the FEI Proposal for Depreciation and Net Salvage Rate Changes proceeding. By Order G-119-16, dated July 28, 2016, the Commission has now approved FEI's proposed depreciation and net salvage rates as filed. Consistent with this result and the practice of FEFN using the same depreciation and net salvage rates as the other service areas of FEI, FEI submits that the depreciation and net salvage rates used for FEFN in the Application should be approved as filed.

F. Deferral Accounts

56. Each of the deferral accounts used for FEFN is described in section 7.4 of the Application. FEI is requesting approval of the creation of four new deferral accounts:

- 2017-2018 Revenue Requirement Application Deferral Account
- 2016 Cost of Capital Application Deferral Account
- 2017 Rate Design Application Deferral Account
- Revenue Deficiency Deferral Account

57. IRs questioned whether FEI was applying for the discontinuance of the Generic Cost of Capital Application deferral account[66] and the 2015-2016 Revenue Requirement

[66] Exhibit B-3, BCUC IR 1.15.1.

Application deferral account.[67] FEI explained that it does not normally request discontinuance of deferral accounts. Rather, when the balance is fully amortized and the account will not be used to capture any further costs, FEI considers the account discontinued at that time. This is the practice that FEI continues to apply in this Application. As such, FEI considers that the Generic Cost of Capital Application deferral account and the 2015-2016 Revenue Requirement Application deferral account will be discontinued on January 1, 2017 and January 1, 2018, respectively.[68]

58. FEI was also asked whether the amortization period for the 2016 Cost of Capital Application deferral account should be one year, instead of three years as FEI proposed. FEI acknowledges that given the cost amount and the relatively minor impact on rates, a one-year amortization period would be reasonable.[69] However, a three-year amortization period was proposed as FEI seeks to use consistent amortization periods among all of its service areas for the same or similar deferral accounts to create accounting and regulatory efficiencies.[70] A three-year amortization period is consistent with what FEI has proposed in its Annual Review of 2017 Rates Application. FEI notes that it is also appropriate to spread the costs of the Application over a longer period since the approved cost of capital resulting from the 2016 Cost of Capital Application will be in place for a number of years. FEI therefore continues to propose a three-year amortization period for the 2016 Cost of Capital Application deferral account.

---

[67] Exhibit B-3, BCUC IR 1.16.1.

[68] Exhibit B-3, BCUC IR 1.15.1 and 1.16.1.

[69] Exhibit B-3, BCUC IR 1.17.1 and 1.17.2.

[70] Exhibit B-3, BCUC IR 1.17.1.

PART FIVE: CONCLUSION

59. Based on the evidence in this proceeding, the rates sought for FEFN for 2017 and 2018 are supported by sound forecasting methods and are required to recover the costs of serving FEFN customers. It is therefore submitted that the approvals sought are just and reasonable and should be approved.

ALL OF WHICH IS RESPECTFULLY SUBMITTED.

Dated: September 9, 2016

[original signed by Christopher Bystrom]
Christopher Bystrom
Counsel for FortisBC Energy Inc.

[original signed by Tariq Ahmed]
Tariq Ahmed
Counsel for FortisBC Energy Inc.