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British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Attention: Mr. Patrick Wruck, Commission Secretary

Dear Sirs/Mesdames:

Re: FortisBC Energy Inc. and FortisBC Inc. (collectively “FortisBC”) Multi-Year Rate Plan Application for 2020 to 2024 ~ Project No. 1598996 - Final Submission

In accordance with the regulatory timetable in the above proceeding, we enclose for filing the Final Submission of FortisBC Energy Inc. and FortisBC Inc. (“FortisBC”), dated January 10, 2020.

Yours truly,

FASKEN MARTINEAU DuMOULIN LLP

[Original signed by]

Christopher Bystrom*
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CRB/NR
Encl.



British Columbia Utilities Commission

**FortisBC Energy Inc. and FortisBC Inc.
Multi-Year Rate Plan Application for 2020 to 2024**

Project No. 1598996

Final Argument

of

FortisBC Energy Inc. and FortisBC Inc.

January 10, 2020

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PART ONE: INTRODUCTION AND OVERVIEW

A. INTRODUCTION

1. In this proceeding FortisBC Energy Inc. (“FEI”) and FortisBC Inc. (“FBC”) (together, “FortisBC”, the “Companies” or the “Utilities”) seek approval of multi-year ratemaking plans that will provide the framework for FEI and FBC’s rates from 2020 to 2024 (“Proposed MRPs” or “2020-2024 MRPs”). The Proposed MRPs build on the success of the 2014-2019 performance-based ratemaking plans (the “Current PBR Plans” or “2014-2019 PBR Plans”), while responding to the challenges experienced, stakeholder feedback and the significant changes in FortisBC’s operating environment. FortisBC recommends the Proposed MRPs to the BCUC for approval as a balanced rate setting frameworks that align the interests of the Utilities and customers, and provide the Utilities the flexibility to address challenges, opportunities and emerging pressures, while continuing to provide safe and reliable service. The detailed approvals sought are set out in Section A2 of the Application, as updated by the errata filed in June 2019,¹ and have been updated in the Draft Order Sought attached to the end of this Final Submission.

2. The Proposed MRPs are based on FortisBC’s Current PBR Plans, which have been successful overall. FEI and FBC achieved significant savings for customers through efficiencies in Operations and Maintenance (“O&M”) expense, while also maintaining a high level of service to customers. Given this success and the benefits of performance based ratemaking (“PBR”) generally, FortisBC proposes to continue most aspects of the Current PBR Plans. This includes a five-year term which promotes a longer-term focus and is a powerful driver of efficiencies. Consistent with the Current PBR Plans, FortisBC proposes to continue its building-block approach and other key aspects of the Current PBR Plans, including the earnings sharing mechanism (“ESM”), inflation factor, exogenous factor criteria, a Flow-through deferral account, off ramp, Service Quality Indicators (“SQIs”), and Annual Review process.

¹ Exhibit B-1-3, Appendix E-1.

3. While the Current PBR Plans have been largely successful, there is a clear need to make adjustments to respond to the challenges with the capital formula, stakeholder feedback and the significant changes in FortisBC's operating environment, including decarbonization policy at all levels of government. In the present circumstances, the ongoing health of the Utilities requires a multi-year ratemaking plan ("MRP") framework that provides stable levels of O&M funding, the flexibility to innovate and adapt, and incentive to invest in the future. Therefore, FortisBC's proposals include the following:

- FortisBC's proposes a formula or indexed-approach to O&M expense that will drive a "do more with what we have" approach. FortisBC proposes adjustments to the productivity and growth factors in recognition of the decreased opportunities for savings, negative productivity growth trends in the industry, and need for stable levels of O&M funding to respond to the cost pressures and significant challenges in FortisBC's operating environment.
- FortisBC proposes a shift to a forecast approach to the majority of its capital expenditures to respond to the challenges with the capital formula under the Current PBR Plans, stakeholder feedback regarding these challenges, and the lumpy nature of certain capital that cannot be properly accommodated in the indexing formulas. Similar to the formula approach, any variances between actual and forecast capital expenditures will continue to be subject to the ESM.
- FortisBC proposes an efficiency carry-over mechanism ("ECM") to ensure the incentive to achieve efficiencies under the Proposed MRPs remain powerful over the entire 2020-2024 term.
- FortisBC proposes updates to SQIs in response to stakeholder feedback and improved historical performance, including a new indicator to measure quality of service to municipal wholesale customers.
- FortisBC proposes new targeted incentives that will promote the achievement of challenging policy and customer service goals that are in the public interest, recognizing the significant challenges and opportunities presented to the Utilities from increasing policies aimed at decarbonization.
- FortisBC proposes a Clean Growth Innovation Fund in response to the need for the elevated level of innovation required to respond to customer expectations and decarbonization policy at all levels of government.
- FortisBC is also seeking approval of (1) updated lead-lag days and resulting calculation of working capital, (2) updated depreciation and net salvage rates, (3)

updated capitalized overhead rates, (4) new methodology for the allocation of shared services, and (5) an updated methodology for the calculation of corporate services costs. All of these requests are based on detailed supporting studies and will ensure that rates over the term of the Proposed MRPs are more representative of FortisBC's revenue requirements.

4. With the proposed adjustments, FortisBC's Proposed MRPs remain balanced and continue to adhere to widely accepted PBR design principles. The Proposed MRPs will achieve the benefits of incentive-based ratemaking including: promoting a continuous efficiency focus, aligning the Utilities' and ratepayers' interests; encouraging the Utilities to achieve targeted outcomes, ensuring service quality requirements are met; and creating an efficient regulatory process that allows the Utilities to focus on managing business priorities, increasing innovative solutions to utility challenges and minimizing costs for customers. To achieve these benefits, FortisBC recommends that the approval sought in its Application be approved.

5. In this Final Submission, FortisBC makes five adjustments to the list of approvals sought last updated in June 2019. These adjustments reflect corrections noted in IR responses and other items that need to be updated. The five adjustments are as follows:

- (a) FortisBC proposes to update FEI's and FBC's 2019 Base O&M per customer amounts for the 2019 actual average number of customers in its compliance filing to the BCUC's Decision in this proceeding. The 2019 Base O&M per customer amounts set out in the Application are based on a projection of the 2019 average number of customers. Consistent with FortisBC's proposal that the average number of customer be true-up each year, FortisBC considers that the Base O&M per customer should also be based on the actual average number of customers in 2019.
- (b) In responding to the second round of IRs, FortisBC discovered an error in the calculation of FEI's 2019 Base Growth capital per customer amount, which

FortisBC committed to correcting.² FEI proposes to correct for this error in its compliance filing.

- (c) Also in responding to the second round of IRs, FBC noted that it included duplicate costs in its forecast expenditures for the Porcelain Cutouts Replacement program.³ FBC will update its Small Planned Capital program forecast to remove the duplication of costs in its compliance filing.
- (d) As discussed in the Application, FortisBC's proposes to set benchmarks and thresholds for its SQIs for the System Average Interruption Duration Index ("SAIDI") and System Average Interruption Frequency Index ("SAIFI") based on 2017, 2018 and 2019 actual data. As the evidentiary record is now closed, and the 2019 data is still being finalized, FortisBC considers that the most opportune time to file the updated benchmarks and thresholds is in its compliance filing.
- (e) FBC is not at this time seeking a targeted incentive related to electric vehicles. As legislation is expected to be passed that will help define FBC's role in this area,⁴ FBC proposes to seek approval of a targeted incentive through the annual review process after the legislation is passed.

6. Each of the above adjustments is noted in the updated Draft Order Sought attached to this Final Submission.

B. ORGANIZATION OF THIS FINAL SUBMISSION

7. The remainder of this Final Submission is organized as follows:

- Part Two discusses how the Proposed MRPs build on the success of the 2014-2019 PBR Plans, but also respond to the weaknesses in the 2014-2019 PBR Plans, stakeholder feedback, significant changes in its operating environment as well as a review of MRPs in other jurisdictions. The Proposed MRPs are balanced plans

² Exhibit B-12, BCUC IR 2.187.2.

³ Exhibit B-12, BCUC IR 2.202.4.

⁴ Exhibit B-12, BCUC IR 2.240.1.

that are in alignment with accepted PBR principles and continue the balance of incentives and risk/rewards in the 2014-2019 PBR Plans.

- Part Three addresses the design of the Proposed MRPs, showing how each proposed adjustment made to the design of the Current PBR Plans is reasonable and appropriate.
- Part Four sets out FEI's and FBC's Base O&M per customer unit cost, which provides an appropriate starting point for FortisBC's operating expenditures for the Proposed MRPs.
- Part Five sets out FEI's Base Growth capital per customer unit cost, which provides an appropriate starting point for FEI's Growth capital expenditures for the Proposed MRPs.
- Part Six discusses how FEI and FBC's forecast approach to Regular capital addresses the challenges with capital under the 2014-2019 PBR Plans, and how the forecast of Regular capital is robust and reasonable.
- Part Seven shows how FortisBC is proposing reasonable adjustments to the Service Quality Indicators and that the suite of SQIs remains balanced and useful for monitoring FortisBC's service quality.
- Part Eight sets out FortisBC's Targeted Incentives which will encourage the achievement of particular goals that will benefit customers and are in the public interest.
- Part Nine sets out FortisBC's Clean Growth Innovation Fund which addresses the need for innovation.
- Part Ten describes the Supporting Studies conducted as part of the Application which improve the calculation of FortisBC's revenue requirements for the term of the Proposed MRPs.
- Part Eleven concludes this Final Submission.

PART TWO: RATIONALE FOR THE PROPOSED MRPS

A. OVERVIEW

8. FortisBC's Proposed MRPs are warranted as they build on the success of the Current PBR Plans and the merits of PBR-type plans generally, with reasonable changes and adjustments in response to weaknesses in the current plans, stakeholder feedback and challenges and opportunities in FortisBC's operating environment. The success of the 2014-2019 PBR Plans and merits of PBR-type plans warrants the continuation of a multi-year ratemaking approach for FortisBC. At the same time, the evidence shows that FortisBC's rate plans must evolve in response to the challenges experienced with the 2014-2019 PBR Plans, changes in the operating environment, and stakeholder feedback. FortisBC's Proposed MRPs were carefully designed to do just that. Overall, the Proposed MRPs continue with a balanced plan that is consistent with PBR principles, align the interests of customers and the Utilities, and include the features necessary for the Utilities to address the challenges in their operating environment and continue to provide safe and reliable service to customers.

9. This Part is organized around the following key points:

- (a) The success of the 2014-2019 PBR Plans warrants the continuation of a multi-year ratemaking approach for FEI and FBC.
- (b) The evidence shows that FortisBC's rate plans must evolve in response to the challenges experienced with the Current PBR Plans, significant changes in the operating environment, and stakeholder feedback.
- (c) The Proposed MRPs continue with a balanced plan that is consistent with PBR principles, align the interests of customers and the Utilities, and maintains a reasonable balance of risks and rewards.

B. SUCCESS OF 2014-2019 PBR PLANS WARRANTS CONTINUATION OF AN MRP FOR FEI AND FBC

10. The success of the Current PBR Plans and the merits of PBR-type plans generally warrant the continuation of an MRP for both FEI and FBC. As indicated by the analysis of the savings achieved, the level of service quality that was maintained, and the resulting customer rates, the Current PBR Plans have been overall successful. Both FEI and FBC managed to achieve significant savings for customers while maintaining a high-level of service, and overall kept rates low for customers. In combination with FEI's and FBC's past successes under PBR-type plans, and the merits of PBR generally, there is a clear and convincing case that FEI and FBC should continue with an MRP approach for the next five years.

1. FORTISBC CONDUCTED A DETAILED EVALUATION OF THE CURRENT PBR PLANS

11. FortisBC's conclusion that the Current PBR Plans have been an overall success is based on a comprehensive evaluation of the plans that has been ongoing in each Annual Review since 2014 and has been presented in full in the Application. The information provided in the Application is summarized in brief below:

- **Section B2.2:** summarizes the Current PBR Plans for FEI and FBC as approved by the BCUC.
- **Section B2.3:** provides a thorough evaluation of the Current PBR Plans from O&M expenditures, capital expenditures, regulatory efficiency, and rate trend perspectives. This includes an analysis of the Current PBR Plans' strengths and weaknesses.⁵
- **Section B2.4:** considers the relative performance of the Utilities compared with their peers through a benchmarking study conducted as requested by the BCUC.⁶
- **Appendix B6 - FEI Report on Major Initiatives During the PBR Term:** summarizes each of the major productivity initiatives that FEI has implemented

⁵ Exhibit B-1, pp. B-29 to B-48.

⁶ Exhibit B-1, pp. B-48 to B-58.

across the Current PBR Plan term, including Phases 1 and 2 of the Regionalization Initiative, Project Blue Pencil, etc.⁷

- **Appendix B7 - FEI Report on Headcount and FTE:** provides an approximate breakdown of headcount information and full-time employee information as requested by the BCUC.⁸
- **Appendix B8 - FEI and FBC Reports on Capital Directives:** includes a breakdown and explanation of annual variances in capital expenditures and a description of how the Utilities are prioritizing capital expenditures during the Current PBR Plan term.⁹

12. FortisBC responded in full to numerous detailed IRs on its evaluation of the 2014-2019 PBR Plans.¹⁰ The additional information provided is considerable, detailed and provides further information upon which to evaluate the 2014-2019 PBR Plans.

2. KEY CONCLUSIONS ON CURRENT PBR PLANS DEMONSTRATE SUCCESS

2.1 *Operating Efficiencies Achieved*

13. A key attribute of PBR-plans is to encourage utilities to become more efficient in their operations. FortisBC delivered on this goal. FortisBC's customers benefitted from the immediate productivity amounts embedded in the 2014-2019 PBR Plans' formula productivity factor ("X-Factor) value, and from the considerable O&M expenditure savings achieved. Tables B2-2 and B2-3 of the Application show these savings, as reproduced below:

⁷ Exhibit B-1-1, Appendix B6.

⁸ Exhibit B-1-1, Appendix B7.

⁹ Exhibit B-1-1, Appendix B8.

¹⁰ E.g., Exhibit B-10, BCUC IR 1.6 series to 1.16 series; Exhibit B-12, BCUC IR 2.156 series to 2.160 series.

Table B2-2: FEI Formula O&M Savings from 2014 to 2019 (\$ millions)

| Year | Actual (a) | Formula With 1.1% PIF (b) | Savings above the Formula (c= b-a) | Formula without 1.1% PIF (d) | Savings related to 1.10% PIF (e= d-b) | Total Savings to customer (f= 0.5*c + e) |
|--------------------|------------|---------------------------|------------------------------------|------------------------------|---------------------------------------|--|
| 2014 ¹¹ | 191.0 | 198.5 | 7.5 | 200.7 | 2.2 | 5.9 |
| 2015 | 225.4 | 235.6 | 10.2 | 240.4 | 4.8 | 9.9 |
| 2016 | 225.9 | 238.1 | 12.2 | 245.6 | 7.5 | 13.6 |
| 2017 | 232.5 | 240.4 | 7.9 | 250.7 | 10.3 | 14.3 |
| 2018 | 238.7 | 243.6 | 4.9 | 256.8 | 13.2 | 15.7 |
| 2019P | 246.9 | 248.9 | 2.0 | 265.3 | 16.4 | 17.4 |
| Total | | | | | | \$76.8 |

Table B2-3: FBC Formula O&M Savings from 2014 to 2019 (\$ millions)

| Year | Actual (a) | Formula with 1.03% PIF (b) | Savings above the Formula (c = b – a) | Formula without 1.03% PIF (d) | Savings related to 1.03% PIF (e = d – b) | Total Savings to customer (f = 0.5*c + e) |
|--------------|------------|----------------------------|---------------------------------------|-------------------------------|--|---|
| 2014 | 52.0 | 52.7 | 0.7 | 53.3 | 0.5 | 0.9 |
| 2015 | 51.9 | 53.0 | 1.1 | 54.1 | 1.1 | 1.6 |
| 2016 | 51.8 | 53.6 | 1.8 | 55.3 | 1.7 | 2.5 |
| 2017 | 52.5 | 54.1 | 1.6 | 56.3 | 2.3 | 3.0 |
| 2018 | 53.9 | 54.8 | 0.9 | 57.6 | 2.9 | 3.3 |
| 2019P | 55.6 | 56.1 | 0.5 | 59.6 | 3.5 | 3.8 |
| Total | | | | | | 15.2 |

14. These savings and efficiencies have been driven in full or in part by the incentive mechanisms and other features of the Current PBR Plans, including the six-year test period.¹² The savings were achieved through a broad-based focus on productivity throughout the Utilities, as well as FEI’s major efficiency initiatives.¹³ As the features of the Current PBR Plans were designed to increase efficiency and provide incentive for the Utilities to find cost savings, it is reasonable to attribute the achieved savings to these features.¹⁴

¹¹ The large increase from 2014 to 2015 actual and formula amounts is due to the amalgamation with Vancouver Island (VI) and Whistler utilities.

¹² Exhibit B-7, CEC IR 1.3.2.

¹³ Exhibit B-1-1, Appendix B6.

¹⁴ Exhibit B-7, CEC IR 1.3.2.

15. As a result of the above savings, FortisBC’s O&M has increased at rates below inflation and O&M has declined on a per customer basis. FEI’s actual Formula O&M per customer (adjusted for inflation) decreased by approximately 16 percent from \$286 per customer in 2013 to \$241 per customer in 2019 (a compound annual growth rate of approximately negative 2.8 percent). FEI’s actual Total O&M per customer has decreased by more than thirteen percent.¹⁵ FBC’s actual formula O&M per customer (adjusted for inflation) decreased by approximately 12 percent from \$457 per customer in 2013 to \$401 per customer in 2019 (a compound annual growth rate of approximately negative 2.2 percent). FBC’s actual Total O&M per customer decreased by more than 14 percent.¹⁶ FEI’s and FBC’s performance indicates that controllable operating expenditures are suitable for an indexed-based formula.¹⁷

2.2 Regulatory Efficiency and Associated Benefits Achieved

16. Another key attribute of PBR plans is regulatory efficiency. The 2014-2019 PBR Plans delivered on this as well.¹⁸ First, the regulatory costs associated with the regulatory process were reduced compared to a cost of service approach. This is illustrated by FortisBC’s reduced external regulatory costs, as presented in Tables B2-7 and B2-8 of the Application and reproduced below:

Table B2-7: FEI PBR and Cost of Service Proceedings Cost Comparison (\$000s)

| Type of Cost | Annual Reviews 2015- | | |
|----------------------------|----------------------|------------------------------|-----------------|
| | 2014-2019 PBR | 2019 (Average) ¹⁹ | 2012-2013 RRA |
| BCUC Costs | \$ 295 | \$ 24 | \$ 389 |
| Intervener PACA | 477 | 40 | 351 |
| Consulting and Legal | 1,037 | 67 | 788 |
| Other/Misc. | 22 | 1 | 32 |
| Total | \$ 1,831 | \$ 132 | \$ 1,561 |
| Average Annual Cost | \$ 415 | | \$ 780 |

¹⁵ Exhibit B-1, p. B-31.

¹⁶ Exhibit B-1, p. B-33.

¹⁷ Exhibit B-1, p. B-44.

¹⁸ Exhibit B-1, pp. B-38 to B-40.

¹⁹ FEI 2016 Annual Review costs exclude the consultant related costs for the depreciation study.

Table B2-8: FBC PBR and Cost of Service Proceedings Cost Comparison (\$000s)

| Type of Cost | Annual Reviews | | |
|----------------------------|-----------------|-----------------------------------|-----------------|
| | 2014-2019 PBR | 2015-2019 (Average) ²⁰ | 2012-2013 RRA |
| BCUC Costs | \$ 208 | \$ 23 | \$ 273 |
| Intervener PACA | 453 | 40 | 243 |
| Consulting and legal | 859 | 62 | 676 |
| Other/Misc. | 20 | 0 | 129 |
| Total | \$ 1,541 | \$ 125 | \$ 1,321 |
| Average Annual Cost | \$ 360 | | \$ 661 |

17. As seen above, the average annual external regulatory costs were significantly less under the 2014-2019 period compared to the 2012-2013 period where a cost of service approach was used.

18. Further, FortisBC saved considerable internal resources related to regulatory process, as cost of service regulatory processes require thousands of hours of employee time that are not required under an MRP.²¹ The longer-term of the 2014-2019 PBR Plan freed up utility resources to focus on other job requirements, including revenue generating and load building opportunities and addressing the challenges and opportunities of government’s energy policy and industry transformation.²² The longer test period also promoted a longer-term view of the Utilities, which fostered a productive and disciplined culture and enabled an efficient and flexible approach to the timing of projects and other investments.²³ These benefits are significant and were key to the success of the 2014-2019 PBR Plans.

2.3 Safeguard Mechanisms Mitigated Impacts of Capital Expenditures

19. While both FEI and FBC experienced challenges with capital expenditures, the 2014-2019 PBR Plans included several safeguard mechanisms which worked as intended and mitigated the impact. These safeguards included the earning sharing mechanism, the capital

²⁰ FBC 2016 Annual Review costs exclude the depreciation study. FBC 2012-2013 RRA proceeding included a review of the 2012 Integrated System Plan. Costs of the 2011 depreciation study and consulting fees related to the Integrated System Plan component of the proceeding are excluded.

²¹ Exhibit B-1, p. B-40.

²² Exhibit B-1, p. B-40.

²³ Exhibit B-7, CEC IR 1.3.2.

dead band, and the exogenous factor treatment. These mechanisms were generally successful in mitigating the risks of unintended and/or unexpected events during the 2014-2019 PBR Plan term. For example, the capital dead band provision mitigated the risks of FEI and FBC exceeding their formula-driven capital expenditures limits.²⁴

2.4 High Level of Service Quality Maintained

20. FEI's and FBC's annual SQI results, as presented in the Annual Reviews and Appendices C5-1 and C5-2 of the Application, indicate that both FEI and FBC met their service quality targets in almost all of the years. Both Utilities consistently maintained a high level of service.²⁵

2.5 Rate Trend Supports Conclusion that Plans were a Success

21. An indicator of the success of the 2014-2019 PBR Plans is the rate trends for both FEI and FBC, which were essentially at or below inflation. While rates under the 2014-2019 PBR Plans are impacted by inputs outside the PBR framework,²⁶ a number of factors attributable to the plan were important factors mitigating rate increases. These factors include FortisBC's ongoing focus on finding and achieving efficiencies, the increased ability to focus on customer and market growth, and the increased certainty of a longer ratemaking period.²⁷

22. The rate trends for FEI and FBC are presented in Figures B2-4 and B2-5 of the Application, as reproduced below:

²⁴ Exhibit B-1, pp. B-45 to B-46.

²⁵ Exhibit B-1-1, Appendices C5-1 and C5-2.

²⁶ The key inputs external to the framework that impacted rates are summarized in Exhibit B-1, pp. B-41 to B-42.

²⁷ Exhibit B-1, p. B-41.

Figure B2-4: FEI Delivery Rate Changes during the PBR Term

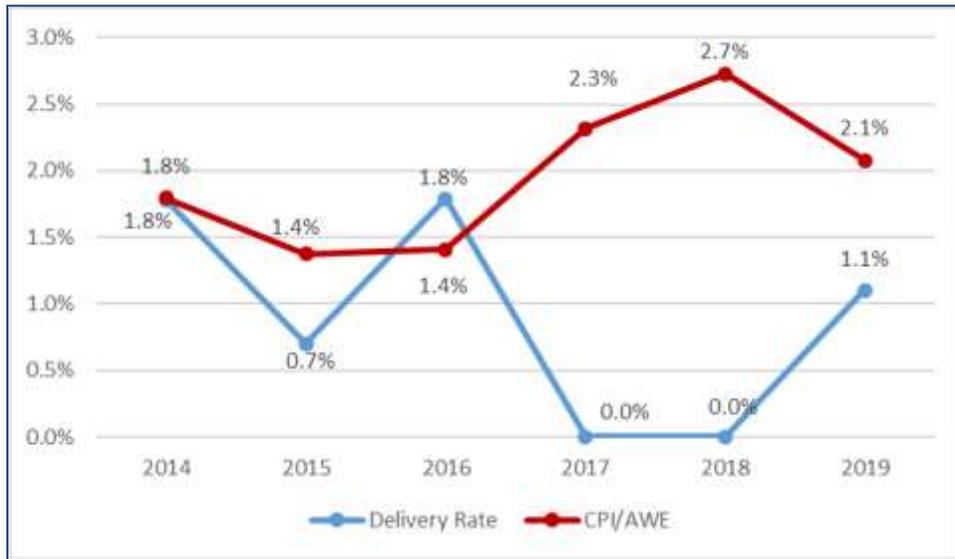
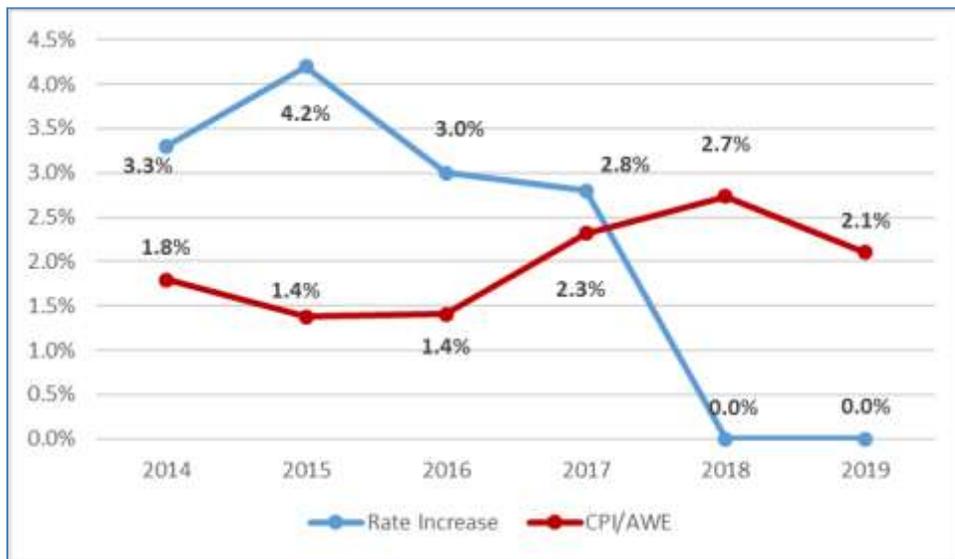


Figure B2-5: FBC Rate Changes during the PBR Term



23. Overall, FEI’s average delivery rate growth for 2014 through 2019 is approximately 0.9 percent compared to the average inflation rate of approximately 2 percent. Further, due to BCUC-approved rate smoothing, there is a net balance in the 2017-2018 Revenue Surplus deferral account of \$42.854 million (before tax) that is available to customers for future rate mitigation or smoothing.²⁸

²⁸ Exhibit B-1, p. B-42, as updated by Exhibit B-21, p. 3.

24. FBC's rate increases have trended downwards over the term of the 2014-2019 PBR Plan, overall averaging a compound annual growth rate of 2.2 percent compared to approximately 2.0 percent for inflation. Due to BCUC-approved rate smoothing, there is a net balance in the 2018-2019 Revenue Surplus deferral account of \$4.737 million (before tax) that is available to customers for future rate mitigation or smoothing.²⁹

3. MERITS OF MULTI-YEAR RATE PLAN APPROACH

25. The overall success of the Current PBR Plans is consistent with the Utilities' long history with index-based MRPs dating back to the 1990s,³⁰ as well as the merits of an MRP approach generally.³¹

26. MRPs have been successfully implemented in Canada and the US, and are more common than cost of service ratemaking plans in the rest of the world.³² FortisBC's review and analysis of MRPs in other jurisdictions demonstrates that all MRPs surveyed share a set of common objectives: promoting a continuous efficiency focus, creating an efficient regulatory process, aligning utilities' and ratepayers' interests, and encouraging utilities to achieve government policy objectives, all while ensuring service quality requirements are met.³³ MRPs create these incentives through a longer and more stable framework and less burdensome regulation compared to cost of service, and by decoupling rates from reported costs. By decoupling rates from costs, efficient behaviour is rewarded with the potential for higher returns. These factors promote longer-term planning, allow management to be focused on the basic business rather than regulatory process, create a more incentivized corporate culture, and create more potential for "discovery" and innovation. In short, MRPs promote more efficient behaviour, which leads to lower prices for customers.³⁴ All of these benefits of MRPs have been exemplified by FortisBC's success under the 2014-2019 PBR Plans.

²⁹ Exhibit B-1, p. B-43, as updated by Exhibit B-22, p. 3.

³⁰ Exhibit B-1-1, Appendix C1; Exhibit B-7, CEC IR 1.3.2.

³¹ Exhibit B-1-1, Appendix C3.

³² Exhibit B-1-1, Appendix C3, p. 21, PDF p. 358.

³³ Exhibit B-1, p. B-67.

³⁴ As summarized from Larry Kaufmann's workshop presentation to stakeholders. Exhibit B-1-1, Appendix C3.

27. The benefits of the incentive properties of MRPs are well-recognized by regulators and in academic journals. As explained by Mr. Kaufman at one of FortisBC's customer consultation workshops, extensive experience well beyond the utility shows that competition, driven by the profit motive, is more successful than central planning and mandates in promoting efficiency, innovation and customer benefit.³⁵ The New York State's Public Service Commission similarly made the point that reliance on regulatory mandates inhibits innovation and is an inefficient form of regulation:³⁶

Several parties commented that utilities should simply be ordered to implement specific tasks, with no need for incentives. Other parties argued that utilities should not be rewarded merely for performing what is expected of them. These arguments assume that regulators are in the best position to know precisely what actions are needed to achieve policy outcomes. In fact, the optimal role of regulators is not to dictate program terms but rather to set policy and ensure that results are just and reasonable. A construct in which regulators presume foreknowledge of how innovation must occur is antithetical to the premise of REV. Outcome-based incentives will allow utilities to determine the most effective strategy to achieve policy objectives, including cooperation with third parties and development of new business concepts that would not be considered under narrow, program-based incentives.

28. In its decision in FEI's 2014-2018 PBR Plan proceeding, the BCUC similarly commented on the limits of a cost of service approach:³⁷

The COS model has been relied upon in this jurisdiction and others with some success. The interveners may take comfort in the fact that one of its advantages is that it requires more frequent rebasing and hence there is a limit on the time before any sustainable savings directly impact customer rates. However, with COS regulation, there is little incentive to make sustainable efficiency gains and even less so when an investment is required. In fact, perversely, the utility may be incented to make unsustainable savings.

29. In their 2003 article, Weisman and Pfeifenberger explain how motivating increased performance through incentives is generally superior to mandating certain performance levels, as follows:

³⁵ Exhibit B-1-1, Appendix C3, p. 28, PDF p. 365.

³⁶ Exhibit B-1, p. B-76; Case 14-M-0101 (May 2016), pp. 62-63.

³⁷ BCUC Order G-138-14, p. 14.

This superior performance derives from the fact that incentive regulation, given the greater emphasis on prices rather than earnings, operates more like a fixed price contract in the sense that the regulated firm is limited in its ability to pass cost increases on to consumers in the form of higher rates. This contrasts with strict cost of service regulation that operates like a cost-plus contract.

30. The BCUC itself has recognized the success of MRPs in BC and elsewhere. In FEI's 2012-2013 RRA, the BCUC examined the results of FEI's 2004-2009 PBR plan and concluded that benefits were achieved for both ratepayers and shareholders, stating:³⁸

The Commission Panel is satisfied that there were positive results experienced by both ratepayers and the shareholder over the PBR period. In addition, the Panel finds there is sufficient evidence to suggest that introducing a PBR environment has the potential to act as an incentive to create productivity improvements.

31. More recently, the BCUC recognized the success of MRPs in BC Hydro's 2017-2019 RRA proceeding, stating:³⁹

Performance Based Rate (PBR) setting mechanisms are implemented successfully in many jurisdictions, particularly in Canada, including BC. PBR provides incentives for utilities to improve productivity and create efficiencies to allow for rates to be more effectively managed, while maintaining service quality.

32. In FortisBC's submission, the merits of MRPs have been demonstrated both in BC and other jurisdictions in Canada and the US. It is perhaps for this reason that a recent survey of approximately 600 professionals employed by the North American electric utility industry indicated that the majority of respondents expect a move away from cost of service regulation to some sort of performance-based regulation.⁴⁰

4. CONTINUATION OF MULTI-YEAR RATE PLAN APPROACH FOR FEI AND FBC IS WARRANTED

33. The success of the Current PBR Plans and the merits of MRPs generally warrant the continuation of a similar approach over the next test period. Therefore, FortisBC's approach

³⁸ BCUC Order G-44-12, Reasons for Decision, p. 22.

³⁹ BCUC Order G-47-18, Reasons for Decision, p. 110.

⁴⁰ Exhibit B-1, pp. B-68 to B-69, Utility Dive, 2017 State of the Electric Utility Survey Report.

has been to build on the success to date by using the design of the Current PBR Plans as a starting point. As discussed in the next section, however, it would not be reasonable to simply continue with the Current PBR Plans. Instead, FortisBC must make changes to respond to the challenges or weakness in the Current PBR Plans, stakeholder feedback, and the significant changes in FortisBC's operating environment which present challenges and opportunities that must be addressed.

C. PROPOSED MRPS INCORPORATE CHANGES TO RESPOND TO EVOLVING OPERATING ENVIRONMENT, WEAKNESSES OF CURRENT PBR PLANS, STAKEHOLDER FEEDBACK AND JURISDICTIONAL REVIEW

34. While the Proposed MRPs build on the successes of FEI's and FBC's Current PBR Plans, changes are required to address the significant changes in FortisBC evolving operating environment, challenges experienced as a result of weaknesses in the plans, stakeholder feedback and the experience of other jurisdictions under an MRP framework. As described below, these factors demonstrate the need to make changes to the Current PBR Plans to be just and reasonable for the next five years.

1. SIGNIFICANT CHANGES IN OPERATING ENVIRONMENT MUST BE ADDRESSED

35. A key driver of FortisBC's proposed changes to the Current PBR Plans is the need to respond to the significant changes in FortisBC's operating environment. In the Application, FortisBC identified five key influences in its operating environment and responded to numerous information requests substantiating the pressing need to respond to these key influences.⁴¹ Given the volume of evidence, only a high-level summary of these key influences is provided below. These key influences are also addressed in other parts of this Final Submission in relation to specific aspects of the Proposed MRPs.

⁴¹ Exhibit B-1, pp. B-1 to B-23.

1.1 Policy direction and mandate from all levels of government towards decarbonization

36. The first key influence is the climate policies at all levels of government (federal, provincial and local) focused on decarbonization. As discussed in FortisBC's Application and responses to IRs,⁴² key environmental policy initiatives being undertaken by government include the Federal Pan-Canadian Framework on Clean Growth Climate Change;⁴³ the CleanBC Plan; the BC Energy Step Code and other local government initiatives; and other internal emissions regulations.⁴⁴ It is apparent that addressing GHG emissions is a key public interest issue for the majority of Canadians and the scientific community. Given these realities, it is apparent that a transition to a lower carbon economy will occur and, indeed, has already begun.⁴⁵

37. The alignment and increased stringency of environmental policy initiatives brings new opportunities and challenges for FortisBC which need to be addressed, including in the Proposed MRPs. In response to BCUC IR 1.1.1, FortisBC provides a summary of opportunities and challenges presented by policies of this kind, how FortisBC expects to be impacted and how the Proposed MRP respond.⁴⁶ For example, the CleanBC Plan includes a target of 15% renewable gas content by 2030 which provides an opportunity for increasing clean energy delivery through the natural gas distribution system. However, the plan also seeks to expand the electrification of buildings by providing incentives for electric heat pumps, which negatively impacts natural gas demand and is therefore an emerging challenge.⁴⁷ As another example, the provincial Renewable and Low Carbon Fuel Requirement Regulation is expected to be updated to include a 20% reduction in carbon intensity by 2030, which will positively impact demand for natural gas for transportation. However, municipal adoption of increasingly stringent levels of

⁴² E.g., Exhibit B-10, BCUC IR 1.1.1 to 1.2.10.

⁴³ FortisBC provided additional information with respect to how the key regulatory measures underpinning the Framework are likely to impact FEI and FBC: Exhibit B-10, BCUC IR 1.1.1.

⁴⁴ Exhibit B-1, pp. B-3 to B-7.

⁴⁵ Exhibit B-1, p. B-3.

⁴⁶ Exhibit B-10, BCUC IR 1.1.1.

⁴⁷ Exhibit B-1, p. B-5; Exhibit B-10, BCUC IR 1.1.1; See also BCUC IR 1.1.2 for an overview of the potential impacts of the CleanBC Plan on FEI and FBC.

the BC Energy Step Code and 100 percent renewable energy mandates will place downward pressure on the use of natural gas.⁴⁸

1.2 *Rising customer expectations with respect to service, engagement channels and keeping pace with other service providers*

38. The second key influence in FortisBC's operating environment that must be addressed is the rising expectations of customers.⁴⁹ The evidence from sources such as FortisBC's long-term resource planning processes,⁵⁰ customer service operating metrics, market research, customer engagement activities and investigations into other industries,⁵¹ shows that FortisBC's customers:

- increasingly value ease of interaction, convenience and responsiveness and have begun to adopt expectations based on their interactions with non-traditional comparators;⁵² and
- expect energy solutions that are cost effective, convenient and environmentally conscious.⁵³

39. FortisBC explained:⁵⁴

Evolving customer expectations from a service delivery standpoint include the ability for customers to be digitally connected with the providers of their services, have greater choices and options, be empowered with information, have the ability to self-manage their energy use, as well as their overall expectations for what the experience should look and feel like. With respect to customers' attitude and preferences towards energy solutions, customers are increasingly focused on energy efficiency, looking for sustainable energy options and are becoming more engaged in energy choices and options available to them while still expecting reliability, good customer service and reasonable prices.

⁴⁸ Exhibit B-10, BCUC IR 1.1.1.

⁴⁹ See Exhibit B-1, pp. B-9 to B-15 for a complete summary of these changes.

⁵⁰ Exhibit B-1, p. B-9 to B-10; Exhibit B-10, BCUC IR 1.3.4.

⁵¹ Exhibit B-10, BCUC IR 1.3.1.

⁵² Exhibit B-1, p. B-11; Exhibit B-12, BCUC IR 2.154.1.

⁵³ These priorities are supported by engagement undertaken for long-term resource plans and the Proposed MRPs: see Exhibit B-1, pp. B-10 to B-11; Exhibit B-10, BCUC IR 1.3.4.

⁵⁴ Exhibit B-10, BCUC IR 1.3.1.

40. It is apparent that the influences of FortisBC's younger customer base and workforce are being increasingly reflected in customers' expectations.⁵⁵ FortisBC needs to respond by communicating with customers through new and innovative channels, assisting customers in reducing costs, and by providing energy solutions that meet customers' energy needs. In short, FortisBC must be responsive to changing expectations regarding customer interactions, while continuing to meet the strong demand for its services.⁵⁶

1.3 *Increased need for engagement with stakeholders and Indigenous communities as a result of stakeholder activism and provincial and federal policy changes*

41. The third key influence is the increased need for engagement with stakeholders and Indigenous communities.⁵⁷ Federal and provincial policies and regulations have been introduced in recent year that require increased stakeholder, community and Indigenous engagement as well as policy development.⁵⁸ These policies and regulations include legislation related to the United Nations Declaration on the Rights of Indigenous Peoples ("UNDRIP") and new environmental assessment requirements which will further increase the depth of Indigenous engagement required. Notably, FEI's service territory crosses more than 150 Indigenous traditional territories and serves Indigenous reserve communities. Therefore, Indigenous relationships are critical to successfully advancing capital projects. In response, FortisBC needs to implement enhanced engagement practices, including modernizing Indigenous operating arrangements and committing additional staff and resources to building capacity in Indigenous communities.⁵⁹

42. Engagement expectations across all other stakeholder groups are also increasing. This is due in large part to climate policies, such as the Clean Fuel Standard, the CleanBC Plan, the BC Energy Step Code and various municipal policies, which require engagement from FortisBC on

⁵⁵ Exhibit B-1, p. B-11.

⁵⁶ Exhibit B-1, pp. B-14 to B-15.

⁵⁷ Exhibit B-1, pp. B-15 to B-17; See also Exhibit B-10, BCUC IR 1.1.1 for a summary of anticipated impacts.

⁵⁸ Exhibit B-7, CEC IR 1.7.4.

⁵⁹ Exhibit B-1, p. B-16.

various levels.⁶⁰ FortisBC therefore needs to expand efforts on project consultation, work proactively in educating key stakeholders on FortisBC's low carbon and renewable energy solutions,⁶¹ and undertake broader communication to ensure customers and stakeholders are aware of FortisBC's activities and offerings.⁶²

1.4 *Increased need for maintenance and investment in our aging infrastructure to continue to provide safe, reliable services along with increased need to provide for physical and cyber security*

43. The fourth key influence is the need to invest in energy infrastructure due to factors such as system growth, aging assets, changing requirements, and increasing cybersecurity threats.⁶³ FEI's operational needs include supporting high levels of customer growth, increasing maintenance and sustainment costs due to aging assets and technology advancements, and the need for increased investment in its Integrity Management Program ("IMP") due to the aging of its transmission pipeline assets and increasing requirements to monitor threats such as corrosion.⁶⁴ FBC's operational needs include the need to respond to significant load growth,⁶⁵ increasing Generation maintenance due to aging infrastructure and Dam Safety Regulations, and the need to invest in sustainment capital to maintain existing levels of reliability.⁶⁶ Both FEI and FBC must also respond to increasing requirements for mobile computing, improved access to data, and cybersecurity threats.⁶⁷ FortisBC must continue to improve its ongoing monitoring of, and adaptation to, the evolving cybersecurity threat landscape, including a focus on the security of customer information. FortisBC also needs to strengthen the physical protection of its facilities to reduce the risk to assets.⁶⁸

⁶⁰ Exhibit B-7, CEC IR 1.7.4.

⁶¹ Exhibit B-1, p. B-17.

⁶² Exhibit B-1, p. B-17.

⁶³ Exhibit B-1, pp. B-18 to B-22.

⁶⁴ Exhibit B-1, pp. B-18 to B-19.

⁶⁵ Exhibit B-4, BCMEU IR 1.4.1.

⁶⁶ Exhibit B-1, p. B-21.

⁶⁷ Exhibit B-1, pp. B-21 to B-22; Exhibit B-7, CEC IR 1.7.6.

⁶⁸ Exhibit B-1, pp. B-21 to B-22.

1.5 Increased need for innovation and the adoption of new technologies to improve operations, enhance customer service levels and meet decarbonization policy objectives

44. The fifth key influence is the need for innovation and adoption of new technologies. FortisBC has identified innovation and the adoption of technology over the long term as a key aspect of transitioning to a lower carbon environment. For FEI in particular, technology innovation provides a range of potential solutions to mitigate policy-driven risks of reduced natural gas demand. While FBC does not face these same challenges, stakeholders and customers expect both FEI and FBC to show leadership in innovation and energy solutions, expecting greater assistance in managing energy costs while also finding solutions to reduce GHG emissions. Therefore, FortisBC must demonstrate to its employees, customers and stakeholders that it is actively seeking ways to improve its business and find new opportunities.⁶⁹ To meet this challenge, FortisBC will foster an internal focus on innovation, including continued pursuit of new technologies, which help drive greater efficiency, reduce costs and reduce emissions.⁷⁰ FortisBC must also pursue innovation to proactively manage rate impacts while supporting GHG emissions reduction goals and helping customers.⁷¹

45. In summary, the evidence demonstrates that there is a strong and compelling need for FortisBC to respond to the significant changes in its operating environment. As discussed below, the Proposed MRPs do this.

2. WEAKNESS OF CURRENT PBR PLANS

46. Although the Current PBR Plans were overall a success, modifications are nonetheless needed based on identified weaknesses in the plans. Specifically, FortisBC identified the following two weaknesses in the Current PBR Plans that need to be addressed:

- **Capital Formulas were Insufficient:** As well documented in the annual review processes, the capital-related formulas for both FEI and FBC did not provide

⁶⁹ See Exhibit B-7, CEC IR 1.7.7 for further discussion on the need for innovation and the adoption of new technologies.

⁷⁰ See, for example, the supply and demand side solutions cited in FEI's 2017 LTGRP: Exhibit B-1, p. B-22.

⁷¹ Exhibit B-1, p. B-22.

sufficient funding, and actual capital expenditures significantly exceeded the formula-driven amounts each year. Two lessons from this experience are that (1) the assessment of the reasonableness of the Companies' base or forecast should rest on a careful review of assumptions and scenarios considered and (2) the capital forecasts and/or formula elements should be based on forward looking indicators, as reliance on lagged growth and inflation factors, or the use of historical test years can lead to insufficient funding.⁷²

- **Insufficient Promotion of Innovation:** While the Current PBR Plans' focus on achieving cost efficiencies and reducing regulatory burden was successful, there are challenges in the operating environment which necessitate an MRP that is flexible and focused on innovation. Regulators in other jurisdictions have recognized that traditional ratemaking models can be complemented with alternative incentive frameworks designed to encourage innovation.⁷³ FortisBC's ratemaking approach must similarly enable the Utilities to meet the long-term challenges arising from its operating environment.⁷⁴

3. STAKEHOLDER FEEDBACK

47. FortisBC has also endeavoured to be responsive to stakeholder feedback in the design of the Proposed MRPs. Between 2017 and 2018 FortisBC initiated a number of discussions with stakeholders to consider their interests and concerns. This included representatives from British Columbia Old Age Pensioners' Organization et al ("BCOAPO"), British Columbia Sustainable Energy Association and Sierra Club ("BCSEA"), the Industrial Customers Group ("ICG"), British Columbia Municipal Electric Utilities ("BCMEU"), the Commercial Energy Consumers Association of British Columbia ("CEC"), and the Movement of United Professionals ("MoveUP"), in addition to BCUC staff.⁷⁵ Section 2.5 of the Application includes a summary of the feedback received from stakeholders, with background documents included in Appendix C3.⁷⁶ The key takeaways from some of these discussions are summarized below:

⁷² Exhibit B-1, pp. B-46 to B-47.

⁷³ Exhibit B-1, p. B-47; See also Exhibit B-1-1, Appendix C4-1; Jeff Makholm; "The rise and decline of the X-Factor in performance-based electricity regulation", *The Electricity Journal* 31 (2018) 38–43; pp. 42-43.

⁷⁴ Exhibit B-1, pp. B-47 to B-48.

⁷⁵ Exhibit B-10, BCUC IR 1.3.4.

⁷⁶ Exhibit B-1, pp. B-58 to B-66.

- **April to June 2017:** FortisBC received initial feedback from stakeholders on its next generation ratemaking application and the performance of the Current PBR Plans. While some stakeholders agreed the Current PBR Plans were working well, others noted specific concerns. These concerns generally related to the merits of PBR plans and whether savings could be attributed to a MRP approach. Stakeholders also commented on the need to find the appropriate balance between capital spending to meet customer expectations and reduce costs.⁷⁷
- **October 2018:** FortisBC provided an update on its next generation ratemaking application and welcomed further thoughts and concerns. Most interveners were supportive of FortisBC's focus on reducing carbon emissions while recognizing the importance of balance between achieving lower emissions and affordability. One intervener asked that FortisBC consider a new reliability SQI to measure reliability for wholesale/municipal customers.⁷⁸ FEI also received feedback as part of its Annual Review for the 2019 delivery rates which focused on capital variances under the Current PBR Plans and whether a PBR plan was appropriate going forward.⁷⁹
- **November 2018:** FortisBC met with stakeholders to share the highlights of its Benchmarking Study and solicited additional feedback regarding its next generation ratemaking application given the new information provided in the workshop.⁸⁰
- **December 2018:** FortisBC held a workshop comparing the merits of MRPs, compared to cost of service regulation. The objective of the workshop was to respond to comments from some stakeholders regarding FortisBC's continuation with another PBR type arrangement by providing context and additional information. Stakeholders were asked to provide their thoughts on specific elements of PBR and cost of service plans, including whether utilities require incentives to increase efficiency. There was disagreement among stakeholders regarding the appropriateness of another PBR.⁸¹

48. Stakeholders identified several areas of FortisBC's Current PBR Plans which warranted revision. Many of these comments, particularly with respect to FortisBC's use of a formula-

⁷⁷ Exhibit B-1, pp. B-58 to B-59.

⁷⁸ Exhibit B-1, pp. B-59 to B-60.

⁷⁹ Exhibit B-1, pp. B-62 to B-65; Exhibit B-1-1, Appendix C3.

⁸⁰ Exhibit B-1, p. 60; See also pp. B-52 to B-58 for a summary of the Benchmarking Study for FEI and FBC and Exhibit B-1-1, Appendix C2.

⁸¹ Exhibit B-1, pp. B-60 to B-62.

based approach to capital expenditures, were highlighted as weaknesses in the Current PBR Plans by FortisBC and have resulted in changes in the Proposed MRP Plans.

49. While FortisBC has consulted with interveners and sought to be responsive to concerns, FortisBC has not been able to address all concerns. Specifically, FortisBC has incorporated a five-year capital forecast approach which is consistent with a cost of service approach, but respectfully cannot agree with interveners that are categorically opposed to an MRP approach. FortisBC's proposed combination of performance-based and cost of service elements strikes the appropriate balance between maintaining an efficiency focus, allowing for continued investment in a safe and reliable system, and achieving climate related goals that allow the continued viability of the Utilities for the future.⁸²

4. JURISDICTIONAL REVIEW HAS INFORMED PROPOSED MRPs

50. FortisBC's design of its Proposed MRPs was also informed by review of regulatory developments regarding MRPs in other jurisdictions. This included a review of major Canadian MRPs and alternative incentive frameworks in the U.S.⁸³

51. FortisBC's survey included the following Canadian MRPs: (i) Alberta's second generation PBR plans for natural gas and electric distributors; (ii) the Ontario Energy Board ("OEB") renewed regulatory framework for Ontario's electric distributors; (iii) the Enbridge Gas Distribution ("EGD") and Union Gas Amalco Incentive Rate-setting plans ("IR Plans") in Ontario; and (v) Hydro Quebec Distribution's and Hydro Quebec Transmission's first generation PBR plans in Quebec. Table B2-9 of the Application includes a snapshot of these MRPs, their similarities and differences.⁸⁴ The high-level conclusions of this review are summarized as follows:⁸⁵

- The majority of utilities rely on a five-year PBR term.

⁸² Exhibit B-10, BCUC IR 1.19.3.

⁸³ Exhibit B-1-1, Appendix C4-2.

⁸⁴ Exhibit B-1, Table B2-9.

⁸⁵ Exhibit B-1, pp. B-72 to B-73.

- While most plans cover both O&M and capital expenditures, utilities with significantly large and highly variable capital plans were often forecast (e.g., EGD MRP (prior to amalgamation with Union Gas)⁸⁶ and the Toronto Hydro custom Incentive Regulation Plan.⁸⁷
- Both revenue cap and price cap type formulas have been used by natural gas and electric utilities. Price cap plans for natural gas distributors also include a mechanism to adjust the rates for average use variances and mitigate the demand risk. In practice, this amounts to a form of revenue cap.
- Most plans include a composite inflation factor consisting of both labour and non-labour price indexes and include an X-factor value set at 0.3 percent, inclusive of any stretch factor.⁸⁸
- Most plans include some form of incremental capital funding mechanism outside the inflation minus productivity (“I-X”) formulas to accommodate utilities’ capital needs for lumpy and significant capital projects during the PBR term. Challenges with respect to the treatment of capital expenditures were universal, with utilities striving to improve such mechanisms based on past PBR performance.
- All plans include safeguard mechanisms to protect the utility and ratepayers against the potential unintended consequences of PBR plans (e.g., earning sharing, off-ramps, re-opener mechanisms). Mechanisms of this kind may be triggered when variances between achieved and approved ROEs exceed a certain threshold.
- All plans include a series of SQIs, without automatic reward or penalty, to monitor the reliability and quality of service during the PBR term and ensure that any cost reduction is not achieved at the expense of service quality.

52. In response to feedback received from BCUC staff and other stakeholders, FortisBC also undertook a review of alternative incentive frameworks in two U.S. states – New York’s Reforming the Energy Vision (“REV”) initiative⁸⁹ and California’s utility incentive pilot plan for competitive solicitation framework.⁹⁰ This review reflects the emergence of utilities using

⁸⁶ Exhibit B-1-1, Appendix C4-2, p. 21.

⁸⁷ Exhibit B-1-1, Appendix C4-2, p. 20.

⁸⁸ See Exhibit B-10, BCUC IR 1.13.2 for a discussion of the AUC to set an X-Factor of 0.3 percent.

⁸⁹ See Exhibit B-10, BCUC IR 1.18.2 where FortisBC explained why British Columbia and New York have comparable regulatory environments.

⁹⁰ Exhibit B-1-1, Appendix C4-2, pp. 34 to 44.

indexed-based or forecast-based MRPs that include performance incentive metrics or other outcome-based targeted incentives tied to achieving policy goals and customer satisfaction. Both California and New York have used performance incentives for years,⁹¹ and have used positive incentives targeted at new expectations, such as system efficiency, energy efficiency, interconnection, customer engagement and affordability.⁹² While the majority of alternative incentive frameworks identified in FortisBC's research relate to the electric utilities only, natural gas utilities are catching up with their electric counterparts and some jurisdictions have targeted incentive frameworks that apply to both natural gas and electric utilities.⁹³ This includes New York's REV, which now includes both electricity and natural gas.⁹⁴

53. FortisBC's review also concludes that there is ultimately no one size fits all MRP model and each utility's framework should reflect their jurisdiction and history with PBR. This view is also supported by regulators.⁹⁵ This is important as FortisBC is operating in a unique operating environment in Canada and British Columbia, and is a leader in a number of respects.⁹⁶ An overall incentive package must therefore be tailored to fit its individual circumstances, including the inclusion of innovative regulatory mechanisms. FortisBC has taken this approach in developing its Proposed MRPs.

5. IMPLICATIONS FOR PROPOSED MRPs

54. The above factors demonstrate that aspects of the 2014-2019 PBR Plans are in need of revision during the Proposed MRP term.⁹⁷ In response to Mr. Bell's evidence,⁹⁸ the mere fact that Utilities were able to achieve their approved ROEs in the past does not imply that they will continue to be afforded a reasonable opportunity to earn a fair return on their investments in the future or that the 2014-2019 PBR Plans are just and reasonable for the next five years. As

⁹¹ Exhibit B-1, p. B-73.

⁹² Exhibit B-1, Table B2-10.

⁹³ Exhibit B-10, BCUC IR 1.15.5 and 1.18.1.

⁹⁴ Exhibit B-10, BCUC IR 1.18.1

⁹⁵ Exhibit B-10, BCUC IR 1.17.2

⁹⁶ Exhibit B-10, BCUC IR 1.17.11.

⁹⁷ Exhibit B-1, p. B-78.

⁹⁸ Exhibit B-23, p. 7.

summarized above, and discussed in detail in FortisBC's Application, in its responses to information requests, and Rebuttal Evidence,⁹⁹ FortisBC's operating environment has continued to evolve in the six years that have passed since its 2014 PBR Applications. The current challenges and opportunities facing FortisBC, as well as the experience under the Current PBR Plans and stakeholder feedback, together warrant the changes that FortisBC has proposed in its MRPs.

55. FortisBC summarized the implications for the Proposed MRPs as follows:

- **Multi-Year Rate Plan Framework:** The five-year term promotes regulatory efficiency, a sustained utility focus on managing the business, and increased flexibility to address emerging issues as part of the growing scope of energy industry transformation.¹⁰⁰ The Proposed MRPs support the longer-term planning required to address challenges driven by climate policy, while continuing to provide safe, reliable, and cost effective energy solutions. The ability to forecast the evolving and non-traditional parts of the business on an annual basis adds balance between certainty and flexibility.¹⁰¹
- **Stable Levels of O&M Funding:** The Current PBR Plans have been successful in driving cost efficiencies in O&M spending; however, FortisBC is aware there are diminishing returns when under I-X methodologies for many years. While FortisBC will continue to pursue productivity improvements, the rate plan should encourage FortisBC to increase its focus on addressing emerging challenges in its operating environment. This will provide certainty to support longer-term plans and initiatives, and encourage utility management to focus on the efficient allocation of resources within the business over time. In particular, stable funding will ensure FortisBC is able to respond to emerging pressures.¹⁰²
- **Flexibility to Innovate and Adapt:** A flexible approach that allows FortisBC to innovate and adapt to the changing environment. This is key to managing the transition to a lower carbon economy, while achieving a balance between

⁹⁹ Exhibit B-23, pp. 5-7.

¹⁰⁰ See Exhibit B-7, CEC IR 1.8.1 for specific examples of where a five year term was necessary to achieve efficiencies.

¹⁰¹ Exhibit B-1, p. B-79.

¹⁰² Exhibit B-1, p. B-79.

affordability and lower emissions. The Proposed MRPs should provide the opportunity for innovation and the adoption of new technologies.¹⁰³

- **Incentive to Invest in the Future:** While FortisBC must continue to focus on operating efficiently, it must at the same time increase its focus on seeking out growth opportunities. By investing in load growth opportunities in both the traditional and non-traditional parts of the business, FortisBC customers will benefit from downwards pressure on rates. This is needed to offset the costs associated with climate policy and meeting emissions reduction targets, as well as meeting growing demand for investment in system integrity and reliability. Continued growth also helps expand FortisBC’s ability to provide lower-carbon energy solutions to a broader customer base now and in the future. FortisBC has proposed a mix of traditional incentives encouraging continued focus on productivity improvement, and targeted incentives encouraging an increased focus on growth.¹⁰⁴

56. As set out in the Application and in this Final Submission below, FortisBC’s Proposed MRPs will achieve the benefits of incentive-based ratemaking, including the promotion of continuous efficiencies, the alignment of utility and ratepayer interests, encouraging the achievement of targeted outcomes and the creation of an efficient regulatory process for the Proposed MRP term.

D. PROPOSED MRPS RETAIN A BALANCED APPROACH THAT REMAINS CONSISTENT WITH PBR PRINCIPLES

57. As outlined above, FortisBC has designed the Proposed MRPs to build on the successes of the Current MRP Plans, while responding to the challenges experienced during the previous term, stakeholder feedback received, and key influences in its operating environment. The resulting Proposed MRPs remain in line with the five Rate Plan Principles used in FortisBC’s 2014-2018 PBR Applications¹⁰⁵ which are consistent with the common themes used in other jurisdictions, including the PBR Principles expressed by the Alberta Utilities Commission (“AUC”)

¹⁰³ Exhibit B-1, p. B-80.

¹⁰⁴ Exhibit B-1, p. B-80.

¹⁰⁵ Exhibit B-10, BCUC IR 1.19.7. References to “PBR Plan” were changed to “MRP”.

(among others).¹⁰⁶ The following table outlines the five principles and the elements of the Proposed MRPs that correspond with each:¹⁰⁷

| Rate Plan Principles | Elements of Proposed Multi Year Rate Plan |
|--|---|
| <p>Principle 1: The MRP should, to the greatest extent possible, align the interests of customers and the Utility; customers and the utility should share in the benefits of the MRP.</p> | <p>In its efforts to develop MRPs that recognizes the interests and issues of concern of interveners, FortisBC solicited input from interveners and where appropriate, incorporated changes to address intervener feedback provided. Enhancements include:</p> <ul style="list-style-type: none"> • Non-formula approach for determining capital funding; • Base O&M funding is index based; • Regulatory framework focused on the Companies' growth and performance in a challenging operating environment; and • Innovative technology funding. <p>Further, the proposed earning sharing mechanism will ensure that the interests of ratepayers and Utilities are aligned throughout the Proposed MRP term.</p> |
| <p>Principle 2: The MRP must provide the utility with a reasonable opportunity to recover its prudently incurred costs including a fair rate of return.</p> | <p>In accordance with the BCUC's determination in the 2014-2019 PBR Plan Decision, the rate plan has been designed to "achieve a proper balance of risks and rewards between the Companies and the ratepayer and reflect current reality"¹⁰⁸. FortisBC's rate plans include incentive to maximize the efficiency of capital and O&M spending through:</p> <ul style="list-style-type: none"> • A unit cost approach to O&M and FEI Growth capital spending, and • A 5-year capital forecast for FBC Growth and FEI/FBC sustainment and Other capital spending. |

¹⁰⁶ Exhibit B-1, p. C-1, footnote 102; See also Exhibit B-10, BCUC IR 1.19.1 and 1.19.2 for a discussion of principles used in other jurisdictions.

¹⁰⁷ Exhibit B-1, pp. C-1 to C-2.

¹⁰⁸ Multi-Year Performance Based Ratemaking Plan for 2014 Through 2018. September 15, 2014. Page 16.

| Rate Plan Principles | Elements of Proposed Multi Year Rate Plan |
|--|---|
| <p>Principle 3: The MRP should recognize the unique circumstances of FortisBC that are relevant to the MRP design.</p> | <p>The Proposed MRPs are designed to provide FortisBC the flexibility and incentive to address challenges and pursue opportunities presented by changes in its operating environment including:</p> <ul style="list-style-type: none"> • shifting climate policies focused on reducing GHG emissions; • changing customer expectations; • an increasing need to engage stakeholders and Indigenous communities; • aging infrastructure; • increased security requirements; and • the need for innovation and adoption of new technologies. <p>FortisBC has incorporated features such as its Innovation Fund and Targeted Incentives for achievement and performance in emerging and strategic areas.</p> |
| <p>Principle 4: The MRP should maintain the utility’s focus on maintaining, safe, reliable service and customer service quality while creating the efficiency incentives to continue with its productivity improvement culture.</p> | <p>The term of the Proposed MRPs promotes regulatory efficiency, increased utility focus on managing with a longer-term view, and increased operational flexibility to address energy industry transformation. FortisBC proposes a suite of SQIs for FEI and FBC that will monitor each utility’s performance to ensure that any efficiencies and cost reductions do not result in a degradation of service quality. The Traditional Incentives embedded within the Proposed MRPs provide continued focus on efficient operations.</p> |
| <p>Principle 5: The MRP should be easy to understand, implement and administer and should reduce the regulatory burden over time.</p> | <p>The Proposed MRPs build on the success of the Current PBR Plans, continuing with many of the same features that are well understood. The current Annual Review process will be continued providing an efficient forum and opportunity for the BCUC, interveners and interested parties an opportunity to review the Companies’ performance.</p> |

58. FortisBC has been guided by all of the principles in the above table. Contrary to the evidence of Mr. Bell,¹⁰⁹ while Principle 2 (the opportunity to recover prudently incurred costs, including a fair rate of return) is a fundamental element of the regulatory compact, each of the Rate Plan Principles are, and should be, reflected in the Proposed MRPs.¹¹⁰

¹⁰⁹ Exhibit C7-5.

¹¹⁰ Exhibit B-23, pp. 1-4.

59. Overall, the proposed MRPs maintain the same level of incentives and associated risks and rewards as the Current PBR Plans.¹¹¹ As MRP incentives and their associated risk and rewards are interconnected, it is important that the Proposed MRP be viewed as a whole. In this regard, FortisBC provided a detailed comparison of the 2014-2019 PBR Plans and the Proposed MRPs, explaining each change and the impact on the risk, rewards and incentives of the plan.¹¹² In its Rebuttal Evidence, FortisBC summarized as follows:¹¹³

- Although the majority of capital is forecast, the variance between the forecast and actual amount is still subject to the earnings sharing mechanism. This means that the Utilities have incentives to manage their capital expenditures.
- Contrary to Mr. Bell's claim regarding reduced risks to the Utilities, the elimination of the capital dead band as a safeguard mechanism increases the risks and rewards of the Proposed MRPs. This is particularly true for FEI's Growth capital since, unlike other capital categories, there is no opportunity to update the related funding in year three of the Proposed MRPs.
- The proposed changes to the Flow-through deferral account will also increase the risks and rewards and therefore the incentives. This is because cost items such as depreciation expense that are currently subject to flow-through treatment will be subject to the earnings sharing mechanism.
- The Proposed MRPs do not change the balance of risks and rewards in either the Utilities' or the customers' favour since the Proposed MRPs continue to maintain the 50/50 symmetric earnings sharing mechanism.
- The proposed efficiency carryover mechanism will increase the incentives in the last two years of the Proposed MRPs.
- The more stringent service quality indicator targets will increase the risk of penalties.

60. The incentives of the Proposed MRPs remain similar as they depend on the type of costs subject to the incentive framework, the length of the plan, the decoupling of cost and revenues, and the type of the earnings sharing mechanism applied (if any).¹¹⁴ In particular, the change in

¹¹¹ Exhibit B-10, BCUC IR 1.19.8.

¹¹² Exhibit B-10, BCUC IR 1.19.8.

¹¹³ Exhibit B-23, pp. 25-26.

¹¹⁴ Exhibit B-10, BCUC IR 1.19.8.

the value of the productivity or X-Factor has no impact on the incentives of the plan.¹¹⁵ The AUC explains as follows:¹¹⁶

Experts for the distribution utilities pointed out that incentives are not affected by the choice of a particular value of the X factor, whether it is negative, zero or positive, except to the extent that the value selected may affect availability of incremental capital funding through particular capital tracker mechanisms. Rather, these incentives derive from the decoupling between revenues and costs that is explicit in a PBR plan. The Commission agrees. However, the Commission also is aware that indexing prices or revenues by I-X is based on the idea that part of the expected efficiency gains from PBR are passed on to consumers during the PBR plan term through the X factor, regardless of the actual performance of the distribution utilities. The appeal of this approach to consumers is obviously decreased when there are efficiency losses, and the value of X is negative.

61. As addressed in Part Three of this Final Submission, the implied zero percent X-Factor proposed by FortisBC is reasonable, although will be challenging to achieve. This conclusion is based on a detailed analysis of the evidence, including the declining productivity growth in the industry.

62. The potential risk and reward balance and the associated incentives of its Proposed MRPs are also similar or slightly lower than that of the MRPs in the other Canadian jurisdictions surveyed. FortisBC explained in detail as follows:¹¹⁷

1. The amount of cost subject to the incentive framework:

The more costs that are subject to incentives, the higher the risk and reward, and the higher the incentives for efficiency gains. Compared to the proposed MRPs and the MRPs in other Canadian jurisdictions, FEI's and FBC's Current PBR Plans had less costs subject to formulas (i.e., subject to incentives) as big cost items such as depreciation expenses were not subject to an incentive framework. Compared with the Current PBR Plans, the proposed MRPs include a larger set of cost items under an incentive framework as cost items such as depreciation expense are now subject to the sharing mechanism¹¹⁸.

¹¹⁵ Exhibit B-10, BCUC IR 1.6.3.

¹¹⁶ Decision 20414-D01-2016, dated December 16, 2016, at para. 166.

¹¹⁷ Exhibit B-10, BCUC IR 1.17.8.

¹¹⁸ Please see the FBC example provided in response to ICG IR 1.9.1.

Further, although the capital formulas for the most part are replaced with capital cost forecasts, the capital expenditures are still subject to an incentive framework. In addition, all plans have some form of capital exclusion mechanism to deal with utilities' incremental capital needs not funded through the incentive framework. All plans also exclude non-controllable costs items from the incentive framework such as commodity related costs.

2. The length of the plan:

The longer the plan's term, the higher the risk/reward potential. Most plans in Canada are between 4 to 6 years. The Hydro Quebec Distribution MRP has the shortest time period (with a four year plan; one year of which is cost of service for setting the base revenues). The plans' length in Alberta and Ontario are similar to FEI's and FBC's proposed five-year term, although, for some electric utilities in Ontario, one year out of five relates to cost of service rebasing.

3. Earning sharing mechanism:

ESM reduces the risk of windfall surpluses or losses for both utilities and ratepayers; however, it also reduces the strength of the plan's incentives. The MRP plans in Alberta and some electric distributors in Ontario have no sharing mechanism, which translates to a higher risk/reward potential when compared with FEI's and FBC's proposed MRPs with symmetrical ESMs.

4. Other safeguard mechanisms:

All plans have a set of safeguard mechanisms that reduce the potential risks to both utilities and/or ratepayers. These include items such as off-ramp provisions, service quality indicators and exogenous factor treatment. There is no significant difference between various plans on these issues and therefore one can assume the same level of risk/reward potential for all jurisdictions. FEI's and FBC's Current PBR Plans have an additional capital dead band safeguard mechanism, which is now removed from the proposed MRPs.

5. Efficiency carry-over mechanism (ECM):

ECMs can also impact the strength of incentives, particularly during the last few years of the plans. FEI's and FBC's proposed MRPs include a limited ECM similar to the one used by Alberta utilities. Further, pursuant to the OEB's consolidation handbook, consolidating utilities can apply for deferred rebasing which means that they can keep any savings from previous years for a number of additional years. As such, FortisBC assesses that its proposed ECM provides the same level of incentive available in other jurisdictions.

Hydro Quebec, however, does not have any ECM, although due to the shorter-term period, the ECM may be less important.

63. FortisBC explained that its Proposed MRPs are also aligned with AUC's Principle 1: "A PBR plan should, to the greatest extent possible, create the same efficiency incentives as those experienced in a competitive market while maintaining service quality."¹¹⁹ This principle is comparable to Rate Plan Principle 4 in the table above.¹²⁰ FortisBC explained how its Proposed MRP aligns with the AUC's Principle 1 as follows:¹²¹

...FortisBC continues to consider the emulation of incentive forces under competitive market conditions to improve efficiencies as more of a result of a comprehensive MRP/PBR plan than a principle. An MRP/PBR framework effectively decouples prices/revenues from the cost of service and therefore creates the intended incentives for utilities to optimize the various inputs of production to operate efficiently, similar to firms in competitive markets. However, certain regulatory safeguard mechanisms that are essential to multi-year rate plans, (such as deferrals, SQIs and off-ramps), do not conform to competitive market behavior. Therefore, FortisBC believes that emulating efficiency incentives such as those experienced in competitive markets, to the greatest extent possible, is implicit in a comprehensive PBR plan.

A PBR/MRP's alignment with AUC's PBR principle 1 depends on the strength of the incentives properties of the plan and the magnitude of safeguard mechanisms applied. As a plan's incentive properties increase and the magnitude of its safeguard mechanisms diminishes, its alignment with AUC PBR principle 1 increases. FortisBC's response to BCUC IR 1.17.8 [quoted below] provides an assessment of the items that affect the risk and reward balance and the associated incentives of MRP/PBR plans. These include items such as the plan's term, safeguards and ECM mechanism as well the amount of costs subject to incentives. In this context, the proposed MRPs have fewer safeguard mechanisms (FortisBC is proposing to discontinue the capital dead-band mechanism). However, this is partly offset by the Companies' proposal to update the capital expenditures forecast in the third year of the MRP period. Further, under the proposed MRPs and compared to the current PBR plans, more cost items are subject to incentives (depreciation expense will be subject to the earnings sharing mechanism), although less capital costs will be subject to indexing formulas. Overall, FortisBC considers that the two plans' incentive

¹¹⁹ Exhibit B-12, BCUC IR 2.167.1.

¹²⁰ Exhibit B-10, BCUC IR 1.19.1.

¹²¹ Exhibit B-12, BCUC IR 2.167.1.

properties are comparable, although the proposed MRPs are slightly more aligned with AUC's Principle 1.

Further, the type of costs subject to the incentives as well as the term, safeguards, and ECM mechanism in the proposed MRPs are similar in comparison to the Alberta PBR plans. FortisBC's MRPs include Targeted Incentives that increase the potential rewards to the utility, balanced by the benefits to customers and the public interest of achieving the targets. However, compared to Alberta PBR plans, the potential risks/rewards of FortisBC's proposed MRPs are tempered by the inclusion of a symmetrical 50/50 earning sharing mechanism. As such, FortisBC considers the Alberta PBR plans to be slightly more aligned with the AUC's PBR principle 1 than the proposed MRPs.

64. In summary, the Proposed MRPs retain similar incentive properties and balance of risk and rewards as the 2014-2019 PBR Plans. The Proposed MRPs will continue to align the interests of customers and the Utilities while addressing the weaknesses of the 2014-2019 PBR Plans and the significant changes in FortisBC's operating environment.¹²² The remaining parts of this Final Submission will address in detail the different components of the Proposed MRPs.

¹²² Exhibit B-7, CEC IR 1.7.1.

PART THREE: MRP DESIGN

A. OVERVIEW

65. This part of the Final Submission sets out FortisBC's proposals for the key design elements of the Proposed MRPs including the index-based approach for FEI and FBC's controllable O&M expenditures and FEI's Growth capital expenditures. FortisBC has proposed these elements taking into consideration the strengths and weaknesses of the Current PBR Plans, stakeholder feedback, the results of Concentric's Benchmarking Study, an analysis of multi-year rate plans in other jurisdictions, and the challenges and opportunities presented by the significant changes in its operating environment. These work together to form a reasonable and balanced proposal that is aligned with the PBR principles, as discussed in Part Two above.

66. This section is organized around the following key points:

- The five-year term is essential for increasing regulatory efficiency and promoting a long-term focus for FEI and FBC.
- The continuation of a formulaic approach for controllable O&M is warranted.
- The continuation of a formulaic approach for FEI's Growth capital is warranted.
- The current inflation factor continues to reflect FEI and FBC's share of labour and non-labour costs.
- A zero percent productivity factor is warranted given declining industry productivity growth and FEI and FBC's efficiency compared to its peers.
- A forecast of customer growth with true-up is an accurate and theoretically correct approach which should be adopted.
- The continuation of the Earning Sharing Mechanism, with a return to a more traditional calculation without a dead band, will increase the incentive power of the plan and improve administration and ease of understanding.
- The proposed Efficiency Carry-Over Mechanism will improve incentives in later years of the Proposed MRPs.
- The continuation of the Off-Ramp provisions is warranted.
- The continuation of the effective Annual Review process is warranted.

B. FIVE-YEAR TERM INCREASES REGULATORY EFFICIENCY AND PROMOTES LONG-TERM FOCUS

67. FortisBC's proposed five-year term is warranted and should be approved, as it reflects a common length for PBR-type plans, and is essential for driving regulatory efficiencies, freeing up utility resources, and promoting a long-term focus for the Utilities.

68. Five years is a commonly adopted term for multi-year ratemaking plans in North America,¹²³ with most plans in Canada are between four to six years.¹²⁴ While the BCUC approved the Current PBR Plans for six years, this was due to the length of the regulatory process. The BCUC explained in its Decision that it added the extra year "in order to realize the full benefits of a five-year term".¹²⁵ The success of the Current PBR Plans supports a five-year term for the Proposed MRPs.¹²⁶

69. A five-year term leads to regulatory efficiencies by minimizing the frequency of comprehensive revenue requirements applications ("RRAs"). As discussed in Part Two of this Final Submission, cost savings due to regulatory efficiency were realized under the Current PBR Plans as shown on page B-39 of the Application.¹²⁷

70. Beyond savings in regulatory proceedings, a 5-year term frees up utility resources and promotes a longer-term focus for the Utilities. Examples of these benefits over the Current PBR Plans include FortisBC's ability to use its internal resources to conduct its rate design proceedings,¹²⁸ the opening up of long-term contracting strategies,¹²⁹ and ability to focus on revenue generating and load building opportunities.¹³⁰ Similarly, the five-year term of the Proposed MRPs will increase the utility focus on managing and growing the business, and

¹²³ Exhibit B-1, p. C-5.

¹²⁴ Exhibit B-10, BCUC IR 1.7.8.

¹²⁵ BCUC Decision G-138.14, p. 27 and G-139-14, p. 27.

¹²⁶ Exhibit B-1, Section B2.3, Evaluation of the Current PBR Plans.

¹²⁷ Exhibit B-1, p. B-39.

¹²⁸ Exhibit B-1, p. B-40.

¹²⁹ Exhibit B-7, CEC IR 1.8.1.

¹³⁰ Exhibit B-1, p. B-40.

increase operational flexibility to address the growing pace and scope of energy industry transformation.¹³¹

71. A 2017 study conducted by Dr. Lowry et al., and sponsored by Lawrence Berkeley National Laboratory confirms the benefits of MRPs:¹³²

MRPs also can increase the efficiency of regulation. Rate cases can be less frequent and better planned and executed. MRPs also facilitate scheduling rate cases so that proceedings overlap less. Streamlining ratemaking processes can reduce cost burdens on ratepayers and free up resources in the regulatory community to more effectively address other important issues, such as rules of prospective application. Senior utility managers have more time to attend to their basic business of providing quality service cost-effectively.

72. In fact, the 2017 study referenced above found that more frequent rate cases are statistically correlated with poorer utility productivity and higher customer costs:¹³³

Both lines of research suggest that the frequency of rate cases can materially affect utility cost performance. For example, the multifactor productivity (MFP) growth of the electric, gas and sanitary sector of the U.S. economy was materially slower than that of the economy as a whole from 1974 to 1985, when rate cases were frequent due in part to adverse business conditions, than in the early postwar period, when favorable business conditions encouraged less frequent rate cases. We also found that the MFP growth of utilities that operated for many years without rate cases, due to MRPs or other circumstances, was significantly more rapid than the full sample norm. Cumulative cost savings of 3 percent to 10 percent after 10 years appear achievable under MRPs.

73. Based on the research in the above report, a 2017 article published in UtilityDive concludes:¹³⁴

It is not simply that customers pay the costs of regulatory proceedings, which can be substantial. More significantly, it is that frequent rate cases require a

¹³¹ Exhibit B-1, p. B-38 to B-39.

¹³² Lawrence Berkeley National Laboratory (2017); "State Performance-Based Regulation Using Multiyear Rate Plans for U.S. Electric Utilities", p. 3.8.

¹³³ Exhibit B-7, CEC IR 1.8.5.

¹³⁴ Exhibit B-7, CEC IR 1.8.5.

utility to focus on the near term and keep it from seeing the opportunities in innovation that lead to bigger rewards over the long term.

74. In other words, reducing the frequency of rate cases through an MRP frees up the management of the utility from focusing on the next rate case and instead provides focus on long-term objectives and innovations which benefit customers.

75. In the context of an incentive-based plan, as FortisBC has proposed, a five-year term is also essential for providing enough time for incentives to work and the benefits of efficiencies and innovations to flow to shareholders and customers. A five-year period provides time for the Utilities to plan and undertake work that achieves efficiencies, and then realize the benefits of those efficiencies within the test period.¹³⁵

76. In summary, the benefits of a five-year term ratemaking approach are substantive and are proven in both B.C. and other jurisdictions. FortisBC's proposed five-year term should be approved.

C. CONTINUATION OF FORMULAIC APPROACH TO CONTROLLABLE O&M

77. FortisBC is proposing to continue with a formulaic approach to FEI and FBC's controllable O&M, which FortisBC has referred to an inflation-indexed approach given the adjustments to the growth and productivity factors. This section describes FortisBC's formulaic approach to controllable O&M. The need for the adjustments to the growth and productivity factors is addressed in Part Three, Sections D and E below, while FEI and FBC's Base O&M is addressed in Part Four of this Final Submission.

78. Under FortisBC's proposed inflation-indexed O&M approach, each year the previous year's Base O&M per customer amount will be adjusted by inflation and then multiplied by a forecast of the average number of customers. The average number of customers will be calculated as the twelve-month average of the forecast number of customers, and will be

¹³⁵ Exhibit B-1, p. C-5.

subject to a true-up in subsequent years which will eliminate the impact of any forecast variances. This is represented formulaically, as follows:¹³⁶

$$OM_t = UCOM_{t-1} * (1 + I) * AC_t$$

- t is the test (or forecast) year.
- I is the inflation factor and is lagging by one-half year. The I -factor is a composite inflation factor including 45 percent BC-CPI plus 55 percent BC-AWE. The half-year lag is accomplished by comparing the most current July to June period with twelve months prior July to June period.
- $UCOM$ is the Unit Cost O&M.
- AC is the forecast of average number of customers.

1. UNIT COST APPROACH IS TRANSPARENT AND FACILITATES TRUE-UP

79. The above formula reflects a unit cost approach, which is only a change in presentation compared to the Current PBR Plans and does not change the result of the calculation. Instead of escalating the entire Base O&M amount by the growth factor and inflation factor, as under the Current PBR Plans, FortisBC proposes to escalate an O&M per customer amount by inflation and multiply by a forecast of average customers.

80. FortisBC is using this unit cost (O&M per customer) approach for two reasons:¹³⁷

- **Transparency:** The O&M per customer approach provides a transparent year-over-year view of how much the Companies are forecasting to spend on a per-customer basis. This will allow stakeholders to monitor the unit cost performance directly, which will improve the ease of understanding for all stakeholders.¹³⁸
- **True-Up Mechanism:** The O&M per customer approach facilitates a transparent true-up mechanism for the actual number of customers. As discussed below, the true-up mechanism ensures that the Companies are responsible for O&M unit cost variances and both the Utility and customers are held whole for customer count-related forecast variances.

¹³⁶ Exhibit B-1, p. C-49; Exhibit B-16, CEC IR 2.56.1.

¹³⁷ Exhibit B-10, BCUC IR 1.21.1.

¹³⁸ Exhibit B-10, BCUC IR 1.19.8.

81. Contrary to Mr. Bell's claim, the O&M per customer approach is only a change in presentation, and does not change the results of the O&M formula compared to the Current PBR Plans. As illustrated in detail in response to BCUC IR 1.21.1, the proposed O&M per customer approach produces the same total O&M as applying a growth factor to total O&M as in the Current PBR Plans. This is because the variable that determines the total O&M is average number of customers in both cases.¹³⁹

2. ONLY TWO CHANGES TO THE FORMULA

82. FortisBC's proposed formulaic approach to O&M includes only two changes from the O&M formula in the Current PBR Plans:

- First, FortisBC proposes to use a forecast of average number of customers, subject to a true-up to eliminate any forecast variances, which eliminates the lag and 50 percent multiplier from the growth factor.
- Second, FortisBC is proposing an implicit zero percent productivity factor, in line with productivity growth trends in the industry.

83. The above changes are addressed below in Part Three, sections E and F, respectively.

3. SUCCESS WITH O&M FORMULAS WARRANTS CONTINUATION OF APPROACH

84. Given the success with the O&M formula under the Current PBR Plans, the continuation of a formulaic approach to O&M is warranted and is a key component of the Proposed MRPs. FortisBC's experience with O&M expenditures under the Current PBR Plans confirms that controllable O&M is suitable for an indexed-based formula.¹⁴⁰ The proposed indexed-based approach to O&M over the five-year term of the Proposed MRPs will continue to provide an incentive to FEI and FBC to find efficiencies.

¹³⁹ Exhibit B-10, BCUC IR 1.21.1; Exhibit B-23, Rebuttal Evidence, pp. 8-9.

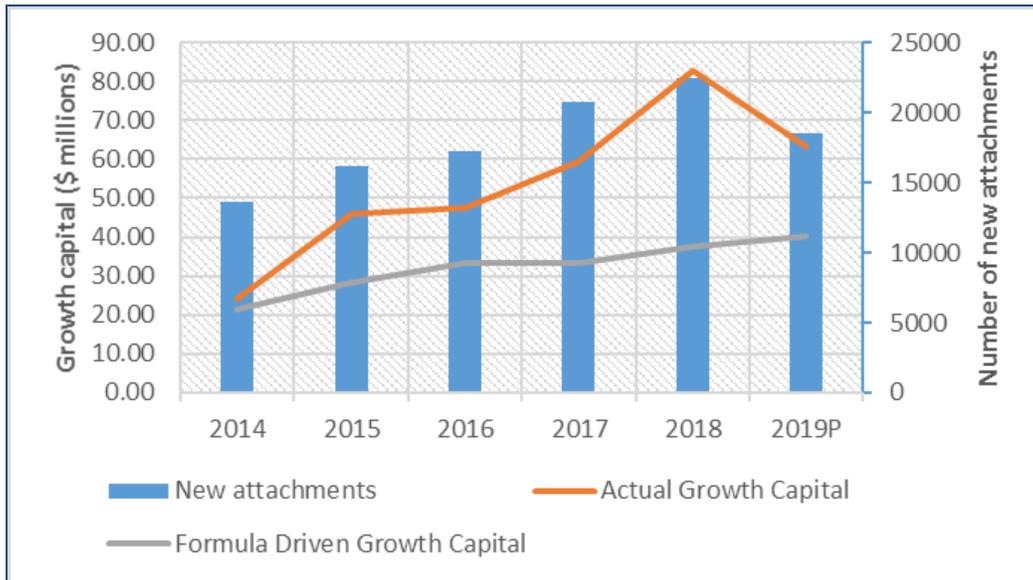
¹⁴⁰ Exhibit B-1, p. B-44.

D. CONTINUATION OF A FORMULAIC APPROACH TO FEI GROWTH CAPITAL

1. OVERVIEW OF INFLATION-INDEXED APPROACH TO FEI'S GROWTH CAPITAL

85. FortisBC is proposing to retain a formulaic approach for FEI's Growth capital as this category of capital has a clear and direct connection to a cost driver and can be suitably managed within a formula. FEI refers to its formulaic approach as an inflation-indexed approach, reflecting the proposed adjustments that are needed to correct for the experience under the Current PBR Plans which demonstrated that the formula did not track the driver of Growth capital costs. During the Current PBR Plan term, the majority of the variance between actual and formulaic Growth capital is attributable to the increased volume of customer attachments, the use of service line additions in the Growth capital formula, and Growth capital activity tied to a lagging growth factor based on 50 percent of year-over-year changes in service line additions. The significant impact of this divergence, and the failure of the formula to respond to the rise in new customer attachments, is illustrated in the following figure from the Application.¹⁴¹

Figure B2-3: FEI Trend in New Attachments Compared with Actual and Formula-driven Growth Capital



¹⁴¹ Note that FEI's 2019 growth capital projection was updated in Exhibit B-12, BCUC IR 2.181.1; however, Figure B2-3 remains illustrative of the issue.

86. FEI is proposing to address this divergence in its proposed Growth capital formula to better represent Growth capital activities through the Proposed MRP.

87. Specifically, under FEI's inflation-indexed approach, each year, the Base Growth capital cost per Gross Customer Addition will be adjusted for inflation, and then multiplied by the forecast Gross Customer Additions. The forecast will be subject to a true-up for actual Gross Customer Additions to eliminate any impact of forecast variance. The following equation illustrates the formula applied to FEI's Growth capital (GC):

$$GC_t = UCGC_{t-1} * (1 + I) * GCA_t$$

- t is the test (or forecast) year.
- I is the inflation factor and is lagging by one-half year. The I-factor is a composite inflation factor including 45 percent BC-CPI plus 55 percent BC-AWE. The half-year lag is accomplished by comparing the most current July to June period with twelve months prior July to June period.
- UCGC is the Unit Cost Growth capital.
- GCA is the Gross Customer Additions forecast.

88. The above reflects a unit cost approach to Growth capital whereby the formula is applied to FEI's Growth capital cost per Gross Customer Addition, rather than to the total Growth capital amount. This unit cost approach increases transparency of FEI's unit costs and facilitates a true up mechanism to eliminate any forecast errors in the growth factor. The unit cost approach is a matter of presentation, and does not change the resulting Growth capital amounts as compared to the approach taken under the Current PBR Plans.

89. Key changes that FEI is proposing to correct for the experience under the 2014-2019 PBR Plans are as follows:¹⁴²

- (a) Re-scoping and rebasing to a 2019 Unit Cost Growth capital Base: FEI has added Distribution pressure system improvements to the scope of Growth capital, as it is similarly driven by customer growth. The 2019 Base unit cost is the average 2016-2018 actual Growth capital costs per Gross Customer Addition, with

¹⁴² Exhibit B-1, pp. C-59 to C-60.

adjustments for known and measurable changes. The Base Growth capital amount is set out in Part Five of this Final Submission.

- (b) A forecast of Gross Customer Additions: FEI proposes to forecast Gross Customer Additions in each Annual Review, subject to a true-up in each subsequent year. This removes the 50 percent lagging growth factor approach used in the Current PBR Plans. The use of the Gross Customer Additions is discussed immediately below, while the forecast approach is discussed in Part Three, Section G of this Final Submission.
- (c) Implied zero productivity factor: This is discussed in Part Three, Section F of this Final Submission.

2. USE OF GROSS CUSTOMER ADDITIONS AS PRIMARY COST DRIVER

90. As indicated above, FEI is proposing to use Gross Customer Additions instead of service line additions for its Growth capital formula. Gross Customer Additions is the most reasonable growth factor as it is the primary cost driver of FEI's Growth capital expenditures and is an improvement over the use of Service Line Additions under the Current PBR Plan given the shift in the market to more multi-family dwellings.

91. A gross customer addition is a new service to a new customer or customers.¹⁴³ The use of Gross Customer Additions will mitigate the unit cost variance experienced in the Current PBR Plan that was due to an upward trend in customer attachments per service line addition.¹⁴⁴ Gross Customer Additions reflects the number of customers attaching irrespective of the number of service lines, and therefore is a superior cost driver because costs are driven by the number of connections, not just service lines.¹⁴⁵

¹⁴³ A gross customer addition is not a "move-in", which is a change in the occupancy of a premise with an existing service, requiring the meter to be activated, but not typically requiring a capital expenditure.

¹⁴⁴ Exhibit B-1, pp. C-59 to C-60.

¹⁴⁵ Exhibit B-10, BCUC IRs 1.20.1 and 1.41.2.

92. The use of service line additions in the formula of the Current PBR Plan proved to be problematic due to changes in the housing market. As discussed in FEI's Annual Reviews, more customers are attaching to each service line than have in the past, which is primarily due to more densified housing construction (townhomes and condominiums). The average customer attachment per service line addition ratio for 2016-2018 has been approximately 1.35, up from 1.2 in 2012. This increase is due to the increase in multi-family developments, for which there can be upwards of 10 to 40 customers attaching to a single service line. Further, in comparison to connecting a single-family home, a multi-family development requires a service line addition with larger pipe, additional fittings, and a larger riser, contributing to a higher service line addition cost. The use of Gross Customer Additions to determine FEI's Growth capital formula will better reflect costs as it correlates better with new meter expenditures and because service line riser costs to multi-family developments are higher than for single family homes due to the need for multiple meters and larger headers.¹⁴⁶

93. Gross Customer Additions is also a superior growth factor than average number of customers. The primary cost driver for Growth capital is the addition of customers, not the average number of customers. The average number of customers includes customers that move in and move out of premises. Since move-ins and move-outs do not typically require capital expenditures, Gross Customer Additions is a better index for Growth capital costs.¹⁴⁷

3. CONCLUSION

94. Despite the challenges with managing capital within formula amounts under the Current PBR Plans, a continuation of a formulaic approach for FEI's Growth capital is warranted. FEI's Growth capital has a clear and direct causal connection to a driver of growth - Gross Customer Additions and is a suitable candidate for a formulaic approach. To address the challenges experienced under the Current PBR Plans, FEI is proposing an inflation-indexed approach which uses a forecast and true-up of customer growth, an implied zero percent productivity factor

¹⁴⁶ Exhibit B-1, pp. C-59 to C-60.

¹⁴⁷ Exhibit B-10, BCUC IR 1.20.1.

and the new Base amount, as discussed in the relevant sections below. With these adjustments, the continuation of a formulaic approach to FEI's Growth capital is warranted.¹⁴⁸

E. INFLATION FACTOR CONTINUES TO REFLECT SHARE OF LABOUR AND NON-LABOUR COSTS

95. FortisBC is proposing to use the same inflation factor (or "I-Factor") that the BCUC approved under the Current PBR Plans, as the inflation factor continues to reflect FortisBC's share of labour and non-labour costs.¹⁴⁹ The inflation factor is a measure of input price inflation.¹⁵⁰ The composite inflation index approved by the BCUC for use during the 2014-2019 PBR Plans consists of:

- AWE-BC (at 55 percent) reflecting inflation associated with labour; and
- BC-CPI (at 45 percent) reflecting inflation of both labour and non-labour cost changes on the prices paid by BC consumers for a basket of goods and services.¹⁵¹

96. O&M and Capital expenditures consist of both labour and non-labour components. The inflation for the labour portion is reflected in BC-AWE. The BC-CPI, on the other hand, reflects the changes in prices of a basket of goods and services consumed by BC. BC-CPI acts as a proxy for inflation experienced by the non-labour component of O&M and capital costs.¹⁵²

97. There is no need to adjust the inflation factor weightings from those that are currently approved, as the share of labour and non-labour cost items for FortisBC's O&M expenses indicates that the composite inflation factor weightings for labour and non-labour used in the

¹⁴⁸ Exhibit B-10, BCUC IR 1.8.13.

¹⁴⁹ Exhibit B-1, p. C-6.

¹⁵⁰ Exhibit B-14, BCOAPO IR 2.122.1.

¹⁵¹ Exhibit B-12, BCUC IR 2.162.4.

¹⁵² Exhibit B-12, BCUC IR 2.162.4.

Current PBR Plan formulas continue to be appropriate for the MRP indexing formulas. As shown in the Table in BCUC IR 2.162.5:¹⁵³

- FEI's average actual O&M expenditures between 2014 and 2018 period consists of 51 percent labour and 49 percent non-labour.
- FBC's average actual O&M expenditures between 2014 and 2018 consists of 60 percent labour and 40 percent non-labour.
- On an aggregate basis, the average is 53 percent labour and 47 percent non-labour.

98. The above percentages are close to the proposed I-Factor of 55 percent labour and 45 percent non-labour. Furthermore, the share of labour cost items will increase due to a more accurate reflection of cross charges between the Companies. FortisBC explained:¹⁵⁴

In 2018, FortisBC implemented direct intercompany cross charging (replacing the need to invoice between the utilities), with the result that intercompany labour is now included in labour expense instead of non-labour as was previously the case. This change, which is a more accurate reflection of total labour costs to each utility, will lead to an increase in the share of labour of approximately \$7 million for the Utilities on a combined basis. Using 2018 O&M Expense as a proxy, an increase of \$7 million in labour expense would result in an aggregate labour component of 56 percent for the year $[(\$841.406 + 7.000)/\$1.594.916 = 56\%]$.¹⁵⁵

99. Given the expected increases to the labour portion of O&M expenditures in 2019, the 55 percent labour and 45 percent non-labour weighting used in the composite inflation factor is reasonable and, if a change were to be made, an increase to the labour component would be appropriate. As BC-AWE has historically been on average 30 basis points higher than BC-CPI, all else equal, any adjustment to the composite inflation factor would tend to increase the inflation factor.¹⁵⁶

¹⁵³ Exhibit B-12.

¹⁵⁴ Exhibit B-12, BCUC IR 2.162.5.

¹⁵⁵ FortisBC notes that calculation in this response is incorrect. Based on the figures in Table 1 of the response (BCUC IR 2.162.5), the correct calculation is $[(\$176.800 + \$7.000)/\$329.067] = 56\%$. As the result is the same, the response remains valid.

¹⁵⁶ Exhibit B-12, BCUC IR 2.162.5.

100. The proposed I-Factor of 55 percent labour and 45 percent non-labour continues to represent FEI and FBC's share of labour and non-labour costs and a change to the weightings is therefore not warranted. FortisBC therefore recommends approval of the proposed I-Factor.

F. A ZERO PRODUCTIVITY FACTOR IS CONSISTENT WITH DECLINING INDUSTRY PRODUCTIVITY TRENDS AND FEI AND FBC'S RELATIVE EFFICIENCY TO THEIR PEERS

101. This section explains why FortisBC's implied zero percent productivity factor (or "X-Factor") is reasonable and will challenge FortisBC to find efficiencies to contain its costs within indexed-based amounts. A zero percent X-Factor reflects that the economy-wide composite inflation index is expected to track FEI and FBC's price inflation during the term of the Proposed MRPs. As discussed in the sections below, productivity factor studies and regulatory decisions in other jurisdictions demonstrate that there is declining industry productivity growth and that this declining trend is expected to continue. This is consistent with FortisBC's assessment that the inflation factor may be insufficient to compensate the Utilities' higher input cost growth required to prepare for the rapid industry transition in the upcoming term of the Proposed MRP. Further, the X-Factor determinations by regulators in other jurisdictions supports a zero percent productivity factor as the rationale for a positive X-Factor or stretch factor in these other jurisdictions do not apply to FortisBC. FEI and FBC have both been under PBR plans for many years, and have been finding it increasingly difficult to find efficiencies under the 2014-2019 PBR Plans, as well documented in the Annual Review process. This means there is no "low hanging fruit" that would justify a stretch factor. The results of Concentric's benchmarking study confirm that FEI and FBC are both efficient relative to their peers, again showing that no stretch factor is warranted. In the context of declining productivity across the industry and evidence specific to FortisBC's costs and productivity, FortisBC's implied zero percent productivity factor is reasonable, but will be challenging to achieve. It will require the Utilities to find efficiencies and adopt a culture of "doing more with the same" over the five year period of the Proposed MRPs.

102. This section is organized as follows:

- It is explained that the purpose of the X-Factor is to adjust the I-Factor to reflect anticipated cost growth of the Utilities.
- It is explained how FortisBC's approach to determining the X-Factor is reasonable and efficient.
- The productivity factor related evidence and decisions in other jurisdictions are discussed, showing how the rationale for positive X-Factors in other jurisdictions do not apply to FortisBC, and that the rapidly declining industry productivity growth values in recent years indicate a negative range of productivity factor, reinforcing that an implied zero percent X-Factor is reasonable, although challenging to achieve
- FortisBC shows that a stretch factor is not warranted due to FEI's and FBC's history of being under PBR for longer than any utility in Canada and the results of Concentric's benchmarking study, which show that FEI and FBC are relatively efficient compared to their peers.

1. THE PRODUCTIVITY FACTOR IS AN ADJUSTMENT TO THE I-FACTOR TO REFLECT ANTICIPATED COST GROWTH OF UTILITIES

103. In the parlance of PBR, the X-Factor is an adjustment to the I-Factor to recognize the difference between the economy-wide inflation factors used in the indexing formula and the real cost inflation of the utility.¹⁵⁷ This view is confirmed by a report prepared by Regulatory Assistance Project for the National Association of Regulatory Utility Commissioners entitled "Performance-based regulation for distribution utilities", which explains the function of the X-Factor as follows:¹⁵⁸

The productivity, or x, factor is an adjustment to the inflation factor. One could argue for the importance of the productivity factor in sharing PBR benefits with consumers or forcing utilities to improve productivity, but the reality is much simpler.

¹⁵⁷ Exhibit B-10, BCUC IR 1.13.2.

¹⁵⁸ Available online: <https://www.raonline.org/wp-content/uploads/2016/05/rap-performancebasedregulationfordistributionutilities-2000-12.pdf>.

There are many measures of inflation. In addition to the CPI, other familiar indices are the producer price index (PPI), the retail price index (RPI), and change in the gross domestic product (GDP). None of these is especially good at explaining historical or projected differences in utility costs. Nor are these indices useful in describing utility revenue growth. The main purpose of the x factor is to adjust the inflation factor (whatever it may be) so that the resulting multiplier, (i-x), produces a reasonable level of revenue growth or a reasonable level of anticipated cost growth. Thus, most PBRs have approached the issue by comparing trends in specific inflation indices to the utility's total cost trends. This analysis – the total factor productivity – identifies how utility costs have been controlled relative to inflation.

104. Given the purpose of the X-Factor as summarized above, FortisBC reiterates that the X-Factor itself is not the source of incentives under PBR plans. The strength of the incentives of the Current PBR Plans, as with PBR plans generally, is derived from the decoupling of cost and revenues of the utility during the rate period, the length of the rate period, the type of the costs that are subject to incentive framework and the earnings sharing mechanism applied (if any), and not the X-Factor value.¹⁵⁹ This is reflected in regulatory decisions, including the AUC's agreement (as quoted in Part Two above) with the experts testifying before it that PBR incentives are not affected by the choice of a particular value of the X-Factor and that the value of the X-Factor can be negative.¹⁶⁰

105. Similarly, the function of the X-Factor is not related to the incentives created by the Efficiency Carryover Mechanism (or "ECM"). The X-Factor simply adjusts the composite inflation factor used in the indexing formula so that it more closely reflects the utility's expected cost changes. FortisBC is not aware of any expert testimony or regulatory decision in other jurisdictions that adjusted the X-Factor values for the inclusion of an ECM.¹⁶¹

106. Dr. Makhholm's evidence in Union Gas' and Enbridge Gas Distribution's amalgamated incentive rate-setting proceeding helpfully summarizes the meaning of a positive, zero and negative X-Factor value as follows:¹⁶²

¹⁵⁹ Exhibit B-10, BCUC IR 1.13.1.

¹⁶⁰ Exhibit B-12, BCUC IR 2.163.5.1.

¹⁶¹ Exhibit B-12, BCUC IR 2.164.7.

¹⁶² Exhibit B-10, BCUC IR 1.13.2.

With respect to the sign of the X-factor as part of a price cap index for a defined regulatory period, the following is a reasonable summary:

- A positive X-factor indicates expected lower input cost growth or higher productivity growth for the regulated enterprise, vis-à-vis the economy as a whole, which means that economy-wide inflation indexes would overstate the regulated firm's price inflation during the rate formula period.
- A zero X-factor means that the economy-wide inflation index is expected to fairly track the regulated firm's price inflation during the rate formula period.
- A negative X-factor means that the economy-wide inflation index is expected to be insufficiently large for the purpose of tracking the regulated firm's price inflation during the rate formula period.

107. Therefore, FortisBC's zero percent X-Factor implies that the economy-wide inflation used in the formulas is expected to track the utility's cost inflation. As discussed in the sections below, declining industry productivity growth and other evidence demonstrates that this is the most reasonable conclusion.

2. FORTISBC'S APPROACH TO JUSTIFYING PRODUCTIVITY FACTOR IS REASONABLE AND EFFICIENT

108. FortisBC developed its proposed productivity factor of zero through an analysis of recent productivity studies that have been submitted and utilized in other jurisdictions by regulators and the X-Factors in approved MRPs. FortisBC's adopted this approach because it is less costly and contentious than commissioning a new study whose results would likely not have differed significantly from productivity studies of experts filed in other proceedings. Further, as directed by the BCUC, the Company commissioned a benchmarking study to inform the determination of the productivity factor, which indicates that a stretch factor value of zero percent is appropriate.¹⁶³

109. FortisBC's approach to justifying its implied zero percent productivity factor is similar to those of experts in Hydro-Quebec's PBR proceeding, whose evidence evaluated and reviewed

¹⁶³ Exhibit B-14, BCOAPO IR 2.169.2.

industry Total Factor Productivity (“TFP”) growth values and approved X-Factors in other jurisdictions.¹⁶⁴ This approach is reasonable for a number of reasons:¹⁶⁵

- (a) **Increased importance of regulatory judgement for X-Factor determination:** Recent PBR decisions in other jurisdictions indicate that experts and regulators are giving less weight to the results of TFP studies and applying more judgment to derive the final proposed or approved X-Factor value.¹⁶⁶
- (b) **Availability of recent industry productivity study results in other jurisdictions:** As explained by FortisBC, “The list of qualified and experienced productivity experts is limited with five or six experts having an almost total oligopoly on the TFP study market in Canada. If FortisBC had decided to conduct a TFP study, both utilities and interveners would have likely retained one of the experts that has recently filed TFP evidence in other jurisdictions and their evidence would have shown the same range of TFP results estimated by these experts in those jurisdictions.”¹⁶⁷
- (c) **Concentric’s performance benchmarking study:** Concentric’s utility performance benchmarking study can be used to inform the BCUC’s X-Factor decision. In its 2014 PBR Decisions, the BCUC directed FortisBC to conduct this study to inform its decision for future X-Factor determination. Therefore, the results of this study along with the results of the TFP studies and approved X-Factor values in other jurisdictions, can be used as an important input to help BCUC to make an informed judgment regarding the appropriate X-Factor value.¹⁶⁸
- (d) **Significant complexity, regulatory burden and cost of TFP studies:** TFP studies are technical and complicated, relying on econometric analysis and mathematical equations that are difficult to understand. Due to their

¹⁶⁴ Exhibit B-12, BCUC IR 2.163.1.

¹⁶⁵ Exhibit B-10, BCUC IR 1.17.5.

¹⁶⁶ Exhibit B-10, BCUC IR 1.13.2.

¹⁶⁷ Exhibit B-10, BCUC IR 1.17.5.

¹⁶⁸ Exhibit B-10, BCUC IR 1.17.5.

complexity, the TFP studies used a significant amount of regulatory resources in FortisBC's 2014 PBR proceedings, including almost two days of oral hearing time. Considering the costs of expert testimonies in the previous PBR proceeding and the current less favourable exchange rate, FortisBC estimates that its proposed approach to X-Factor determination saved customers expenses in the order of \$500 thousand.¹⁶⁹

110. FortisBC's approach also includes a common X-Factor for FEI and FBC. This approach is justified by the fact that the approved X-Factor values in other jurisdictions for both electric and natural gas utilities are similar or the same.¹⁷⁰ For example, the AUC applies the same X-Factor to both electric and natural gas utilities. In Decision 2012-237, the AUC found that the results from electric utility TFP studies can be used as a starting point for determining productivity estimates for gas distribution companies.¹⁷¹

Based on the evidence in this proceeding, and because of the similarities in the institutional framework, business environment and regulatory requirements between the gas and electric distribution industries, the Commission finds that TFP research from one industry can be used to estimate productivity growth for firms in the other industry when transparent and robust data for both industries are not available.

111. In its second generation PBR decision, the AUC simply noted: "all parties in this proceeding indicated a common X-Factor, based on their preferred TFP growth number, could be applied to both gas and electric utilities."¹⁷²

112. As detailed in the sections below, the record in this proceeding provides an ample basis for the BCUC to make an informed determination on the X-Factor value for the Proposed MRPs for both FEI and FBC.

¹⁶⁹ Exhibit B-10, BCUC IR 1.17.5.

¹⁷⁰ Exhibit B-10, BCUC IR 1.17.5.

¹⁷¹ AUC Decision 2012-237, p. 78, para 373.

¹⁷² AUC Decision 20414-D01-2016, p. 44.

3. JURISDICTIONAL ANALYSIS DEMONSTRATES A ZERO PERCENT X-FACTOR IS REASONABLE AND APPROPRIATE

113. The review and analysis of the productivity growth trends utilized and X-Factors approved in other jurisdictions shows that FortisBC’s implied zero percent X-Factor is reasonable, although will be challenging to achieve. First, a review of TFP growth results calculated by experts in reports filed in other jurisdictions and the decisions of regulators demonstrate that there is a declining trend in industry productivity growth values. Second, the evidence shows that this declining trend is expected to continue given the unprecedented transition occurring in the utility industry. Third, an analysis of recently approved X-Factors shows that the rationale for a positive X-Factor for other utilities does not apply to FEI or FBC. This is reinforced by a sensitivity analysis which shows that going forward the range for the expected industry productivity trend is negative. Overall, this review and analysis shows that an implied zero percent X-Factor for FortisBC is reasonable, although will be challenging to achieve.

3.1 Declining Trend in Industry Productivity Growth Values

114. A review of TFP growth results generated by experts and the Decisions of the AUC, OEB and the Régie de l’énergie shows that productivity growth numbers are trending downward.

115. The downward trend in productivity is apparent from the TFP growth numbers from expert evidence filed in the AUC’s first and second generation PBR proceeding. This is summarized in Table A:C4-2 below, from Appendix C4-2 of the Application.

Table A:C4-2-2: TFP Study Findings in AUC’s 1st and 2nd Generation PBR Proceedings

| Study | Output measure | Data period | Number of firms | TFP growth calculation (final) |
|-----------------------------|---------------------|------------------------------------|-----------------|--------------------------------|
| NERA 2012 (approved by AUC) | Volume | 1972-2009 | 72 | +0.96% |
| Lowry 2012 | Number of customers | 1996-2009 (NG) | 34 | +1.32% to +1.69% for gas |
| | Volume | 1989-2007 (Elec) using NERA’s data | 72 | +1.08% to +1.23% for Electric |
| Brattle 2016 | Volume | 2000-2014 | 67 | -0.79% |

| Study | Output measure | Data period | Number of firms | TFP growth calculation (final) |
|--------------|---------------------|------------------------------------|-----------------|--------------------------------|
| Meitzen 2016 | Volume | Average of 2000-2014 and 2005-2014 | 68-72 | -1.11% |
| Lowry 2016 | Number of customers | 1997-2014 | 88 | +0.43% |
| | | | 21 | +0.78% |

116. The AUC commented on the downward trajectory in its 2016 PBR decision, as follows:¹⁷³

As shown in Table 1, all final recommendations concerning the TFP growth component of the X factor are lower than, and in some cases much lower than, the TFP growth number of +0.96 per cent adopted by the Commission in Decision 2012-237. Consequently, as noted previously, based on the expert evidence received in this proceeding, the issue before the Commission is not whether the TFP growth component of the current X factor needs to be lowered for the next generation PBR, but rather the extent to which it needs to be lowered. [Emphasis added.]

117. Dr. Makholm’s updated study for Union Gas and Enbridge Gas Distribution filed in November 2017 also indicates a downward trend during the last 10 to 15 years.¹⁷⁴ Dr. Makholm’s evidence is unequivocal in this regard:¹⁷⁵

There is a definitive trend there that is impossible to overlook. The past six years show negative TFP growth (as do 8 of the last 10 years). Indeed, only 5 of the past 15 years have shown positive TFP growth, whereas 15 of the 15 years before showed positive TFP growth. There is a lot going on with these data that points to a downward trend in measured TFP growth for that population of companies—either by themselves or in relation to the Canadian economy as a whole.

118. Dr. Lowry of PEG was retained by the OEB staff to comment on Dr. Makholm’s study and provide an X-Factor recommendation.¹⁷⁶ Dr. Lowry’s natural gas industry TFP growth study values similarly indicated a negative productivity growth value of -0.23 percent, as presented in the Figure A:C4-1 below.

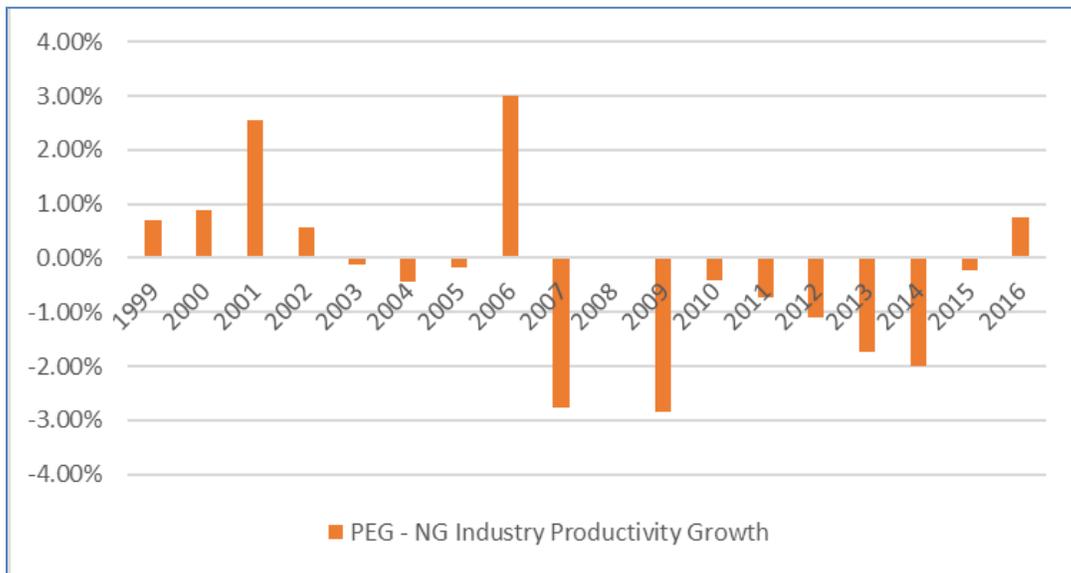
¹⁷³ AUC Decision 20414-D01-2016, p.1 56, para. 156.

¹⁷⁴ Exhibit B-1-1, Appendix C4-2, p. 25.

¹⁷⁵ NERA Study (Nov 2017); “Expert Report and Direct Testimony by Jeff Makholm”, p. 27.

¹⁷⁶ Exhibit B-1-1, Appendix C2-4, p. 25.

Figure A:C4-2-1: Lowry Study, Natural Gas Industry Productivity Growth Trend



119. As can be seen from the above graph, 11 out of the last 15 years of the sample period show a negative TFP growth (2008 growth is close to zero percent). This is similar to the negative and declining productivity growth trend presented in Dr. Malkholm’s study.

120. The Régie's final decision for Hydro Quebec Distribution, which was based on evidence from Dr. Lowry and a review of TFP results in other jurisdictions, affirmed that the industry productivity growth is experiencing a downward trend in recent years.¹⁷⁷

3.2 Declining Trend Will Continue Given Unprecedented Transition in Utility Industry

121. The declining productivity growth values universally acknowledged in the decisions noted above is expected to continue. In the Union Gas and Enbridge Gas Distribution incentive rate-setting proceeding, Dr. Makhholm of NERA updated his model up to 2016, and commented as follows on the prospect of the downward trend continuing:¹⁷⁸

My recommendation rests on the rapidity of the falling measured TFP growth for that group of distribution utilities, since the last time I performed that analysis in 2010-supported by my analysis of consistent EGD and Union data.

¹⁷⁷ Exhibit B-1-1, Appendix C2-4, p. 31. (Decision D-2017-043).

¹⁷⁸ NERA Study (Nov 2017); “Expert Report and Direct Testimony by Jeff Makhholm”, pp. 32-33.

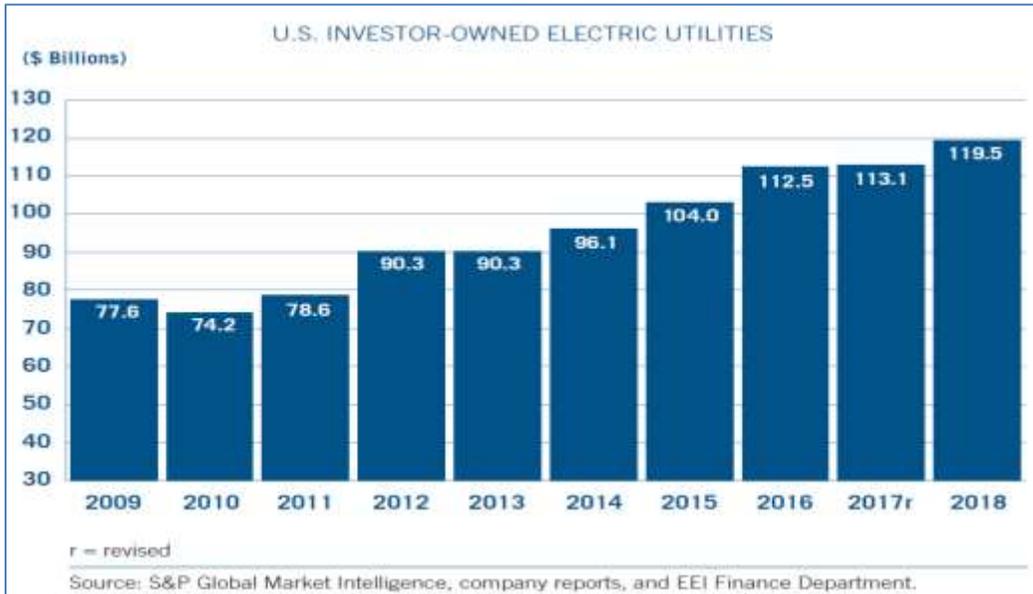
For the TFP growth study in that case, I computed average annual TFP growth for the entire population of US distribution companies to be 0.96 percent over the 37 years from 1973 to 2009. Lengthening the period by seven years to 2016, with no methodological changes, reduced the average TFP growth of 0.54 percent—or a growth rate relative to the Canadian economy of 0.35 percent—a precipitous drop that is evident in Figure 3. Because of that decline, where the past six years show negative TFP growth (as do 8 of the last 10 years), I cannot conclude that there is a prospect for any reliable positive TFP growth for that group in the next 10 years—either by themselves or in relation to the Canadian economy as a whole. [Emphasis added.]

122. Evidence from the Edison Electric Institute on increasing transmission and distribution investment supports the view that declining productivity growth will continue. FortisBC explained:¹⁷⁹

The North American utility industry is in the midst of an unprecedented technological and climate policy driven transition that prompted utilities to invest record amounts in a broad spectrum of activities/projects. The following chart from Edison Electric Institute (EEI) provides the actual capital expenditures related to investor-owned U.S. based electric utilities between 2009 and 2018. As can be seen, the total capital funding has increased from \$77 billion in 2009 to close to \$120 billion in 2018. This significant funding trend coincides with the declining productivity growth values computed by experts.

¹⁷⁹ Exhibit B-12, BCUC IR 2.163.11.

Figure 1: Capital Funding by U.S. investor-owned electric utilities (2009-2018)¹⁸⁰



EEI's description of the primary drivers of increasing transmission and distribution investments is as follows:

The survey shows that most of the projected investment will fund expansion of the transmission network and construction of new lines that connect new energy resources to the grid, enabling an evolving energy mix. The remainder is focused primarily on replacement of existing transmission lines and system improvements such as hardening, physical and cyber security measures and the adoption of smart technologies that improve and maintain the grid's resilience ...

Distribution investment is driven primarily by the continuous need to replace end-of-life assets, serve new load, preserve reliability, improve system resiliency and restoration capabilities, and increasingly, to accommodate distributed resources.

....

FortisBC acknowledges that this extraordinary investment cycle will eventually moderate at some time in the future; however, there is no evidence to suggest that this slow down will happen during the MRP term. There is ample evidence to suggest that utility industry transition will continue as more jurisdictions apply

¹⁸⁰ Edison Electric Institute; "2018 Financial Review, Annual Report of the U.S. Investor-Owned Electric Utility Industry", p. 14.

more stringent climate policies and as utilities continue to adopt technological solutions to address these and other challenges and opportunities.

Further, these investments may not lend themselves over time to additional sales/outputs growth for utilities. This is different from competitive industries which typically undertake new investment with the expectation that it will fund the output growth. In fact, public policy is often focused on further diminishing utility output at the same time that costs increase. Both of these factors affect the industry productivity growth and therefore there is no reason to believe that this policy direction will change substantially in the immediate future.

123. Similarly, Dr. Makhholm points out in his 2018 article that the main reason for declining industry productivity growth in the last 10 to 15 years is that many new investments and operating expenses are non-revenue generating activities where increased costs do not lead to higher output levels.¹⁸¹

124. FEI and FBC are themselves in the midst of the industry transition impacting other utilities in North America.¹⁸² As discussed in Part Two of this Final Submission, there are significant changes in FortisBC's operating environment, and, as discussed in Part Four of this Final Submission, both FEI and FBC anticipate cost pressures that are anticipated to be above the forecast composite inflation factor.¹⁸³ For example, over the term of the proposed MRPs, FortisBC expects to see its non-labour costs generally increasing at or higher than CPI-based inflation.¹⁸⁴ Finally, in context of the transition impacting utilities across North America, the Utilities must prepare for future challenges and opportunities which may involve increased focus on innovation and investment in projects and initiatives that would expand the business. These initiatives are necessary for the long-term viability of the utility, but can increase costs in the short-term.¹⁸⁵

125. In summary, the declining industry productivity growth trend and FortisBC's own experience show that FortisBC's recommendation to index O&M unit costs to inflation will be

¹⁸¹ Exhibit B-1-1, Appendix C4-1.

¹⁸² Exhibit B-1, Section B.

¹⁸³ Exhibit B-12, BCUC IR 2.161.3.

¹⁸⁴ Exhibit B-14, BCOAPO IR 1.123.1.

¹⁸⁵ Exhibit B-12, BCUC IR 2.164.10.

challenging and will require a continuous search for efficiencies and cost savings to manage these cost pressures.

3.3 Analysis of Recently Proposed and Approved X-Factors Shows That Rationales for Positive X-Factors or Stretch Factors do not Apply to FortisBC

126. An analysis of the TFP results and X-Factors in other jurisdictions demonstrates that FortisBC’s proposed zero-percent X-Factor is reasonable as the rationales for higher positive X-Factors do not apply to FortisBC, FEI and FBC have been integrated for many years, have been under PBR-like plans for longer than any utility in Canada, and who are operating efficiently relevant to their peers according to Concentric’s benchmarking study. Further, due to the downward trend in productivity, which is expected to continue, FortisBC estimates that a reasonable range for the expected industry productivity trend over the Proposed MRP term is between -0.23 percent and -1.65 percent. In this context, FortisBC’s proposed implied zero percent productivity factor is reasonable, but will be challenging to achieve. These points are explained below.

127. The table below provides a summary of the approved X-Factors and the results of recent productivity studies in Canada.¹⁸⁶ As shown in the table, the TFP growth numbers calculated or proposed by experts range from negative productivity growth of -1.11 percent to positive productivity growth of +0.78 percent. This range can be narrowed if one considers that the AUC’s final decision did not give any weight to Dr. Meitzen’s -1.11 percent and Dr. Lowry’s +0.78 percent TFP growth values. Excluding these numbers, the TFP growth values calculated and proposed by experts narrow down to negative 0.79 percent to positive 0.45 percent.¹⁸⁷

| Proceeding | Expert | Evidence date | Retained by | Productivity results | X-Factor proposed | X-Factor approved | Description |
|----------------------------|-----------------------|---------------|-------------|-------------------------------|-------------------|-------------------|---|
| Union/EGD Amalco PBR | Dr. Lowry / PEG | May 2018 | OEB staff | TFP= -0.23% | 0.3% | 0.3% | 58 T&D NG utilities in U.S. / 1999-2016 |
| | Dr. Makhholm/ NERA | Nov 2017 | Utilities | TFP= 0.54% Adjusted= 0.35% | 0.00% | | 65 utilities, Combination of NG &Elec / 1973-2016 |

¹⁸⁶ See Exhibit B-12, BCUC IR 2.163.3 for the same table with source references.

¹⁸⁷ Exhibit B-12, BCUC IR 2.163.3.

| Proceeding | Expert | Evidence date | Retained by | Productivity results | X-Factor proposed | X-Factor approved | Description |
|--|----------------------------------|---------------|-------------------|---------------------------|-------------------|-------------------|--|
| Not Applicable | Dr. Lowry et al. / PEG | Jul 2017 | Berkeley Lab/ DOE | TFP range: 0.22% to 0.45% | N/A | N/A | 86 Elec and combination of NG& Elec utilities |
| Alberta 2 nd Generation PBR | Dr. Meitzen / Christensen | March 2016 | EPCOR | TFP=-1.11 % | -1.11% | 0.3% | 68-72 utilities, Updated NERA TFP, Avg. of 2000-2014 & 2005-2014 |
| | Drs. Brown & Carpenter / Brattle | May 2016 | Utilities | TFP= -0.79% | -0.79% | | Updated NERA TFP, 67 utilities, 2000-2014 |
| | Dr. Lowry / PEG | Jun 2016 | CCA | TFP= 0.43% & 0.78% | 0.63% & 0.98% | | 88 & 21 utilities, 1997-2014 |
| Hydro Quebec Dist (HQD) | Dr. Lowry / PEG | Jan 2018 | AQCIE-CIFQ | TFP range: 0.22% to 0.45% | 0.3% | 0.3% | Based on Berkeley Lab's study and expert's judgement |
| | Coyne / CEA | Jan 2018 | HQD | -0.75% | -0.5% | | The estimate was based on review of TFP results in other jurisdictions, not a standalone TFP study |

128. FortisBC provided a discussion of each X-Factor determination in Appendix C4-2 of the Application. A summary is provided in the paragraphs below, with a comparison to FortisBC's circumstances.

129. First, the OEB approved an X-Factor zero percent with a +0.3 percent stretch factor for the recently amalgamated Union Gas and Enbridge Gas Distribution. The OEB relied on the recommendations of two experts for a zero percent productivity factor, stating:¹⁸⁸

The OEB accepts the applicants' proposal for a productivity factor of 0% during the deferred rebasing period. There were two expert reports filed in evidence in this proceeding on the productivity factor; one from NERA for the applicants and another from PEG for OEB staff. While the approach to determining an appropriate productivity factor differed, both experts recommended a productivity factor of 0%. Considering that the experts' recommendation is the same, the OEB will not opine on the merits of the methodology adopted in the reports.

130. The OEB's Decision above is consistent with and supports FortisBC's implied zero percent productivity factor.

¹⁸⁸ OEB Decision (Aug, 2018), pp. 25-26.

131. The OEB also found that the amalgamation would provide additional opportunities for efficiencies and that a 0.3 percent stretch factor would be appropriate during the amalgamation period:¹⁸⁹

A key objective of the OEB's incentive regulation is to drive improvements in cost efficiency. This would have been an expectation regardless of the amalgamation. The amalgamation provides additional opportunities to generate cost savings, and the applicants have proposed a number of initiatives for this purpose. The stretch factor provides incentive to find further efficiency improvements beyond those proposed.

132. The OEB determination to add a 0.3 percent stretch factor is not applicable to FortisBC as it was based on the amalgamation of the two companies providing the amalgamated utility with additional cost saving opportunities. These types of savings are not available to either FEI or FBC. FEI has been amalgamated with the other gas utilities since 2015,¹⁹⁰ and the cost sharing opportunities between FEI and FBC have stabilized.¹⁹¹ As such, the OEB's rationale for a stretch factor is not applicable to FortisBC.

133. Second, the AUC also set an X-Factor of +0.3 percent inclusive of a stretch factor. The AUC explained its determination as follows:

The Commission has determined an X factor, using its judgement and expertise in weighing the evidence and in taking into account the multitude of considerations set out above, in particular evidence demonstrating that the TFP growth value cannot with certainty be identified as a single number, but rather, in view of the variability resulting from the assumptions employed, must be considered as falling within a reasonable range of values, between -0.79 and +0.75. The Commission finds that a reasonable X factor for the next generation PBR plans for electric and gas distribution utilities in Alberta, inclusive of a stretch factor, will be 0.3 per cent.

134. FortisBC's proposed zero percent X-Factor falls within the reasonable range of values (between -0.79 and +0.75) identified by the AUC. Further, as shown in the above quote, the +0.3 percent X-Factor approved by the AUC included a stretch factor. While this may have been

¹⁸⁹ OEB Decision (Aug, 2018), p. 27.

¹⁹⁰ Exhibit B-10, BCUC IR 1.8.13.

¹⁹¹ Exhibit B-1-1, Appendix D4, p. 4.

appropriate for the Alberta Utilities, it is not for FortisBC. During the term of their first generation PBR Plans, the Alberta utilities were transitioning from cost of service and had significantly higher realized ROEs than their approved ROE. In fact, two major utilities in Alberta, ATCO Gas and ATCO Electric, both triggered the off-ramp provisions of their plans, which was set at 300 bps for two consecutive years and 500 bps in one year. Given these higher ROEs and recent transition to PBR for the first time, the efficiency opportunities for the Alberta Utilities appear to be much higher compared to FEI and FBC. In contrast to the Alberta utilities, FEI and FBC each have been subject to PBR plans for many years: FBC has been operating under some form of PBR framework for 20 of the last 24 years while FEI has operated under some form of PBR framework for 16 of the last 22 years.¹⁹² Further, Concentric's Benchmarking Studies confirm that FEI and FBC's operating costs are lower than the median of their peer groups.¹⁹³ These factors are described in more detail below in relation to why a stretch factor is not applicable to FEI or FBC. Although the AUC did not specify the magnitude of the stretch factor, removing the allowance for a stretch factor would bring the AUC's approved X-Factor of 0.3 percent very close to, and perhaps lower than, FortisBC's proposed zero percent X-Factor.

135. Third, in the Régie de l'énergie's final decision on the X-Factor determination for Hydro-Québec Distribution,¹⁹⁴ the Régie set Hydro-Québec Distribution X-Factor at +0.3 percent inclusive of a stretch factor similar to the AUC's X-Factor decision. The Régie de l'énergie was of the opinion that despite the recent downward trend in industry productivity of North American utilities, Hydro-Québec Distribution would be able to achieve additional efficiency gains. The Régie de l'énergie relied on the evidence of PEG which acknowledged the recent downward trend in industry productivity but at the same time recognized Hydro-Québec Distribution's capacity for additional efficiency measures.¹⁹⁵

136. Similar to the AUC, the Régie de l'énergie included, but did not specify the magnitude of, a stretch factor in its 0.3 percent X-Factor for Hydro Quebec Distribution. As discussed further

¹⁹² Exhibit B-12, BCUC IR 2.164.1.

¹⁹³ Exhibit B-10, BCUC IR 1.17.4.

¹⁹⁴ Decision D-2018-067, Online: http://publicsde.regie-energie.qc.ca/projets/414/DocPrj/R-4011-2017-A-0108-Dec-Dec-2018_06_12.pdf.

¹⁹⁵ Exhibit B-1-1, Appendix C4-2, p. 31.

below, a reason used to support stretch factors is if a utility is transitioning to PBR. As Hydro Quebec Distribution was under its first generation revenue cap plan, this may indicate higher productivity opportunities were available due to the existence of low-hanging fruit that could justify the higher 0.3 percent X-Factor. This is not applicable to FEI and FBC, each of which have been under PBR plans for longer than any other utilities in Canada.¹⁹⁶ The reasons why a stretch factor is not reasonable for FEI and FBC is developed further in the section immediately below. As with the AUC's determination, if the allowance for a stretch factor is removed from the Régie's approved X-Factor of 0.3 percent, then it must at least be close to, and perhaps lower than, FortisBC's proposed zero percent X-Factor.

137. As the above analysis shows, the X-Factor determinations from the OEB, AUC and Régie support FortisBC's proposed implied zero percent X-Factor.

138. Furthermore, it is important to taken into account that the X-Factor is the "expected" industry productivity growth during the Proposed MRP term, while industry productivity growth studies are backward looking in nature. Therefore, it is important to assess the extent to which the historical productivity trend can reflect the "expected" productivity trend during the Proposed MRP period. In a 2019 journal article, Dr. Kaufmann explained this concept as follows:¹⁹⁷

Any regulator evaluating an Inflation minus X proposal should want the TFP evidence it is considering to reflect current trends and developments, not ancient history. TFP evidence that incorporates ongoing, fundamental change in the electric utility industry is, therefore, necessary to satisfy regulators' "search for objectivity in RPI minus X regulation," not problematic.

139. To take into account the forward looking nature of industry productivity growth and the downward trend in productivity that is likely to continue, FortisBC conducted a sensitivity analysis to derive a reasonable range of expected industry productivity growth. FortisBC explained its analysis as follows:¹⁹⁸

¹⁹⁶ Exhibit B-12, BCUC IR 2.164.1.

¹⁹⁷ Kaufmann (2019); "The Past and Future of the X Factor in Performance-based Regulation"; Journal of Geopolitics of Energy, Vol 41, Issue 2.

¹⁹⁸ Exhibit B-12, BCUC IR 2.163.4.

FortisBC therefore examined the overall sensitivity of the TFP growth values to the negative industry productivity trend, using the updated NERA study for electric and a combination of electric and natural gas utilities (filed by Dr. Makhholm) as well as PEG's TFP study for natural gas utilities (filed by Dr. Lowry) . These two studies have the most recent data (up to 2016) and were conducted by two of the most well-known and experienced productivity study experts recently involved in Canadian regulatory proceedings. Both experts have filed evidence for Canadian regulators, utilities and intervener groups.

The table below provides the average industry productivity trends calculated by the two experts for three periods: 1999-2016 (the longest dataset available in PEG's study), 2005-2016, 2010-2016.

| | NERA Study | PEG Study |
|-----------|------------|-----------|
| 1999-2016 | -0.88% | -0.23% |
| 2005-2016 | -1.59% | -0.65% |
| 2010-2016 | -1.65% | -0.78% |

As can be seen, the industry TFP growth values would range from -0.23 percent to -0.78 percent and -0.88 percent to -1.65 percent for the PEG and NERA studies, respectively. As explained in the response to BCUC IR 2.163.11, evidence suggests that the downward trend in productivity growth is likely to continue during the MRP period. As such, more weight should be given to the recent numbers.

140. Based on this analysis, a reasonable range for the expected industry productivity trend is between -0.23 percent and -1.65 percent. Consistent with this analysis, the majority of experts in other jurisdictions have estimated negative industry productivity growth trends in recent years,¹⁹⁹ with regulators outside of Canada improving negative X-Factors.²⁰⁰ This analysis indicates that a zero percent productivity factor will be challenging to achieve.

¹⁹⁹ Exhibit B-12, BCUC IR 162.4.

²⁰⁰ Exhibit B-12, BCUC IRs 2.163.5 and 2.163.5.1.

4. STRETCH FACTOR NOT WARRANTED GIVEN PBR EXPERIENCE AND BENCHMARKING STUDY

141. A stretch factor would not be reasonable for either FEI or FBC. A review of regulatory decisions indicates two primary reasons for the use of a stretch factor, neither of which apply to FEI and FBC. Each of these reasons, and why they are not applicable to FortisBC, is discussed below.

4.1 *No Transition from Cost of Service or “Low Hanging Fruit”*

142. The argument of some experts is that a stretch factor should be applied when a utility is transitioning from cost of service regulation to an incentive based plan. The efficiency gains to be had upon the transition away from cost of service are sometimes referred to as “low hanging fruit”, meaning that there are relatively easier opportunities for the utility to realize productivity improvements.²⁰¹ This rationale for a stretch factor was advanced by Dr. Makhholm and intervener groups in Alberta’s first generation PBR and supported by the AUC in its 2012-237 PBR decision, as follows:²⁰²

The Commission agrees with the rationale for a stretch factor put forward by EPCOR, NERA, AltaGas, the UCA and Calgary. The purpose of a stretch factor is to share between the companies and customers the immediate expected increase in productivity growth as companies transition from cost of service regulation to a PBR regime.

143. This rationale for a stretch factor does not apply to FEI and FBC given that they are not transitioning from cost of service regulation, but have just completed a 6-year incentives-based PBR plan. Moreover, FBC has been operating under some form of PBR framework for 20 of the last 24 years, while FEI has operated under some form of PBR framework for 16 of the last 22 years.²⁰³

144. As explained in Section B2.3.1 of the Application, both FEI and FBC have been under multiple PBR plans and were able to achieve O&M savings in each year of the 2014-2019 PBR

²⁰¹ Exhibit B-12, BCUC IR 2.164.3.

²⁰² AUC Decision 2012-237, p. 100. Exhibit B-12, BCUC IR 2.163.7.

²⁰³ Exhibit B-12, BCUC IR 2.164.1.

Plans. The significant savings under the Current PBR Plans that were permanent in nature are reflected in the 2019 Base O&M for the proposed MRPs as discussed in Part Four of this Final Submission. As a result of years of O&M savings being achieved under successive PBR terms, the opportunities for additional O&M cost reductions have been steadily diminishing and there is now limited potential for future productivity gains. The diminishing opportunity for savings has been well-documented in the Annual Reviews under the 2014-2019 PBR Plans. Given the increasing difficulty in finding savings under the 2014-2019 PBR Plans, FortisBC anticipates that finding new productivity opportunities will continue to be difficult.²⁰⁴ In short, there is “low hanging fruit” for FEI or FBC to pick due to a transition from cost of service or any other reason.²⁰⁵ As such, a stretch factor cannot be justified.

4.2 FEI and FBC Benchmark Well Against their Peers

145. Benchmarking analysis provides another basis on which a stretch factor may be determined, and in FortisBC’s case indicates that a stretch factor is not warranted.²⁰⁶ The use of benchmarking to inform the imposition of a stretch factor was considered by the BCUC in the 2014 PBR Decision. The BCUC stated that there was no evidence on the record to suggest that FEI and FBC are less or more efficient than the industry and therefore, it used its judgement to set stretch factor values of +0.2 and +0.1 percent for FEI and FBC, respectively. The BCUC further directed the utilities to file benchmarking studies before the end of the PBR term to inform its X-Factor value determination in any future PBR plan:²⁰⁷

The Commission Panel agrees with ICG that there is a lack of evidence as to the efficiency of Fortis’ operations relative to other utilities. This information would be helpful in making a determination on a stretch factor. A benchmarking study would provide the Commission with information on the utilities’ efficiency relative to other utilities. While there is no such study available at this time, the Panel considers that it would be useful to have one completed prior to the application for the next phase of the PBR. Accordingly, the Panel directs FEI and

²⁰⁴ Exhibit B-12, BCUC IR 2.164.9.

²⁰⁵ Exhibit B-12, BCUC IR 2.164.3.

²⁰⁶ Exhibit B-12, BCUC IR 2.163.7.

²⁰⁷ BCUC Decision G-138-14, p. 82.

FBC to each prepare a benchmarking study to be completed no later than December 31, 2018.

146. In compliance with the above directive, FEI and FBC retained Concentric to conduct the benchmarking analysis. Concentric was chosen as a result of a consultation process with interveners and BCUC staff with the objective to select a mutually acceptable consultant to conduct the benchmarking study.²⁰⁸ Concentric's benchmarking studies are included in Appendix C2 of the Application and are summarized in Section B2.4.3 and B2.4.4 for FEI and FBC, respectively.

147. Consistent with the BCUC's direction from the 2014 PBR Decisions, Concentric's benchmarking analysis can be used to estimate the relative cost efficiency of FEI and FBC compared to their peer group.²⁰⁹

148. The results of the benchmarking for FEI are summarized, as follows:²¹⁰

The overall trend in the unit cost performance during the studied period, measured by the compound average growth rate (CAGR) values discussed in Concentric's report, indicates the efforts to improve the efficiency compared to the peers. Performance rankings higher than the median and lower CAGR compared to the peer group would suggest FEI is relatively more efficient and that no stretch factor is warranted, while performance ranking lower than the median and higher CAGR suggest being less efficient and that a stretch factor may be warranted.

Based on the collective performance of FEI observed from 2014 to 2017 for the O&M metrics related to Distribution O&M + Total A&G, Administrative & General Expense, and Customer Care Expense, FEI's overall O&M performance has been at or better than the median. Further, although the O&M per TJ is at median level, FEI's per unit cost has experienced a steady decrease while the same O&M per TJ unit costs have increased for both Canadian and U.S. PNW peer groups. Concentric states:

On a distribution O&M and total A&G per TJ basis, FEI was at or below the Canadian peer group median (including FEI) over the study period, at or below the Canadian peer group median

²⁰⁸ Exhibit B-1, Section B2.4.2.

²⁰⁹ Exhibit B-10, BCUC IR 1.16.1.

²¹⁰ Exhibit B-12, BCUC IR 2.164.13.1.

(excluding FEI) over the study period except for 2014, and below the Pacific Northwest U.S. peer group median. FEI's per unit costs have decreased over the period (nominal CAGR of (0.56)%). That is compared to nominal CAGRs of (0.56)%, 0.15% and 3.20% for the Canadian peer group median including FEI, the Canadian peer group median excluding FEI, and the Pacific Northwest U.S. peer group, respectively.

149. The results for of the benchmarking for FBC are summarized, as follows:²¹¹

In addition to the position of the company compared to median, the overall trend of the unit cost performance during the studied period, measured by the compound average growth rate (CAGR) values discussed in Concentric's report, is also important as it indicates the efforts to improve efficiency compared to peers. Performance rankings higher than the median and lower CAGR compared to the peer group would suggest FBC is relatively more efficient and that no stretch factor is warranted, while performance ranking lower than the median and higher CAGR suggest being less efficient and that a stretch factor may be warranted.

FBC's O&M and total A&G unit cost metrics performed better than the median in almost all the years studied. Further FBC's CAGR for O&M and total A&G unit cost metrics are generally comparable or better than its peer groups. Concentric states:

For the distribution O&M and total A&G-per-customer metric, FBC and the peer groups had similar five-year nominal CAGRs (i.e., (0.62)%, (0.66)%, (0.98%), and (0.60)% for FBC, the Canadian peer group median including FBC, the Canadian peer group median excluding FBC, and the Pacific Northwest U.S. peer group median, respectively). While the Pacific Northwest U.S. peer group has companies with distribution O&M and total A&G-per-customer that fall below the Canadian peer group median, that group is less tightly clustered than the Canadian peer group, and there are two companies within the U.S. group that drive the median above the Canadian range and median.

The growth rates for distribution O&M and total A&G-per-MWh were 1.80%, 3.64%, 3.00%, and 3.19% for FBC, the Canadian peer group median including FBC, the Canadian peer group median excluding FBC, and the Pacific Northwest U.S. peer group median, respectively.

²¹¹ Exhibit B-12, BCUC IR 2.164.14.1.

150. The benchmarking results indicate that a stretch factor is not warranted for FEI:

- (a) FEI outperformed or met its peer group median in the majority of the financial metrics studied. In particular, FEI's O&M and total A&G unit cost metrics outperformed its peer group in almost all of the years studied. The benchmarking analysis therefore indicates FEI's relative efficiency compared to its peers (particularly for O&M metrics).
- (b) The benchmarking of FEI's non-financial metrics (customer service and reliability metrics) confirms that FEI performed at or better than the peer group median in all of, or the majority of in some cases, the years for six metrics while performing at or below the median for only two metrics. FEI's relative superior performance on these metrics indicates that it did not achieve its relative cost efficiency at the expense of lower service quality and therefore confirms that a stretch factor is not warranted.

151. The benchmarking results indicate that a stretch factor is also not warranted for FBC:

- (a) FBC's O&M and total A&G unit cost metrics performed better than the median in almost all the years studied. The benchmarking analysis therefore confirms FBC's relative operational efficiency compared to its peers (for O&M metrics).
- (b) The benchmarking of FBC's non-financial metrics also indicates FBC's superior performance relative to its peers in the majority of the years studied for seven out of nine metrics studied.

152. Based on their performance on O&M metrics and for the majority of the metrics studied., FEI and FBC are relatively more efficient than their peer companies. As a result, the imposition of a stretch factor would not be reasonable.

5. CONCLUSION

153. The evidence in this proceeding shows that FortisBC's implied zero percent X-Factor is reasonable, although it will be challenging to achieve. It is supported by the review and analysis

of X-Factor related evidence and decisions in other jurisdictions, which show rapidly declining industry productivity growth values. The rationale for the positive X-Factors in other jurisdictions is not applicable to FEI and FBC as they have been subject to PBR longer than any other utility in Canada, have found it increasingly difficult to find savings under the 2014-2019 PBR Plans, and are operating relatively efficiently compared to their peers as shown by the results of Concentric's benchmarking study. Moreover, the sensitivity analysis showing that the range for expected industry productivity trend is negative going forward indicates that a zero percent productivity factor will be challenging to achieve. To achieve this target, FortisBC will need to keep controllable cost increases below the rate of inflation by finding additional efficiency opportunities while maintaining the current high levels of service quality. Therefore, FortisBC recommends its proposed implied zero percent productivity factor for approval.

G. FORECAST GROWTH FACTOR WITH TRUE-UP IS A MORE ACCURATE AND THEORETICALLY CONSISTENT APPROACH

154. FortisBC is proposing to use a forecast growth factor for FEI and FBC's formula O&M and FEI's Growth capital similar to the approach previously approved by the BCUC for FEI's 2004-2009 PBR term. To respond to concerns related to the impacts of forecast error in the previous PBR proceeding, FortisBC proposes to true-up its forecast of growth factors to actual amounts in each test year for the previous years' forecasts. The true-up will return to or recover from customers any difference between forecast and actual customer growth. FortisBC's proposed approach to growth eliminates the 50 percent multiplier and lagged actual customer growth factor used in the Current PBR Plans. This section is organized around the following key points:

- (a) The significant variance in FEI's Growth capital under Current PBR Plans illustrates the underfunding caused by using a lagging growth factor with 50 percent multiplier.
- (b) A forecast increases alignment between the formula and the key driver of actual costs and the true-up eliminates the impact of forecast error.

- (c) A 100 percent growth factor is warranted and consistent with the majority of other jurisdictions that provide for a full growth factor in their approved formulas.

1. SIGNIFICANT VARIANCE IN FEI’S GROWTH CAPITAL UNDER CURRENT PBR PLANS ILLUSTRATES NEED FOR CHANGE

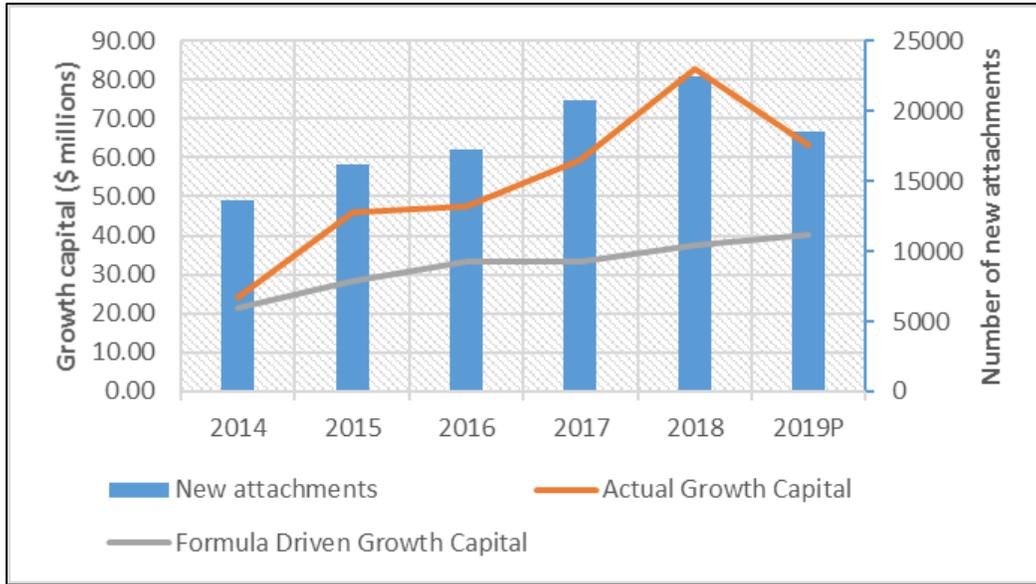
155. Intuitively, a lagging growth factor with a 50 percent multiplier will lead to variances from actual costs in a year, as well as underfunding, unless the Utilities can realize a 50 percent reduction in per customer costs for each new incremental growth factor unit. The most striking illustration of the impact of the growth factor under the Current PBR Plans is FEI’s experience with Growth capital. When customer additions were increasing, FEI’s allowed spending did not escalate at the same rate as the capital required to connect new customers. The main contributor to FEI’s overall capital expenditure variances from formula was increases in Growth capital to meet customer demand. Table B2-4 of the Application, reproduced below, shows the total \$128.937 million variance in FEI’s Growth capital expenditures during the 2014-2019 period.

Table B2-4: FEI Growth Capital Variance from 2014 to 2019 (\$ millions)

| Year | Actual | Formula | Variance |
|-------|---------|---------|-----------|
| 2014 | 24.231 | 21.478 | (2.753) |
| 2015 | 45.776 | 28.480 | (17.296) |
| 2016 | 47.500 | 33.262 | (14.238) |
| 2017 | 59.542 | 33.477 | (26.066) |
| 2018 | 82.884 | 37.485 | (45.399) |
| 2019P | 63.328 | 40.143 | (23.185) |
| Total | 323.262 | 194.325 | (128.937) |

156. Figure B2-3 from the Application, reproduced below, shows the trend in the number of new attachments from 2014 to 2019 compared with the formula generated and actual Growth capital amounts.

Figure B2-3: FEI Trend in New Attachments Compared with Actual and Formula-driven Growth Capital



157. The lagging and 50 percent growth factor was a significant contributor to the above variance. Table C1-2 of the Application shows that funding for FEI’s Growth capital using actual additions would have decreased the funding variance by approximately \$76 million to the end of 2018.²¹²

Table C1-2: FEI’s Approved Growth Capital vs. Growth Capital Using Actual Additions

| Growth Capital \$000 | 2014 | 2015 | 2016 | 2017 | 2018 | Total |
|--|---------|----------|---------|----------|----------|----------|
| Approved Growth Capital using lagging growth | 21,809 | 28,480 | 33,263 | 33,477 | 37,485 | 154,514 |
| Growth Capital recalculated using Actual Additions | 30,508 | 43,042 | 42,997 | 55,457 | 58,414 | 230,418 |
| Difference | (8,700) | (14,563) | (9,734) | (21,979) | (20,929) | (75,905) |

158. The materiality of the variance due to the growth factor makes it clear that a lagging growth factor with 50 percent multiplier caused a fundamental misalignment between the formula and the actual driver of expenditures. When the formula is fundamentally out of alignment with the driver of expenditures and the utility has no reasonable prospect of keeping its expenditures within the formula amounts, the utility’s opportunity to earn its return can be compromised and the incentive properties of the ratemaking plan lost. Therefore, a change to the growth factor is warranted.

²¹² Exhibit B-1, Table C1-2 (as updated by Exhibit B-1-3).

2. A FORECAST WITH TRUE-UP IS SUPERIOR TO A LAGGING GROWTH FACTOR

159. FortisBC's proposal to use a forecast of Gross Customer Additions for the growth factor represents an improvement as it will more closely match the funds required to connect customers.²¹³ A forecast approach aligns with the fact that FortisBC's costs and revenues are driven by the actual growth experienced in the year for which rates are being set. Using a forecast is more likely to ensure that FortisBC will have the necessary funds to connect customers and operate the business in the year the funds are required to be spent.

160. To eliminate any under-recovery or over-recovery of costs due to forecast error, FortisBC proposes to true-up FEI and FBC's O&M expenditures and FEI's Growth capital expenditures and rate base for the actual growth factors. FortisBC will set out the required adjustment to the formula amounts in each Annual Review and will include the true-up as an adjustment to Growth capital, so that rate base is also adjusted. In this way, the forecast error will be eliminated and will not persist. The true-up adjustment will carry over for two years past the final year of the Proposed MRP term so that the forecast errors are completely eliminated and both customers and the Utilities are held whole for forecast variances.²¹⁴

161. A forecast approach to the growth factor will eliminate the misalignment between revenue and costs caused by using a lagging growth factor, while the true-up will eliminate the impact of forecast error. This approach is clear and effective.

3. A 100 PERCENT GROWTH FACTOR IS ALIGNED WITH THE DATA, OTHER JURISDICTIONS AND THE PRODUCTIVITY FACTOR

162. The data, jurisdictional review and the productivity factor all support the discontinuation of the 50 percent multiplier on the growth factor. In this section, FortisBC will first discuss the statistical data showing a linear relationship between expenditures and the growth factors and then discuss the lack of multipliers in other jurisdictions and how the

²¹³ Exhibit B-1, p. C-8.

²¹⁴ Exhibit B-1, p. C-8.

productivity factor already includes the impacts of any economies of scale, eliminating the need for any multiplier on the growth factor.

3.1 *There is a Strong Statistical Correlation between Growth Factors and Expenditures*

163. FortisBC's statistical analysis shows that there is a strong linear correlation between the proposed growth factors and FEI and FBC's O&M and FEI's Growth capital.²¹⁵

164. FortisBC conducted a correlation analyses in response to the 2014 PBR Decisions, in which the BCUC reduced the growth factor by a 0.5 multiplier to adjust for the assumed non-linear correlation between growth-related expenses and the proposed growth factors. The Panel noted that "(i)f Fortis has evidence that a different growth term is more appropriate, it can bring forward that evidence at any time".²¹⁶ Therefore, FortisBC brought forward evidence in its Application to show that there is in fact a linear relationship between growth-related expenses and the proposed growth factors.

165. To demonstrate the linear relationship between the growth factors and expenditures, FortisBC calculated correlation coefficients, which are a measure of the strength of the linear relationship between two variables and can be used to analyze the strength of the linear relationship between the growth factor and actual expenditures. While a correlation analysis does not confirm a causal relationship, the causal relationship between the expenditures and the growth factors is already established. As stated by FortisBC: "the causal relationship between customer counts and utilities' O&M expenditures is well-established and recognized by all utility practitioners. This is particularly true for utilities such as FEI with a large residential customer base."²¹⁷ The view that customer count is the main driver of costs is supported by cost of service allocation studies and rate design, where customer-related and capacity-related costs (which are themselves linked to customer counts) account for nearly all of the utility's

²¹⁵ Exhibit B-1, p. C-9.

²¹⁶ 2014 PBR Decision, p. 123.

²¹⁷ Exhibit B-7, CEC IR 1.14.4.

cost of service. O&M per customer is also a widely accepted metric in benchmarking studies (e.g., the Concentric benchmarking study).²¹⁸

166. The results of the correlation analyses confirmed a strong linear relationship:

- The correlation coefficient between FEI's number of new attachments and actual formula-related Growth capital costs is close to 0.95.²¹⁹
- The correlation coefficients between the average number of customers and actual formula O&M expenditures for FEI and FBC are calculated at 0.95 and 0.90 respectively.²²⁰
- Similarly high correlation coefficients of .90 and .92 for Growth capital and O&M were shown to exist for 2004 to 2009, where data was available.²²¹

167. FortisBC provided the detailed analysis supporting these figure in response to BCUC IR 1.8.3 and BCOAPO IR 1.23.1. The strong correlation between the growth factors and expenditures indicates that the reasoning provided in the 2014 PBR Decision to justify the 0.5 multiplier is not valid.²²²

168. Further, anecdotal evidence of particular costs does not support the 0.5 percent multiplier. As FortisBC has shown, while examples can be produced of costs that do not increase linearly, there are other examples of costs that increase at a rate greater than what the formula growth factor provides. For instance, the costs required to attach and serve one new industrial customer can be many times more than what the formula growth factor provides. This is because the formulas are indexed to the average costs of all customer (the majority of whom are residential), while the average cost of attaching and servicing a new industrial customer can be significantly higher than the average costs embedded in the formulas. In short, the anecdotal evidence goes both ways.²²³

²¹⁸ Exhibit B-10, BCUC IR 1.17.7.

²¹⁹ Exhibit B-1, p. C-9.

²²⁰ Exhibit B-1, p. C-9.

²²¹ Exhibit B-10, BCUC IR 1.8.5.

²²² Exhibit B-1, p. C-9.

²²³ Exhibit B-1, p. C-9.

169. FortisBC also provided regression analyses, as requested by BCOAPO, which supports FortisBC's proposal to remove the 50 percent multiplier. The analysis showed the following:²²⁴

- For FEI, the regression analysis suggests that FEI would require an O&M increase of \$332 for each new customer, whereas FEI is requesting \$250 per customer (greater than a 1 to 1 relationship).
- For FBC, the regression analysis suggests that FBC would experience an O&M increase of \$377 for each new customer, whereas FBC is requesting \$416 (at approximately 90 percent, slightly less than a 1 to 1 relationship).

170. FortisBC emphasized that the regression analysis has limitations, and that it is not appropriate to rely on the slope of a regression line constructed with only six data points to forecast FortisBC's incremental costs.²²⁵ FortisBC explained the significance of the results, as follows:²²⁶

When combined with the regression line y-axis intercepts, with results near or below zero for both utilities, this analysis shows that O&M cost growth has been tracking with the growth in average customers....

The results of this analysis should not be surprising as the economies of scale available to FortisBC should not be expected to change significantly given that the growth experienced over the Current PBR Plan term is small compared to the existing customer base. On this note, it is important to understand that FortisBC's economies of scale are already reflected in its proposed Base O&M per customer amount. Any growth experienced over the term of the proposed MRPs is unlikely to be great enough to materially improve the economies of scale available to FortisBC. Therefore, FortisBC's proposed Growth factor is reasonable and appropriate. [Emphasis added.]

171. Putting this within the context of fixed and variable costs, while in the short-term some of FortisBC's O&M expenses may be fixed,²²⁷ the majority of fixed O&M costs are already accounted for since the O&M indexing formula applies to the average O&M unit cost which reflects the fixed costs. During the Proposed MRP term, some of the cost pressures may go

²²⁴ Exhibit B-5, BCOAPO IR 1.23.1.

²²⁵ Exhibit B-12, BCUC IR 2.165.1.1; Exhibit B-22, p. 13.

²²⁶ Exhibit B-10, BCUC IR 1.17.7.

²²⁷ As explained in BCUC IR 1.17.7 (Exhibit B-10), all costs are variable in the long-term, so the discussion is really about the extent to which some costs may be fixed in the short-term.

above the average cost (sometimes additional cost are incurred without adding a single customer), some are at the average cost rate and some may be lower than the average cost. The correlation results, however, indicate that most of the variations in the O&M costs can be explained by the variations in the number of customers and that there is no need to adjust the unit cost index formulas.²²⁸

172. In summary, the statistical analysis of FEI and FBC's costs supports FortisBC's proposal for a forecast growth factor with no multiplier.

3.2 Economies of Scale are Factored into Base O&M and Productivity Factor

173. The use of a multiplier on the growth factor should also not be imposed as it will duplicate the role of the productivity factor, which explains why all other jurisdictions, except one, use a 100 percent growth factor.²²⁹ The apparent rationale for a multiplier on the growth factor is to take into account the impacts of economies of scale.²³⁰ However, the economies of scale achieved by the utility are already factored into the Base O&M and any benefits of economies of scale going forward are included in the productivity factor. If the productivity analysis shows that a zero productivity factor is warranted, then there can be no justification for imposing an additional positive productivity factor "through the back door" on the growth factor. As the zero value productivity factor already reflects the realization of economies of scale, any adjustment to the growth factor to reflect economies of scale will be double-counting the realization of economies of scale during the term of the Proposed MRP. These points are developed further below.

174. The first key point is that all economies of scale currently enjoyed by FEI and FBC are already reflected in their proposed Base unit costs. Any economies of scale available to FortisBC are inherently reflected in FortisBC's actual costs, and these actual costs have been used to set the Base unit costs, as discussed in Part Three and Four of this Final Submission. For example, the economies of scale due to the number of customers served by the Utilities, as

²²⁸ Exhibit B-10, BCUC IR 1.17.7; Exhibit B-7, CEC IR 1.14.6.

²²⁹ Exhibit B-10, BCUC IR 1.17.7.

²³⁰ Exhibit B-12, BCUC IR 2.165.6.

noted by the BCUC in its 2014 PBR Decisions,²³¹ are reflected in FortisBC's actual costs and therefore incorporated into the proposed Base unit costs.²³²

175. The second key point is that the impact of any economies of scale on FortisBC's costs during the MRP term is already embedded in the expected industry productivity values that inform the productivity factor. The productivity factor adjusts the economy-wide inflation factor (used as a proxy for the utility's input price inflation in the indexing formula) for any variance from the utility's real unit cost inflation.²³³ Productivity growth may come from various sources, including technological improvements and economies of scale. For instance, Dr. Lowry's Total Factor Productivity evidence often refers to the economies of scale as a source of productivity growth for the utilities:²³⁴

Economies of scale are a second source of productivity growth. These economies are available in the longer run if cost tends to grow more slowly than output. A company's potential to achieve incremental scale economies depends on the pace of its output growth. Incremental scale economies (and thus productivity growth) will typically be reduced when output growth slows.

176. The AUC dealt with a similar issue in its Decision 2013-456 on the Alberta utilities 2013 Capital Tracker Application. Agreeing with multiple experts, the AUC recognized the fact that the productivity factor incorporates economies of scale, stating at paragraph 229:²³⁵

Furthermore, as Dr. Weisman, Dr. Makholm and Fortis pointed out, any economies of scale and resulting gains are already reflected in the PBR plans on a prospective basis through the X factor. These gains are guaranteed to customers regardless of the actual performance of the company. Incorporating these productivity gains above the Commission-approved X factor in the calculation of capital tracker amounts will effectively result in revisiting the "fixed-price contract" that is a PBR plan. [Emphasis added. Footnotes omitted.]

²³¹ BCUC Decision G-138-14, p. 120 and G-139-14, p. 116.

²³² Exhibit B-10, BCUC IR 1.17.7.

²³³ Exhibit B-10, BCUC IR 1.13.1.

²³⁴ Exhibit B-12, BCUC IR 2.165.1.1.

²³⁵ AUC Decision 2013-435 (December 6, 2013). Online: http://www.auc.ab.ca/regulatory_documents/ProceedingDocuments/2013/2013-435.pdf.

177. It is therefore widely accepted that the expected industry productivity-improvement factor reflects the impact of the economies of scale on unit cost trends for an average firm in the industry.²³⁶ For this reason, applying a growth factor coefficient of less than one acts as an additional or duplicative productivity factor, which double counts the impact of economies of scale on the productivity growth values.²³⁷

178. The fact that the X-Factor determination includes impacts from economies of scale explains why other jurisdictions use a 100 percent growth factor. Regulatory decisions in other jurisdictions indicate that the topic of adjusting the growth factor for economies of scale is only discussed in two jurisdictions: BC and Quebec. Hydro Quebec Distribution applies a multiplier of 0.75 to its growth factor. Other utilities in other jurisdictions, including Alberta, have growth factors that are either embedded in or implicit in their formulas and reflect 100 percent of changes to their growth factor.²³⁸ FortisBC submits that these other jurisdictions reflect the correct approach, where productivity is considered in relation to the productivity factor only, rather than being double counted in two different aspects of the PBR formula.

179. In summary, a 100 percent growth factor is the approach taken in all other jurisdictions except one, and reflects the fact that productivity from economies of scale is already taken into account in base O&M costs and the productivity factor. When combined with the statistical evidence that FortisBC's O&M and FEI's Growth capital expenditures are highly correlated with the growth factors, a 100 percent growth factor should be used in FortisBC's Proposed MRPs.

H. CONTINUATION OF EARNING SHARING MECHANISM WITH RETURN TO TRADITIONAL APPROACH FOR EASE OF ADMINISTRATION AND UNDERSTANDING

180. FortisBC is proposing to continue the 50/50 ESM, but to return to the more traditional, widely-accepted and simplified way of calculating the earning sharing amount as 50 percent of

²³⁶ Exhibit B-12, BCUC IR 2.165.1.1.

²³⁷ Exhibit B-12, BCUC IR 2.165.1.1.

²³⁸ Exhibit B-10, BCUC IR 1.17.6.

the difference between achieved and approved return on equity (“ROE”), without a deadband. These changes will allow variances related to capital spending to flow to the bottom line, thereby incenting the Utilities to become more efficient with regard to capital spending and returning half of those efficiencies to customers.²³⁹ These adjustments are beneficial and warranted as they will increase the incentive properties of the plan, and will be more transparent, easier to understand and administer. These points are explained further below.

1. 50/50 PERCENT ESM REMAINS REASONABLE

181. A 50/50 ESM that ensures that gains and losses are shared equally between the Companies and customers continues to be reasonable. As stated by the BCUC when approving the ESM for the Current PBR Plans:²⁴⁰

The Commission Panel determines that the inclusion of a symmetric ESM is beneficial to both Fortis and its customers. In our view, the inclusion of an earnings sharing mechanism balances the interests of the customer and the utility. That is, to the extent that there are gains or losses relative to the approved ROE, the fact that they are shared on a 50:50 basis between the ratepayer and the utility is reasonable. The Panel notes that the purpose of implementing a PBR mechanism is to provide an environment where efficiencies are created through actions initiated by the utility. Accordingly, there is an expectation that all things being equal, the Fortis utilities will, over the course of this PBR, generate efficiency savings resulting in earnings, which allow them to exceed the approved ROE return. Fortis has proposed that these savings be shared. To deny the customer the opportunity of sharing these savings would not be in their interest.

182. Through the ESM, FortisBC will have an incentive to contain indexed-based O&M and FEI’s Growth capital spending at below indexed levels and other Regular capital at or below the approved levels. Any variances will be shared equally with customers.

²³⁹ Exhibit B-10, BCUC IR 1.63.1.

²⁴⁰ BCUC Decision G-138-18, p. 124 and G-139-18, p. 120.

2. TRADITIONAL CALCULATION, WITHOUT DEADBAND, WILL INCREASE TRANSPARENCY, SIMPLICITY AND INCENTIVES

183. The Proposed MRPs will be improved by returning to the widely-accepted, traditional and simplified method of calculating earnings sharing as the variance between achieved and allowed ROE. FortisBC refers to this as the traditional approach as it was approved in FEI's 2004-2009 PBR and FBC's 2007-2011 PBR, and is used in other jurisdiction in North America including Ontario (for natural gas utilities) and Quebec (for Hydro-Quebec Distribution).²⁴¹

184. While the BCUC in its 2014 PBR Decision referred to "gains or losses relative to the approved ROE", the Decision in fact muted this calculation by incorporating into the 2014-2019 PBR Plans the flow-through of all depreciation, interest and tax related to capital expenditures, which reduced the scope of costs included in the ESM.²⁴² The 2014-2019 PBR Plans also included the dead band as a safeguard mechanism which limited the ESM to 10 percent of capital variances each year and 15 percent of capital variances on a two-year cumulative basis. These elements had the effect of complicating the ESM calculation and diminishing its incentive properties.

185. The traditional calculation for the ESM will increase transparency and simplicity,²⁴³ which responds to feedback during the annual review process that the calculation of the ESM and the dead band mechanism were complex and difficult to understand. The ESM in the 2014-2019 PBR Plans shares earnings based on differences in O&M and the earnings impact of capital spending adjusted for actual customer growth, actual service line additions, and contained within a dead band. This approach is complex and difficult to understand.²⁴⁴ In contrast, the traditional approach is simply the difference between achieved and allowed ROE. FortisBC provided various examples of how the ESM would operate, including in response to BCUC IRs 1.67.3, 1.68.1, and 1.148.1.²⁴⁵

²⁴¹ Exhibit B-1, p. C-157.

²⁴² Exhibit B-17, ICG IR 2.3.2.

²⁴³ Exhibit B-1, p. C-157; Exhibit B-4, BCMEU IR 1.15.1.

²⁴⁴ Exhibit B-4, BCMEU IR 1.15.1.

²⁴⁵ Exhibit B-10.

186. Perhaps more importantly, the traditional calculation will also increase the incentive properties of the plan by including more costs within the ESM. To illustrate, depreciation expense was subject to earnings sharing in FEI's 1998 and 2004-2009 PBR plans.²⁴⁶ FEI's capital spending results during the 2004-2009 PBR term contributed to lower depreciation expense which was shared to the benefit of customers and shareholders. Specifically, there was a \$15 million reduction in FEI's (or "Terasen Gas Inc." as it was then called) 2010 revenue requirement from rebasing capital, including a \$10 million reduction from lower depreciation expense. As this experience illustrates, including regular capital depreciation as a component of earnings sharing creates a greater incentive for FEI to find capital efficiencies, which can result in a lower overall rate base exiting a multi-year plan. Upon rebasing, customers receive the entire benefit of these long lasting efficiencies for the remaining lives of the assets.²⁴⁷

187. While the deadband was effective in mitigating risk during the 2014-2019 PBR Plans, the dead band can be eliminated from the Proposed MRPs because FortisBC proposes a forecast approach for the majority of its capital to improve the accuracy of the allowed capital amounts. The elimination of the dead band will improve ease of understanding, as this mechanism was a source of confusion in annual reviews. The elimination of this safeguard mechanism will also increase the risk/reward profile and incentive properties of the Proposed MRPs.²⁴⁸

188. Put simply, the more costs that are subject to incentives, the higher the risk and rewards, and the higher the incentives for efficiency gains. As a large cost item, subjecting depreciation, interest and tax expenses that are driven by Regular capital to earnings sharing will increase the risk and rewards equally for both ratepayers and shareholders as any variance would be shared 50:50.²⁴⁹ Once the Proposed MRP term ends, the benefit of capital efficiencies is passed onto customers through rebasing of rate base and continue on through

²⁴⁶ Exhibit B-12, BCUC IR 2.166.5. FBC's treatment of capital expenditures in past PBR plans was different and does not offer any meaningful insights. See Exhibit B-12, BCUC IR 2.166.6.

²⁴⁷ Exhibit B-12, BCUC IR 2.166.6.

²⁴⁸ Exhibit B-1, pp. B-28 and B-45; Exhibit B-10, BCUC IR 1.19.8.

²⁴⁹ Exhibit B-12, BCUC IR 2.166.7.

the lives of the related assets.²⁵⁰ FortisBC therefore recommends a return to the traditional approach to calculating the ESM.

I. PROPOSED EFFICIENCY CARRY-OVER MECHANISM WILL ENHANCE INCENTIVE PROPERTIES OF THE PLAN

189. FortisBC's proposed efficiency ECM will improve the incentives for FEI and FBC to achieve efficiencies in the later years of the Proposed MRPs. As discussed below, the need and efficacy of ECMs is clear, and FortisBC's proposed ECM takes a balanced approach that will reasonably increase the incentives for efficiencies during the later years of the Proposed MRPs.

1. NEED FOR AN ECM IS CLEAR

190. The incentive for utilities to pursue efficiency gains declines over the term of multi-year plans because the reward for a utility is greatest when the efficiency savings are made in the first year of the plan. As the plan's term gets closer to its end, the amount of time remaining to achieve a return on efficiency investments becomes successively shorter, reducing the incentive properties of the plan.²⁵¹ Consistent with this, the evaluation of the Companies' performance in the Current PBR Plans indicates that annual savings above the formula level peaked in the third year of the plans.²⁵²

191. An ECM is designed to mitigate this well-understood dynamic in MRPs by incenting utilities to pursue efficiency initiatives throughout the entire plan period. An ECM does this by allowing the utility to keep a share of performance gains for a set period of time after a rate plan is concluded.²⁵³ The AUC's 2018-2022 PBR decision summarizes as follows:²⁵⁴

A utility's incentive to find efficiencies weakens as the end of the PBR term approaches, in part because there is less time remaining for the utility to benefit

²⁵⁰ Exhibit B-12, BCUC IR 2.166.9.

²⁵¹ Exhibit B-1, p. C-11.

²⁵² As explained in Exhibit B-1, Section B2.3.1.1.

²⁵³ Exhibit B-1, p. C-11.

²⁵⁴ AUC decision 20414-D01-2016, pp 18-19.

from any efficiency gains. The purpose of an efficiency carry-over mechanism (ECM) is to address this problem by permitting the utility to continue to benefit from any efficiency gains after the end of the PBR term. As Brattle noted, an ECM strengthens incentives to control costs towards the end of the PBR term by “carrying over” some of the rewards from successful cost control from one PBR term to the next one. The Commission approved an ECM in Decision 2012-237 to encourage distribution utilities to continue to make cost-saving investments near the end of the PBR term and discourage gaming regarding the timing of capital projects or programs.

192. Evidence and experience in other jurisdictions with ECM plans indicates that the existence of an ECM has led to continued savings during the later years of their plans. For example, in Alberta an ECM that is similar to what is proposed by FortisBC exists. A review of savings achieved by utilities such as ATCO Gas and ATCO Electric indicates higher savings were achieved in the later years of the plans.²⁵⁵

2. FORTISBC’S PROPOSED ECM IS REASONABLE AND BALANCED

193. FortisBC’s proposal is to calculate the ECM as follows:²⁵⁶

- (a) Step one: Calculate half of the variance between the achieved ROE (after sharing) and approved ROE for year 4 and 5 of the MRPs; and
- (b) Step two: Average the calculated amounts in step one and cap the average at 50 basis points.

194. By using only years 4 and 5 in the calculation, the impact of the achieved ROEs in the first three years on the ECM is reduced. Nevertheless, some of the efficiencies from the first three years will continue to be reflected in the achieved ROEs in the last two years. In this way, the proposed ECM balances the incentives between earlier and later years of the plan.²⁵⁷

195. FortisBC’s proposed approach is similar to the ROE-based approach approved in Alberta. The Alberta ECM, however, provides for stronger incentives as there is no 50/50 earnings

²⁵⁵ Exhibit B-12, BCUC IR 2.164.5.

²⁵⁶ Exhibit B-1, pp. C-11 to C-12.

²⁵⁷ Exhibit B-5, BCOAPO IR 1.26.1.

sharing and it is based on 5 years of data as opposed to the last two years as proposed by FortisBC.²⁵⁸

196. Mr. Bell's concern²⁵⁹ that an ECM should not reward a continuation of performance that has been ongoing, but should be based on truly new innovations that have occurred in the last two years of the plan, is baseless. As discussed above, FortisBC's proposed ECM is reasonable and balanced. FortisBC excludes the first three years of the plan from the calculation the achieved ROEs, halves the variance between achieved ROE and approved ROE, and caps the ECM to 50 basis points, all of which minimize the impact of any temporary savings in the first three years on the ECM.²⁶⁰

197. Mr. Bell's suggestion that the average achieved ROE for the first three years should be used as the base for calculating the ECM calculated in the last two years to avoid "double counting" is flawed.²⁶¹ Mr. Bell's definition of double counting is incorrect. With his definition, every dollar of incurred costs or savings during the PBR term is double counted since the costs and savings from the first year are carried over for five years. As Mr. Bell himself discussed in response to CEC IR 7.1, what he is referring to is the compounding effect of savings and costs during the MRP term, which is different from a double counting error. This is not an issue with the ECM and, as such, Mr. Bell's suggestions should not be given any weight.

198. FortisBC recommends its proposed ECM for approval as it will have a positive impact on the incentives in the last two years of the plan, and customers will benefit from the utility's continuous efficiency throughout the entire term of the Proposed MRPs.²⁶²

²⁵⁸ Exhibit B-23, Rebuttal Evidence, p. 27.

²⁵⁹ Exhibit C7-5, BCOAPO Evidence, p. 13.

²⁶⁰ Exhibit B-23, Rebuttal Evidence, p. 27.

²⁶¹ Exhibit C7-5, BCOAPO Evidence, p. 13.

²⁶² Exhibit B-10, BCUC IR 1.19.8.

J. CONTINUATION OF OFF-RAMP AND REOPENER PROVISIONS OF CURRENT PBR PLANS

199. The Companies propose to retain the financial off-ramp provisions as determined for the Current PBR Plans whereby an off-ramp is triggered if earnings in any one year varies from the approved ROE by more than +/- 200 basis points (post sharing) or if earnings average more than +/- 150 basis points (post sharing) from the approved ROE for two consecutive years.²⁶³ FortisBC explained that the financial off-ramp provision included in the Current PBR Plans and in the proposed MRPs is an automatic quantitative off-ramp, meaning that once the financial off-ramp is triggered, FortisBC expects that a review of the Proposed MRPs would take place to determine if elements of the Plans require change or whether the Plans are not operating as designed.²⁶⁴ The off-ramp provisions are reasonable and should be continued for the Proposed MRPs.

K. FLOW-THROUGH TREATMENTS ARE CONSISTENT WITH PRINCIPLES REFLECTED IN CURRENT PBR PLANS (Y-FACTOR)

200. Consistent with the Current PBR Plans and PBR plans in other jurisdictions, the Proposed MRPs recognize that certain costs may not be suitable for a formula and are instead approved to be forecast and flowed through to the Utilities' revenue requirements. In the Current PBR Plans, these costs include items such as depreciation expense, insurance premiums, income and property taxes, interest expense, and certain non-formula O&M expenses.²⁶⁵ Cost variances are flowed through to rates through deferral accounts for specific costs or through the general Flow-through deferral account approved by the BCUC in the 2014 PBR Decisions.

201. FortisBC has proposed adjustments to the flow-through treatment that are consistent with the principles reflected in the Current PBR Plans, and are as follows:

²⁶³ Exhibit B-1, p. C-12.

²⁶⁴ Exhibit B-5, BCOAPO 1.27.1.

²⁶⁵ Exhibit B-1, pp. B-27 to B-28.

- (a) Consistent with the principles that uncontrollable costs be flowed-through to rates, FortisBC is proposing some components of O&M and capital be treated as flow-through, while moving some flow-through costs into the Base O&M that have now stabilized and become controllable.
- (b) Consistent with the ESM, controllable depreciation, interest and income tax costs driven by Regular capital are proposed to be subject to earnings sharing which will increase the incentive to reduce these costs.
- (c) Consistent with the principle that controllable costs should be subject to earning sharing, controllable components of Other Revenue that are not related to Clean Growth Initiatives are proposed to be subject to earnings sharing, which will increase the incentive to reduce these costs.

1. CONTINUATION OF BIOMETHANE VARIANCE ACCOUNT TRANSFER MECHANISM FOR RENEWABLE NATURAL GAS PROGRAM COSTS (FEI)

202. FEI proposes to continue with the Biomethane Variance Account (“BVA”) transfer mechanism, which transfers all capital and operating costs to support FEI’s renewable natural gas program (“RNG Program”) to the BVA. The balance in the BVA is then recovered from biomethane customers through the Biomethane Energy Recover Charge (“BERC”), with any unrecovered balances transferred to the BVA Rider deferral account and recovered from non-bypass customers through the BVA rider.²⁶⁶

203. FEI reviewed the BVA transfer mechanism in response to a directive of the BCUC. FEI’s report in Appendix B9 of the Application concludes that the mechanism is operating as designed and is both simple and transparent.²⁶⁷ Over the course of the Current PBR Plans, FEI’s Annual Reviews provided transparency of all renewable natural gas program costs, recoveries and inventory activity, including a calculation of the BVA Rider each year. FortisBC sees no reason for a change to the BVA transfer mechanism at this time.

²⁶⁶ Exhibit B-1, p. C-112. See Exhibit B-12, BCUC IR 2.205.1 for a table showing the operating costs, annual capital expenditures, total BERC recoveries and BVA balance transfers from 2014 to 2019.

²⁶⁷ Exhibit B-1-1, Appendix B9, p. 2.

204. FEI does propose, however, that the interconnection costs for the seven interconnection facilities that FEI initiated when the RNG Program was approved on a pilot basis be accounted for in the BVA, consistent with all other interconnection costs. Currently, these seven interconnection facilities are treated differently, and recovered from all non-bypass customers through delivery rates. This is an artefact of the regulatory history of the RNG Program, reflecting early years when the treatment of interconnection costs had not been settled. There is no longer any need for these costs to be treated differently.²⁶⁸

205. With the proposed change, all RNG Program-related costs will be forecast each year, and any variances will be captured in the Flow-through deferral account with actual costs ultimately accounted for in the BVA.²⁶⁹ This will make the accounting and reporting of the RNG Program costs more consistent, simpler and more transparent. FortisBC therefore recommends that this proposal be accepted.

2. ELECTRIC VEHICLE CHARGING STATIONS (FBC)

206. Subject to approval by the BCUC for inclusion of FBC's Electric Vehicle Direct Current Fast Charging ("DCFC") stations in rate base,²⁷⁰ FBC proposes to forecast capital and operating costs associated with the electric vehicle charging stations each year and record the related cost of service variances in the Flow-Through deferral account.²⁷¹ These stations generate incremental tariff revenue which is subject to flow-through treatment. This treatment is consistent with treatment of other clean growth initiatives that generate incremental revenues. The IRs did not raise any issue with this proposal.

²⁶⁸ Exhibit B-1-1, Appendix B9, pp. 3 to 4.

²⁶⁹ Exhibit B-1-1, Appendix B9, p. 5.

²⁷⁰ Exhibit B-12, BCUC IR 2.225.1. FBC's application for Rate Design and Rates for Electric Vehicle Direct Current Fast Charging Service has been adjourned, pending the B.C. Government's response to the BCUC's recommendations in its Phase Two Report on the Inquiry into the Regulation of Electric Vehicle Charging Service. FBC's EV CDFC stations are excluded from rate base pursuant to Order G-9-18.

²⁷¹ Exhibit B-1, p. C-113.

3. INCREMENTAL REGULATORY AND POLICY DRIVEN COSTS MAY BE FORECAST AND TREATED AS FLOW THROUGH DURING PROPOSED MRP TERM (FEI AND FBC)

207. FortisBC proposes to forecast annually any incremental costs that it incurs in relation to complying with legislatively mandated federal, provincial and municipal climate policy and with new Mandatory Reliability Standards. Variances from the forecast amounts embedded in revenue requirements will be captured in the Flow-through deferral account.²⁷²

208. This category would include costs to comply with new Mandatory Reliability Standards, for which the BCUC consistently granted exogenous factor treatment over the Current PBR Plan term. Given that new Mandatory Reliability Standards will continue to be passed into law, it is logical for these costs to be treated as a forecast and flow through item, rather than FBC continuing to apply for exogenous factor treatment each year of the Proposed MRP term. Because FBC is required by law to incur expenditures to implement Mandatory Reliability Standards, it is most reasonable to treat these costs as a flow through item, outside of indexed O&M and outside of Regular capital.²⁷³

209. Similarly, flow-through treatment should be applied to the incremental costs to comply with legislatively mandated federal, provincial and municipal climate policy. Like MRS costs, these costs will be required to be undertaken by FEI and FBC. For example, FortisBC will need to incur costs to comply with new federal regulations implementing the Pan-Canadian Framework. It is not possible to forecast these costs and they have not been accounted for anywhere in the Proposed MRPs. They are therefore more appropriately forecast each year.

210. Over the term of the Proposed MRPs either FEI or FBC may propose initiatives in alignment with government policy as described above.²⁷⁴ FortisBC will bring forward its plans to comply with changes in regulations to the extent they drive incremental costs for BCUC approval as the regulatory context becomes clear. Any such initiatives would be subject to

²⁷² Exhibit B-1, pp. C-113 to C-114.

²⁷³ Exhibit B-1, p. C-113.

²⁷⁴ Exhibit B-10, BCUC IR 1.65.1.

review by the BCUC before being recovered in rates. The approval that FortisBC is seeking in this Application is that such initiatives, if approved, would be treated as flow-through items.

4. CONTROLLABLE DEPRECIATION, INTEREST AND TAX VARIANCES DRIVEN BY REGULAR CAPITAL SPENDING SHOULD BE SUBJECT TO EARNINGS SHARING TO INCREASE INCENTIVES

211. Consistent with the Earnings Sharing Mechanism discussed above, controllable depreciation, interest and tax variances driven by regular capital spending should be subject to earnings sharing rather than treated as a flow through. As discussed above, FortisBC is returning to a traditional earnings sharing mechanism consistent with stakeholder feedback regarding the complexity of the current mechanism. Under the proposed approach, variances related to capital spending flow to the bottom line so that the shareholder takes more risk on overspending and retains more reward for controlling spending. This creates a greater incentive for the Companies to manage capital spending which will yield benefits to customers for the long term over the lives of the assets.²⁷⁵

212. FortisBC's proposal for the treatment of interest expense is the same as what was previously approved for FEI in years prior to 2014 and for FBC in its 1996-2004 PBR Plan. Under this treatment, variances in uncontrollable components (interest rates, and timing and amount of debt issues that result from external capital market and economic factors) are captured in the Flow-through deferral account and flowed through to customers. Variances in short-term interest, on the other hand, affect earnings and the earnings sharing calculation because they are primarily driven by variances in regular capital expenditures. This is because, once the long term debt is trued up to forecast, the amount of volume variance remaining falls to short-term debt, which is used to fund capital expenditures in any given year.²⁷⁶

213. As discussed above in relation to the ESM, subjecting controllable depreciation, interest and tax expenses that are driven by Regular capital to earnings sharing will increase the risk and rewards equally for both ratepayers and shareholders as any variance would be shared

²⁷⁵ Exhibit B-10, BCUC IR 1.68.1.

²⁷⁶ Exhibit B-10, BCUC IR 1.67.1.

50:50.²⁷⁷ Once the MRP term ends, the benefit of capital efficiencies is passed onto customers through rebasing of rate base and continue on through the lives of the related assets.²⁷⁸

5. CONTROLLABLE OTHER REVENUE NOT RELATED TO CLEAN GROWTH INITIATIVES SHOULD BE SUBJECT TO EARNINGS SHARING TO INCREASE INCENTIVES

214. The risk of variances in controllable Other Revenue components should be subject to earnings sharing to increase the incentive to control costs and find efficiencies.²⁷⁹

215. Under the Current PBR Plans, all Other Revenue components have flow-through treatment either through specific deferral accounts or through the Flow-through deferral account. The Companies propose to change the treatment of the following controllable Other Revenue components so that variances are subject to sharing.²⁸⁰

| FEI Other Revenue | FBC Other Revenue |
|-------------------------------------|---------------------------------|
| Late Payment Charge | Late Payment Charge |
| Connection Charge | Connection Charge |
| NSF Returned Cheques | Other Recoveries |
| Other Recoveries | Apparatus and Facilities Rental |
| NGT Overhead and Marketing Recovery | Contract Revenues |
| | Transmission Access Revenue |
| | Interest Income |

216. FortisBC has a degree of control over all the above items, meaning that these items should be subject to earnings sharing. For example, FEI explained the rationale for the following Other Revenue components:²⁸¹

- (a) Late Payment Charges and NSF Returned Cheques – change in treatment is due to FEI being able to influence the level of these revenues. FEI works with customers to provide opportunities and solutions that support continuation of

²⁷⁷ Exhibit B-12, BCUC IR 2.166.7.

²⁷⁸ Exhibit B-12, BCUC IR 2.166.9.

²⁷⁹ Exhibit B-1, p. C-114.

²⁸⁰ Exhibit B-10, BCUC IR 1.66.1.

²⁸¹ Exhibit B-12, BCUC IR 2.204.1.

services and payment arrangements which affects the amount of late payment charges and returned cheque fees recovered.

- (b) Connection Fees – change in treatment is due to FEI being able to influence the level of these revenues. FEI plays a role in customer growth through engagement initiatives and through working with customers, developers, larger customers, and new industries.
- (c) Other Recoveries – change in treatment is due to FEI being able to influence the level of these revenues. FEI identifies opportunities to recover costs for non-recurring services. Further, consistent with supporting Clean Growth Initiatives, revenues related to activities such as NGT and Renewable Gas continue to be flowed through.

217. FBC also provided the following rationale for the following Other Revenue components:²⁸²

- (a) Apparatus and Facilities Rental Revenue – the change in treatment is due to FBC being able to influence the level of these revenues. Rental rates are set by contract with third parties and the management of attachments is partly controllable by FBC, which affects the amount of revenue.
- (b) Contract Revenue – the change in treatment is due to FBC being able to influence the level of these revenues. Fee structures are set by contract with third parties; the volume of work performed and management of resources are partly controllable by FBC, which affects the amount of revenue.
- (c) Connection Fees – the change in treatment is due to FBC being able to influence the level of these revenues. FBC plays a role in customer growth through engagement initiatives and through working with customers, developers, larger customers, and new industries.

²⁸² Exhibit B-12, BCUC IR 2.204.3.

- (d) Other Recoveries – the change in treatment is due to FBC being able to influence the level of these revenues. FBC identifies opportunities to recover costs for non-recurring services.

218. FortisBC’s proposed treatment of these Other Revenue components is consistent with the treatment under cost of service, where FEI and FBC did not have deferral accounts for these items reflecting that they are generally considered to be within the control of the Utilities. As these components are controllable, they should be subject to earnings sharing which will increase the incentive to control costs and find efficiencies, the benefits of which will be shared 50/50 with customers. FortisBC recommends that this treatment be approved.

L. DEFERRAL ACCOUNTS REQUIRED TO IMPLEMENT PROPOSED MRPS

219. To implement the Proposed MRPs as proposed, FEI seeks approval of two new deferral accounts and FBC seeks approval of three new deferral accounts, while both FEI and FBC seek approval to continue the Flow-through deferral account. Otherwise, FEI and FBC will continue to use their existing deferral accounts as approved and will request any required changes in the annual review process.²⁸³ Table C5-2 provides a summary of the request for approvals of deferral accounts. Table C5-1 of the Application describes how each deferral account requests meets the deferral account filing considerations per the BCUC’s Regulatory Account Filing Checklist.²⁸⁴

Table C5-2: Summary of Deferral Account Requests

| Type of Change | Account | Company | Return requests | Additional requests |
|--------------------|------------------------------|-----------|---------------------|---|
| New Account | BCUC Levies Variance Account | FBC | Rate Base requested | Section C5.3.1.1; amortization period of 1 year commencing January 1, 2021. |
| | MRP Incentives Account | FEI & FBC | WACC requested | Section C5.3.2.1; amortization period of 1 year commencing January 1, 2021. |
| | Innovation Funding Account | FEI & FBC | WACC requested | Section C5.3.2.2; costs will be recovered through rider. Any residual balance will be addressed at the end of the term of |

²⁸³ The BCUC has indicated in the Decision accompanying Order G-7-03 that its Orders supporting deferral accounts continue in force until a change is approved by the BCUC.

²⁸⁴ Exhibit B-1, pp. C-122 to C-126. The BCUC’s Regulatory Account Filing Checklist is online: https://www.bcuc.com/Documents/Guidelines/2017/05-03-2017_RegulatoryAccountFilingChecklist.pdf.

| Type of Change | Account | Company | Return requests | Additional requests |
|----------------|----------------------|-----------|-----------------|---|
| | | | | the Proposed MRPs. |
| Other | Flow-through Account | FEI & FBC | | Section C5.2.1; extend the use of this deferral account for the duration term of the Proposed MRPs and include items set out in Section C4. |

220. These requests are each discussed below.

1. FBC’s BCUC LEVIES VARIANCE ACCOUNT WILL ALIGN WITH APPROVED TREATMENT FOR FEI

221. FBC is seeking approval of a deferral account to collect the annual variances between the actual BCUC levies incurred and the amount forecast in O&M expense. This treatment is appropriate as these costs are not within the control of FBC and therefore should be flowed through, rather than subject to earnings sharing. This treatment also aligns with the approved treatment of BCUC levies for FEI, as approved by BCUC Order G-112-04. FBC seeks approval to amortize this deferral account over one year, consistent with the FEI approved treatment. The IRs during the proceeding did not raise any issues with this proposed account.

2. CONTINUATION OF FLOW THROUGH DEFERRAL ACCOUNT TO FACILITATE FLOW-THROUGH TREATMENT FOR ITEMS WITHOUT EXISTING DEFERRAL ACCOUNTS

222. The continuation of the Flow-through deferral account is required for the implementation of the Proposed MRPs. As approved through BCUC Orders G-162-14 and G-163-14: “(t)he flow-through deferral account is approved to be utilized for the duration of the PBR period only.” [Emphasis added]

223. In the Proposed MRPs, the Flow-through deferral account will continue to capture the annual variances between the approved and actual amounts for those costs and revenues which are included in rates on a forecast basis, are proposed for flow-through treatment as identified in Section C4, and which do not have a separately approved deferral account. The specific items included in the Flow-through account for the term of the Proposed MRPs are set out in Section C4, Table C4-1. FortisBC therefore recommends approval of the continuation of this account.

3. MRP INCENTIVES ACCOUNT TO IMPLEMENT INCENTIVES UNDER PROPOSED MRPs

224. FEI and FBC seek approval to establish for each utility an MRP Incentives Account to capture the amounts determined through the Earning Sharing Mechanism and the Targeted Incentives, except for the Power Supply Incentive.²⁸⁵ The MRP Incentives Account will be a non-rate base deferral account attracting a WACC rate of return, with additions being recovered or returned over one year to match costs and benefits.²⁸⁶ Given the mechanics of the incentives, and that part of the incentives may be amounts recoverable from or payable to customers by the shareholder in a subsequent year, it is necessary to establish a deferral account to distributing these costs.²⁸⁷

225. FortisBC provided a numerical example to illustrate the approach to the MRP Incentives Account in Exhibit B-2, pp. 11-12. The MRP Incentives Account will capture the traditional incentive proposed as 50 percent of the ROE variance between achieved (before targeted incentives) and allowed. The projected incentive amount, determined each year, will be returned to or collected from customers through amortization. FortisBC will make a final determination of the ROE for sharing after the year end, with any differences between the projected and actual amount included in the calculation of the earnings sharing for the following rate setting year. The MRP Incentives Account will also capture the targeted incentives (except for the PSI) as described in Section C8.3 of the Application and Part Nine of this Final Submission. The targeted incentive amount will be determined each year after the year end and added to the deferral account in the subsequent year. This amount will then be collected from customers through amortization in the next rate setting year.

4. INNOVATION FUNDING ACCOUNT

226. To implement the proposed Clean Growth Innovation Fund, FortisBC requires approval of a deferral account to collect a charge of \$0.40 and \$0.30 per customer per month for FEI and FBC, respectively, which will fund the Companies' annual innovation activities. The amounts

²⁸⁵ Exhibit B-1, pp. C-167 to C-168.

²⁸⁶ Exhibit B-1, p. C-123.

²⁸⁷ Exhibit B-1, p. C-123.

collected from customers will be recorded as credits in the deferral account and the expenditures by the Companies will enter the deferral account as debits. At the end of the Proposed MRPs the unused balance in the deferral account will be returned to customers.²⁸⁸ The Clean Growth Innovation Fund is addressed in Part Eight of this Final Submission.

M. CONTINUATION OF EXOGENOUS CRITERIA WITHOUT MATERIALITY THRESHOLD (Z-FACTOR)

227. FortisBC's proposes to continue with the exogenous criteria as previously approved by the BCUC, but without the materiality threshold. In PBR plans, the exogenous factor (or "Z Factor") flows non-controllable and unforeseeable costs through to rates. Consistent with the Current PBR Plans, during the term of the Proposed MRPs, customers' rates will be adjusted either up or down for the cost of service impacts of O&M and capital costs caused by exogenous factors. This treatment ensures that customers pay only for the actual costs in circumstances where FortisBC does not control the level of expenditures.²⁸⁹ As during the Current PBR Plans, FortisBC will identify in its Annual Reviews exogenous factor events that have occurred or that are forecast to occur.

228. The Current PBR Plans include five criteria for determining exogenous cost items, as follows:

- (a) attributable to events entirely outside the control of a prudently operated utility;
- (b) directly related to the exogenous event and clearly outside the base upon which the rates were originally derived;
- (c) impact of event is unforeseen;
- (d) prudently incurred costs; and

²⁸⁸ Exhibit B-1, Section C-6.

²⁸⁹ Exhibit B-1, p. C-115.

- (e) costs/savings must exceed the materiality threshold of 0.5 percent of base O&M amount.

229. The fifth criteria or materiality threshold noted above was not present in FortisBC's previous PBR plans. FortisBC proposes to return to the previous treatment of exogenous factors without a materiality threshold for the reasons discussed below.

1. REGULATORY PRINCIPLE: REASONABLE OPPORTUNITY TO RECOVER PRUDENTLY-INCURRED COSTS

230. As a matter of principle, utilities should have a reasonable opportunity to recover their prudently incurred costs.²⁹⁰ The BCUC has consistently recognized the right of utilities to a reasonable opportunity to recover their prudently incurred costs. For example, in a recent Decision the BCUC endorsed the following statement from FortisBC Alternative Energy Services:²⁹¹

Section 59(5) of the UCA defines what is unjust or unreasonable and embodies the regulatory compact... In basic terms, the regulatory compact ensures that the public utility has a reasonable opportunity to recover its prudently incurred costs and earn a fair return on its investment, while ensuring that customer rates are not set to recover excessive profits for the nature and quality of the service provided.

231. Exogenous factors are by definition unforeseen costs that are outside of the control of the Utilities. FortisBC should be given the opportunity to recover its prudent costs of this nature, even if relatively minor.

232. Two examples of costs that FortisBC was not able to recover under the Current PBR Plans demonstrate the arbitrary nature of the materiality threshold:

- (a) Although the BCUC consistently recognized that FBC's costs to implement Mandatory Reliability Standards were exogenous events, FBC was unable to

²⁹⁰ Exhibit B-10, BCUC IR 1.19.8.

²⁹¹ Decision and Order G-84-19, April 16, 2019, pp. 13-14. Online: https://www.bcuc.com/Documents/Proceedings/2019/DOC_53819_2019-04-16-FAES-DeltaSD-Decision-WEB.pdf.

recover O&M expenses arising from new or amended Mandatory Reliability Standards approved by Orders R-32-14 (Assessment Report No 7) and R-32-16 (Assessment Report No. 9). The incremental costs were \$0.020 million and \$0.080 million, respectively.²⁹²

- (b) Although the BCUC allowed FBC to recover some repair costs due to wildfires, FBC was unable to recover capital expenditures related to damage from wildfires in 2015 (\$0.250 million) and 2017 (\$0.483 million). These amounts were not eligible for exogenous factor treatment because the repair costs at individual lightning strike locations did not exceed the threshold.²⁹³

233. Notably, allowing the above costs along with larger individual items of the same nature would not have added any regulatory process or inefficiency. Instead, more complexity and confusion was caused by the addition of the materiality threshold.

234. A materiality threshold compromises FortisBC's right to a reasonable opportunity to recover its prudently incurred costs which cannot be justified in the name of regulatory efficiency, especially when there is no evidence that any regulatory efficiency actually results.

2. IMPROVEMENT TO ADMINISTRATIVE SIMPLICITY AND REGULATORY EFFICIENCY

235. Removing the materiality threshold will make the Annual Review process administratively simpler and more efficient. The materiality threshold contributed to confusion and complexity during the Current PBR Plans as it led to argument and process related to how to measure the materiality threshold (annual, cumulative, O&M and capital, together or separate).²⁹⁴ The application of the materiality threshold to different circumstances will continue to give rise to confusion or complexity, as future exogenous events will inevitably present new facts and circumstances not previously considered.²⁹⁵ The Utilities have stated that they recognize the importance of regulatory efficiency and do not intend to bring forward

²⁹² Exhibit B-7, CEC IR 1.41.1.

²⁹³ Exhibit B-7, CEC IR 1.41.1.

²⁹⁴ Exhibit B-10, BCUC IR 1.69.1.

²⁹⁵ Exhibit B-7, CEC IR 1.42.1

minor items that would otherwise meet Z-Factor related criteria.²⁹⁶ Any impact of an increased number of exogenous factors, if any, would be outweighed by the efficiencies achieved by not having to argue and present evidence about the application of the materiality threshold.²⁹⁷

3. TRANSPARENCY AND OBJECTIVENESS OF THE REVIEW PROCESS FOR DETERMINING EXOGENOUS FACTOR APPLICABILITY WILL BE MAINTAINED

236. The process for considering exogenous factors will remain the same as under the Current PBR Plans, allowing a transparent and objective review of proposed exogenous costs. FortisBC will bring forward in its Annual Reviews cost pressures or savings that it believes should be treated as exogenous factors. Interveners and the BCUC will be able to pose questions relating to the nature of the items and the applicability of exogenous factor criteria. Interveners will be able to make arguments for or against the proposed treatment, and the BCUC will make a final determination. In this way, the BCUC's objectives for a transparent and objective process for the determination of exogenous factor applicability will continue to be achieved.²⁹⁸

4. RELIANCE ON FORTISBC'S JUDGEMENT IS JUST AND REASONABLE

237. Given that it is FortisBC's right to an opportunity to recover its prudently incurred costs, it is just and reasonable to rely on FortisBC's judgment on whether to bring forward exogenous factors. As it is FortisBC's right, it is fair for FortisBC to determine whether it will forego the opportunity to bring forward an exogenous factor because the cost is immaterial. The alternative of having a threshold under which FortisBC is barred from recovery of its prudently incurred costs, which may together add up to a material amount, is unfair to FortisBC and contrary to the regulatory compact. In this case, reliance on FortisBC's judgment is reasonable and appropriate.

²⁹⁶ Exhibit B-1, BCUC IRs 1.19.8. and 1.69.1.

²⁹⁷ Exhibit B-10, BCUC IR 1.69.2.1.

²⁹⁸ Exhibit B-10, BCUC IR 1.69.1.

5. MATERIALITY THRESHOLD NOT NEEDED OR HELPFUL

238. In summary, FortisBC submits that a materiality threshold is neither required nor helpful. Based on its experience under the Current PBR Plans, the materiality threshold resulted in confusion and lengthy submissions on how to define a threshold and how it should be applied. It would be administratively more simple and more efficient to bring forward for consideration any exogenous factors for approval that otherwise meet the criteria.²⁹⁹ This is consistent with the regulatory compact as endorsed by the BCUC that utilities should have a reasonable opportunity to recover their prudently incurred costs.

N. CONTINUATION OF EFFECTIVE ANNUAL REVIEW PROCESS

239. The Annual Review process under the Current PBR Plans has been successful and FortisBC is proposing that it be continued under the Proposed PBR Plans. Through the Annual Review process, the BCUC determines FEI and FBC's rates for the upcoming year. The Annual Reviews are also where stakeholders can consider FortisBC's performance and activities, as well as understand the issues and challenges facing the Utilities.³⁰⁰

240. FortisBC describes in section C4 of the Application the costs and revenue items required to determine FEI and FBC's annual revenue requirements, which will be included in each year's Annual Review materials. At each Annual Review, FEI and FBC will present their current year's projections and the upcoming year's forecasts for the same measures presented during the Current PBR Plans. FEI and FBC would also report on the results of Targeted Incentives and report on the Innovation Fund status.³⁰¹

241. As under the Current PBR Plans, FortisBC expects the Annual Review regulatory process under the Proposed MRPs will include one round of IRs, a workshop, written submissions and a BCUC determination of rates.³⁰²

²⁹⁹ Exhibit B-1, p. C-116.

³⁰⁰ Exhibit B-1, p. C-13.

³⁰¹ Exhibit B-1, p. C-13; Exhibit B-10, BCUC IR 1.96.6.

³⁰² Exhibit B-1, p. C-13.

242. No issues were raised in the IR process with regards to the continuation of the Annual Review process. FortisBC recommends that the BCUC include the Annual Review process as a component of the Proposed MRPs.

**PART FOUR: BASE O&M INCORPORATES SAVINGS FROM CURRENT PBR PLANS
AND WILL REQUIRE FORTISBC TO DO MORE WITH THE SAME**

A. OVERVIEW

243. This Part addresses the Base O&M per customer amount for each of FEI and FBC that will be indexed by inflation and multiplied by a forecast of average number of customers (subject to a true up) over the term of the Proposed MRPs. As set out in this section, FortisBC is proposing a Base O&M that passes onto customers the savings achieved by FEI and FBC through the Current PBR Plans, and that will challenge FEI and FBC to do more with the same over the next five years. The Base O&M starts with 2018 Actual O&M, and includes reasonable and appropriate adjustments to reflect FEI's and FBC's operating requirements at the outset of the Proposed MRPs.

244. This part is organized around the following key points:

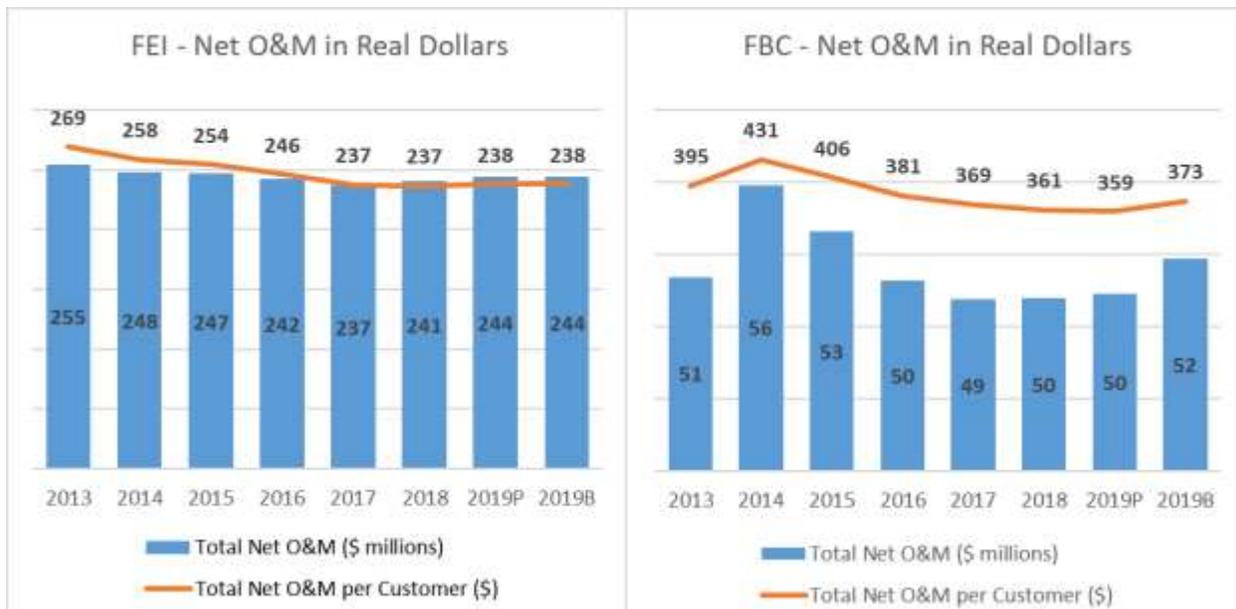
- (a) The Base O&M passes onto customer the savings achieved during the Current PBR Plans.
- (b) The Base O&M will require FortisBC to do "more with the same".
- (c) The calculation of FEI's Base O&M starts with 2018 Actual O&M, is adjusted for known changes, and includes new funding to meet FEI's current needs.
- (d) The calculation of FBC's Base O&M starts with 2018 Actual O&M, is adjusted for known changes, and includes new funding to meet FBC's current needs.

B. BASE O&M INCORPORATES SAVINGS FROM CURRENT PBR PLANS

245. FEI's and FBC's proposed 2019 Base O&M passes onto customers the significant savings achieved under the Current PBR Plans. Overall, FortisBC achieved total operational savings of

approximately \$77 million for FEI and \$15 million for FBC.³⁰³ The Benchmarking Studies for FEI and FBC confirm that FEI and FBC are relatively efficient compared to their peers on an O&M per customer basis, and have maintained or improved that favourable position over the term of the studies.³⁰⁴ The result is that the BCUC can be confident that FEI’s and FBC’s 2018 O&M reflects the savings achieved and represents an efficient utility operating model for both utilities.

246. To capture these savings going forward for the benefit of customers, FortisBC is using 2018 actual amounts as the starting point for the proposed Base O&M. As seen in the figures below, FEI and FBC were able to reduce O&M during the term of the Current PBR Plans.³⁰⁵ Using the 2018 actual O&M as the starting point ensures that the productivity savings achieved over the Current PBR Plans are factored into the Base O&M for the Proposed MRPs.



247. As discussed in the following sections, FortisBC makes a number of adjustments to the 2018 actual O&M to derive the 2019 Base O&M for the Proposed MRPs. The persistence of the achieved savings in the 2019 Base O&M is demonstrated by the fact that both FEI’s and FBC’s proposed 2019 Base O&M are lower than the O&M levels prior to the start of the Current PBR

³⁰³ Exhibit B-1, Table B2-2, p. B-31 and Table B2-3, p. B-33.

³⁰⁴ Exhibit B-1-1, Appendices C2-1 and C2-2.

³⁰⁵ Exhibit B-1, Figure C2-1 (p. C-50) for FEI; Figure C2-2 (p. C-51) for FBC. See also, Exhibit B-2, p. 2.

Plans. The incorporation of savings into the Base O&M is apparent by looking at both total O&M per customer and Base O&M per customer, as follows:³⁰⁶

- (a) For FEI, on an inflation adjusted basis, 2019 Total O&M per customer of \$285 is less than the 2013 Total O&M per customer of \$314; similarly, 2019 Formula Base O&M per customer of \$250 is less than the 2013 Actual Formula O&M per customer of \$286.
- (b) For FBC, on an inflation adjusted basis, 2019 Total O&M per customer of \$439 is less than 2013 Total O&M per customer of \$495; similarly, 2019 Formula Base O&M per customer of \$416 is less than 2013 Actual Formula O&M per customer of \$457.

248. As shown in the table below,³⁰⁷ O&M costs on a non-unit, inflation-adjusted basis also show that in total FEI and FBC have reduced their O&M since 2013, even while managing increasing number of customers. FEI's Base O&M has been reduced despite a record number of new attachments,³⁰⁸ and FBC has sustained its Base O&M costs even while managing increasing load and customers levels.³⁰⁹

| Non-Unit, Inflation Adjusted to 2019 dollars, O&M (\$000) | FEI | FBC |
|---|-----------|----------|
| Total O&M 2019 | \$292,282 | \$60,892 |
| Total O&M 2013 | \$297,466 | \$63,660 |
| Formula Base O&M 2019 | \$256,685 | \$57,686 |
| Formula Base O&M 2013 | \$270,276 | \$58,779 |

249. In summary, FortisBC was successful in using a broad-based productivity focus coupled with major initiatives and achieved efficiencies to realize O&M savings, and FortisBC's 2019 Base O&M captures those savings for the ongoing benefit of customers. The following sections describe how the adjustments to the 2018 O&M that are made to derive the 2019 Base O&M

³⁰⁶ Exhibit B-1, p. C-14, footnote 115.

³⁰⁷ Exhibit B-10, BCUC IR 1.21.3.

³⁰⁸ Exhibit B-4, BCMEU IR 1.4.1.

³⁰⁹ Exhibit B-4, BCMEU IR 1.4.1.

are reasonable and appropriate, and discuss how FortisBC will need to continue to maintain its discipline and rigour in managing O&M expenditures to mitigate continued and new cost pressures.

C. BASE O&M WILL REQUIRE FORTISBC TO DO “MORE WITH THE SAME”

250. While FortisBC has been successful in driving down its O&M expenses per customer over the Current PBR Plan, FortisBC does not expect to be able to continue this downward trajectory over the term of the Proposed MRPs. Below FortisBC discusses why it is unrealistic to expect continued reductions in O&M per customer amounts and that FortisBC’s focus of “doing more with the same” is the reasonable and appropriate response to its current environment.

1. IT IS UNREALISTIC TO EXPECT O&M TO CONTINUE TO TREND DOWNWARDS

251. Although FortisBC has managed to reduce O&M over the Current PBR Plans, it is unrealistic to believe that FEI and FBC can maintain this trend. FEI and FBC have had incentives to reduce their O&M and their broad based productivity focus combined with major initiatives have been successful in this regard. However, FEI and FBC have consistently highlighted in recent Annual Reviews that finding new productivity opportunities is increasingly difficult. FEI and FBC have captured the “low hanging fruit” from the transition from cost of service to PBR and have driven O&M per customer lower over the Current PBR Plan term. The end result of these efforts is a low O&M per customer relative to their peers, as shown in Concentric’s Benchmarking Study. In sum, FEI and FBC have reduced their O&M in response to the incentive to do so and are relatively more efficient than their peers.³¹⁰ In this context, it is simply unrealistic to believe that FortisBC can continue to reduce O&M over the Proposed MRP terms as it did under the Current PBR Plans.

³¹⁰ Exhibit B-1, p. B-54 and B-57; Exhibit B-1-1, Appendices C2-1 and C2-2.

2. FORTISBC IS EXPERIENCING COST PRESSURES IN ALIGNMENT WITH INDUSTRY TRENDS

252. FortisBC is experiencing cost pressures due to its evolving operating environment. Due to these pressures, FortisBC expects its costs to increase at a greater rate than inflation over the Proposed MRP term. FortisBC expects to have to find new ways of doing more with the same to contain its O&M costs within inflation.

253. FEI and FBC provided examples of the cost pressures that they anticipate over the next five years, for which FortisBC is not requesting any incremental funding in the proposed Base O&M. While not exhaustive, the examples illustrate the types of pressures that FortisBC is seeing and that it will have to find ways to manage.³¹¹ The examples include the need for additional resources:

- to plan, install and commission assets to meet customer service requirements;³¹²
- for transition and succession of employees due to anticipated retirements³¹³ given the recent period of high customer growth and associated higher employee base;³¹⁴
- to maintain the Supervisory Control and Data Acquisition (“SCADA”) system and the Outage Management System (“OMS”) and to maintain data for the Advanced Distribution Management System (“ADMS”), AMI, and Geographic Information System (“GIS”);
- increased general and administrative costs to support increased compliance requirements, changes in accounting standards, audits, and growing capital activities;³¹⁵
- to satisfy evolving municipal regulations, such as additional permitting, working arrangements, and restricted working hours,³¹⁶ and

³¹¹ Exhibit B-1, pp. C-16 to C-17; Exhibit B-10, BCUC IR 1.22.1.

³¹² Exhibit B-1, pp. C-16 to C-17; Exhibit B-10, BCUC IR 1.22.1.

³¹³ Approximately 200 retirements in Operations and 370 retirements in total are anticipated over the Proposed MRP term: Exhibit B-10, BCUC IR 1.22.4.

³¹⁴ Exhibit B-1, pp. C-16 to C-17; Exhibit B-10, BCUC IR 1.22.1.

³¹⁵ Exhibit B-1, pp. C-16 to C-17; Exhibit B-10, BCUC IR 1.22.7 describes the Finance activities driven by increased capital expenditures.

³¹⁶ Exhibit B-1, pp. C-16 to C-17.

- and to meet increased environmental and safety program requirements at the Federal, Provincial and local government levels.³¹⁷

254. There are also areas where actual inflation will be higher than the proposed inflation index, including the costs to insure and operate vehicles, fees for rights of way, and facilities lease contract increases.³¹⁸

255. Finally, as described in Part Two of this Final Submission, FortisBC is facing a quickly evolving operating environment, with growing pressures from government policy, rising service expectations of customers, increased need for stakeholder engagement and Indigenous consultation, increased need for investment in its aging infrastructure and need for innovation. These challenges and opportunities have led FEI and FBC to each request incremental funding in Base O&M, but the impact of these pressures cannot all be predicted or are simply unknown. Cost pressures will therefore arise that will need to be accommodated within FortisBC's Base O&M in addition to the known cost pressures that have already been identified.³¹⁹

3. APPROACH OF “DOING MORE WITH SAME” IS REASONABLE AND RESPONSIVE TO CURRENT CONDITIONS

256. Given the efficient state in which FEI and FBC are already operating and the cost pressures being faced, FortisBC's approach of relying on a productivity focus of “doing more with the same” is reasonable and appropriate. This approach to productivity is an appropriate balance between the ongoing need to manage costs and mitigate customer rate pressure, while providing resources to support growth and the challenges being faced, all while maintaining service levels.

³¹⁷ Exhibit B-10, BCUC IR 1.22.10.

³¹⁸ Exhibit B-1, p. C-18;; Exhibit B-10, BCUC IR 1.22.11.

³¹⁹ Exhibit B-10, BCUC IR 1.29.1.1, 1.22.1, and 1.162.3.

D. FEI'S BASE O&M REFLECTS APPROPRIATE ADJUSTMENTS TO ADDRESS KNOWN CHANGES AND EVOLVING OPERATING ENVIRONMENT

257. This section addresses in detail the specific calculation of FEI's 2019 Base O&M. FEI's proposed 2019 Base O&M on a per customer basis is \$250, which is derived from a total 2019 Base O&M of \$256.150 million divided by 1,024,962 customers (12-month average number of customers).³²⁰ This is approximately 12 percent lower than the 2013 base amount for the Current PBR Plans, which was \$286 per customer. As detailed below, the adjustments to arrive at the Base O&M per customer amounts are each reasonable and appropriate and needed to provide the right starting point for the Proposed MRPs. As noted in the Introduction to this Final Submission, FEI proposes to update its Base O&M per customer amount for the actual 2019 average number of customers in its compliance filing.

258. The calculation of FEI's proposed 2019 Base O&M begins with 2018 actual O&M, which is representative of FEI's required level of O&M funding in that year and reflects efficiencies and productivity improvements achieved under the Current PBR Plan. To set the appropriate starting point for O&M expenditures for the Proposed MRP, the following adjustments to the 2018 actual O&M are needed:

- (a) Temporary O&M net savings included in the 2018 actual expenditures need to be added back to reasonably reflect ongoing costs, and an adjustment needs to be made to reflect the updated shared and corporate services costs as set out in Part Ten of this Final Submission;
- (b) To adjust from 2018 to 2019, the 2018 amount needs to be multiplied by the 2019 formula inflator, as approved in the Annual Review for 2019 Delivery Rates;
- (c) Additions and subtractions are needed to reflect (i) approved 2019 exogenous items which should now be in Base O&M, (ii) items held in deferral accounts in the Current PBR Plan that are now included in Base O&M, and (iii) items

³²⁰ Exhibit B-1, p. C-19 (as updated in Exhibit B-1-3).

currently in O&M that will be recorded in a deferral account in the Proposed MRPs; and

- (d) Additions are needed for the incremental funding required for the term of the Proposed MRPs.

259. All of the adjustments are shown in Table C2-1 of the Application, as amended,³²¹ which is reproduced below for reference.

Table C2-1: FEI 2019 Base O&M (\$ millions)³²²

| | |
|--|-------------------|
| 2018 actual Base O&M | \$ 238.693 |
| Add temporary savings | 1.677 |
| Shared Services Studies Impact | (0.338) |
| Deduct 2018 actual FHI Management Fee | <u>(12.383)</u> |
| Adjusted 2018 Base O&M | \$ 227.649 |
| 2019 Inflation | 1.02198 |
| 2019 Base O&M before adjustments | <u>\$ 232.653</u> |
| Adjustments: | |
| Exogenous Factors: | |
| 2019 Z factor (EHT net of MSP) | 0.972 |
| Deferrals: | |
| FAES overhead | 0.786 |
| BCUC levies | (2.839) |
| NGIF funding | (0.409) |
| Flow Through treatment: | |
| Integrity Digs | (2.600) |
| LNG Plant O&M | 5.101 |
| 2019 Normalized Forecast FHI Management Fee | 11.682 |
| 2019 Reclass of FHI corporate services charged only to FEI | 0.387 |
| Total adjustments | <u>13.081</u> |
| New funding for MRP term | <u>\$ 10.416</u> |
| 2019 Base O&M | <u>\$ 256.150</u> |

260. The key adjustments to the 2018 Actual amounts that were the subject of IRs are discussed below.

³²¹ Exhibit B-1-3.

³²² Corporate/Shared Service Impact is comprised of the 2019 amount of (\$0.314) million for Corporate Services (Section D5) and (\$0.338) million for Shared Services impact (Exhibit B-1, Section D4).

1. ADDBACK OF TEMPORARY O&M NET SAVINGS IS NECESSARY TO REASONABLY REFLECT ONGOING COSTS

261. The first adjustment needed to set the Base O&M is to recognize that a portion of the \$4.9 million of net savings that FEI achieved in 2018 was temporary – that is, it is not expected to be repeated in following years. This addback is necessary to ensure that the appropriate level of O&M funding is included in the 2019 O&M Base for the term of the Proposed MRP.³²³ Specifically, of the net savings achieved, savings of approximately \$0.770 million for meter reading and approximately \$0.900 million for bad debts cannot be reasonably expected to continue over the Proposed MRP. Each is addressed below.

1.1 Meter Reading Costs Should Reflect the Cost to Meet Service Levels

262. The Base O&M should reflect FEI's costs to meet customer service levels for meter reading and, therefore, the temporary savings due to lower payments to Olameter for not meeting those service levels should be added back.³²⁴ The Base O&M should be set assuming required service levels will be met, as this reflects the intention and expectation of Olameter and FEI, as well as what is required to customers' needs. To ensure reasonable customer service levels are met, FortisBC has worked closely with Olameter to identify and address the factors contributing to their performance, and has seen improvement in Olameter's performance in 2019 in all areas of service delivery.³²⁵ FortisBC therefore reasonably expects Olameter to meet required customer service levels going forward. Moreover, FEI's costs may increase due to a higher number of reads (as experienced in 2015) and/or higher price inflation once the current agreement expires at the end of 2020.³²⁶ In short, Olameter is expected to, and should, meet their obligations under the contract in the future, and the lower payment levels in 2018 are not expected to be repeated. Accordingly, FEI's proposed adjustment to reflect the cost of Olameter meeting required service levels is reasonable and needed to ensure that the Base O&M reflects FEI's cost to provide service to customers.

³²³ Exhibit B-10, BCUC 1.25.8

³²⁴ Exhibit B-1, p. C-20; Exhibit B-10, BCUC IR 1.25.2; Exhibit B-12, BCUC IR 2.171.1.

³²⁵ Exhibit B-10, BCUC IR 1.25.1; Exhibit B-12, BCUC IR 2.171.2.

³²⁶ Exhibit B-12, BCUC IRs 2.171.3 and 2.171.4.

1.2 *Bad Debt Expense Should Reflect Historical Experience*

263. FEI's Bad Debt expense in 2018 of \$0.9 million was unusually low compared to the historical five year average of \$1.8 million, and therefore requires an adjustment to reflect reasonable expectations going forward. Bad debt often fluctuates from year to year due to factors such as colder weather (which may lead to higher bills) and general economic conditions, all of which can impact the ability of customers to pay. FortisBC proposes to adjust the Base O&M to reflect the 2014-2018 average bad debt expense of approximately \$1.8 million per year. Over the 2014-2018 time frame, FEI experienced highs and lows in bad debt expense that are representative of variations in the economy and other factors affecting bad debt expense. This five year average reflects the high in 2014 of over \$3 million and also the low of \$0.9 million in 2018.³²⁷ Using this five-year average for the Base O&M is appropriate as it is likely to be indicative of the range experienced over the five-year term of the Proposed MRP.³²⁸ In short, the \$0.9 million of bad debt expense experienced in 2018 cannot reasonably be considered to be representative of bad debt expense over the next five years and a five year historical average is a more appropriate starting point for the 2019 Base O&M.

2. ADJUSTMENTS NEEDED TO UPDATE FOR EXOGENOUS FACTORS, DEFERRALS AND FLOW-THROUGHS

264. Along with adjusting for the new Employer Health Tax, net of the Medical Services Plan (MSP) premiums reduction,³²⁹ FEI's Base O&M is adjusted for three deferral and two flow-through items that reflect FEI's current operating environment and which are consistent with existing deferral or flow through treatment of costs that are largely uncontrollable. Each is addressed below.

2.1 *FAES Overhead Recoveries Can be Incorporated into Base O&M*

265. FEI adjusted the Base O&M to reflect the fact that recoveries (i.e. revenue) from FortisBC Alternative Energy Services ("FAES") have stabilized at approximately \$140 thousand

³²⁷ Exhibit B-10, BCUC IR 1.25.7.

³²⁸ Exhibit B-12, BCUC IR 2.171.8.

³²⁹ Exhibit B-1, pp. C-20 to C-21. There were no IRs on this adjustment as it was discussed in the Annual Review.

per year, rather than the approximately \$0.9 million of revenue currently in Base O&M.³³⁰ While deferral treatment was appropriate when FAES was new and its business was evolving, the overhead recoveries from FAES³³¹ have been stable over the past few years and FortisBC does not expect any material changes to FAES's business or its reliance on FEI over the term of the Proposed MRP.³³² It is therefore appropriate to make the adjustment to FEI's Base O&M to reflect the much lower FAES recoveries, without any need for deferral treatment.

2.2 BCUC Levies are Uncontrollable Expenses Properly Forecast Each Year Outside of Base O&M

266. FEI reduced Base O&M by \$2.839 million³³³ to remove the costs of BCUC levies as these costs are outside of FEI's control, as they are set annually by the BCUC.³³⁴ FEI proposes instead that they be forecast outside of Base O&M, consistent with the treatment of other uncontrollable costs and the treatment of these costs prior to the 2014-2019 PBR Plans.³³⁵ As FEI has an approved deferral account for BCUC levies,³³⁶ FEI does not need a new deferral account to implement this change.

2.3 Natural Gas Innovation Funding will be Captured in the Innovation Funding Account

267. FEI is proposing to reduce Base O&M by \$0.409 million, which is the current level of funding for the Natural Gas Innovation Fund. FEI is proposing a deferral account for the Clean Growth Innovation Fund, which would include any funding for the Natural Gas Innovation Fund.³³⁷ The Innovation Fund is addressed in Part 8 of this Final Submission.

³³⁰ See Exhibit B-10, BCUC IR 1.26.3 for the calculation of these costs under the Proposed MRP.

³³¹ Exhibit B-10, BCUC IR 1.26.1.

³³² Exhibit B-12, BCUC IR 2.26.2.

³³³ Exhibit B-1, p. C-22 (as amended by Exhibit B-1-3).

³³⁴ Exhibit B-5, BCOAPO IR 1.84.1.

³³⁵ Exhibit B-1, p. C-22.

³³⁶ BCUC Order G-112-04, dated December 14, 2004. Online:
<https://www.ordersdecisions.bcuc.com/bcuc/orders/en/item/115621/index.do?q=G-112-04>

³³⁷ Exhibit B-1, p. C-22.

2.4 Cost of Integrity Digs Should be Flowed Through Given Uncontrollable Nature, Uncertainty and Safety Purpose

268. FEI has reduced Base O&M by \$2.6 million by removing the 2018 costs of integrity digs, and instead proposes to forecast integrity digs on an annual basis and treat them as a flow-through item. This treatment is warranted given their largely uncontrollable nature and the uncertainty related to scope, cost, timing and volume of expected integrity digs during the Proposed MRP term.³³⁸

269. The general principle is that uncontrollable costs should be treated as a flow through, rather than being subject to formula. The costs of integrity digs are largely uncontrollable as they are driven by compliance with regulatory requirements and industry standard practice with which FortisBC must keep pace.³³⁹

270. The costs of integrity digs are also highly uncertain. FEI described the difficulty with determining the costs of integrity digs as follows:³⁴⁰

It is challenging to predict the annual scope of this work and there is limited flexibility when scheduling the integrity digs. The scope of work required for integrity digs will have significant variation depending on location, surface and subsurface conditions, depth, proximity to geographic features (i.e., river crossings, environmental zones, and highways), season, and the number of imperfections requiring visual inspection. In addition, the actual work required to repair the imperfections is unknown until a physical inspection of the pipe is performed and an engineering assessment is complete. The cost of integrity digs will vary significantly and can range from \$0.010 million (e.g., shorter-length excavation site, accessible to equipment, minimal permits and environmental impacts, minimal site restoration costs) to \$0.150 million (e.g., dig below a remote stream location). The timing and volume of required digs is influenced by multiple factors including the number of imperfections requiring inspection/repair, and the kilometers of ILI run. Notably, when performing ILI in a pipeline for the first time, or when running a new ILI technology for the first time, the prediction of the quantity, site-specific location, and timing of digs is highly uncertain.

³³⁸ Exhibit B-1, pp. C-22 to C-23.

³³⁹ Exhibit B-10, BCUC IR 27.3; Exhibit B-12, BCUC IR 2.173.5.

³⁴⁰ Exhibit B-1, p. C-23.

271. The unpredictable nature of these costs is reflected in the fact that there is no meaningful correlation between kilometres of pipeline subject to in-line-inspection and the number of integrity digs.³⁴¹

272. Integrity dig costs are especially uncertain over the Proposed MRP term due to the potential impacts of the Inland Gas Upgrades (“IGU”) project, in which FEI proposes to provide in-line inspection capability to 11 laterals. FEI also expects to provide crack-detection in-line inspection capabilities for a number of larger diameter mainline pipelines as part of the Transmission Integrity Management Capabilities (“TIMC”) Project. These projects together will result in pipelines being in-line inspected for the first time, as well as pipelines being inspected with a new ILI technology for the first time. As a result, the quantity, site-specific location, and timing of digs is highly uncertain over the next five years.³⁴²

273. FEI’s proposed treatment of integrity dig costs is consistent with the treatment of other uncontrollable costs and relieves the constraints of index-based O&M on addressing pipeline safety issues. Flow through is therefore the recommended and most reasonable treatment for these costs, and the Base O&M should be reduced as proposed.

2.5 Update to Allocation of LNG O&M Costs between Base O&M and Flow Through

274. FEI’s Base O&M needs to be updated to take into account that the Tilbury Expansion Facility is in service and FEI’s natural gas for transportation service under Rate Schedule 46 has stabilized. First, given the more steady state of LNG operations, FEI’s controllable LNG O&M that is required to operate the facilities regardless of its use should be in the Base O&M, while LNG O&M that is driven by use (i.e. the volume of LNG production) should be treated as a flow through, as production volumes are variable and expected to increase over the next five years. Second, FEI requires an incremental increase of \$1.853 million to accurately represent a normal

³⁴¹ Exhibit B-10, BCUC IRs 1.27.5 and 1.32.8.

³⁴² Exhibit B-10, BCUC IR 1.27.3; Exhibit B-12, BCUC IR 2.172.5.

year's operation of its LNG facilities with the new Tilbury Expansion.³⁴³ These adjustments are discussed in more detail below.

275. The approach of treating the cost of providing natural gas for transportation ("NGT") service under Rate Schedule 46 as flow-through was appropriate when FEI's NGT service was in its infancy and costs were highly variable and uncertain. However, given the stability of the NGT service, LNG O&M costs should now be allocated between the Base and flow-through in a way that is more consistent with FEI's other O&M costs, as follows:

- (a) FEI has defined as "fixed" those LNG O&M costs required to operate the LNG plant, whether for peak shaving storage or LNG production for sales. These are "fixed" in the sense that they occur regardless of production volumes of LNG. However, these costs are within FEI's control and will be subject to inflation for services and materials or changes in regulation that may occur during the term of the Proposed MRP.³⁴⁴ It is appropriate to allocate these controllable "fixed" costs of the LNG operations within the Base O&M.
- (b) FEI has defined as "variable" those LNG O&M costs driven by the production of LNG, meaning the liquefaction of natural gas, the dispensing of LNG and the handling and loading of tankers to load LNG.³⁴⁵ These variable costs are appropriately treated as a flow-through because they are dependent on sales volumes which are difficult to forecast and expected to increase over time, and because the revenues from these volumes are also subject to flow through treatment.

276. The above approach provides a more transparent and objective allocation of LNG O&M relative to the current treatment which requires judgment to determine which costs are required to support Rate Schedule 46 vs. providing peaking service.³⁴⁶ The change in allocation

³⁴³ Exhibit B-1, pp. C-24 to C-29.

³⁴⁴ Exhibit B-12, BCUC IRs 2.173.9 and 2.173.10.1.

³⁴⁵ This division was illustrated in detail in the table in Exhibit B-12, BCUC IR 2.173.4.

³⁴⁶ Exhibit B-1, p. C-26.

will not change the total costs, but results in an increase to the Base O&M with a corresponding decrease in flow-through costs.

277. FEI also requires an incremental increase of \$1.853 million to accurately represent a normal year's operation of the Tilbury Expansion and the annual operating costs needed to operate and maintain the LNG facilities safely and in compliance with regulations and permit requirements. As the plant size of the Tilbury Expansion is approximately seven times larger than the previous Tilbury base plant, more equipment and processes are required to operate and maintain the expanded Tilbury facility.³⁴⁷ The increase in costs is also driven by regulatory compliance requirements for LNG facilities recently issued by the BC Oil and Gas Commission ("BCOGC"). The BC OGC requires that all LNG facilities comply with Canadian Standards Association (CSA) standard CSA-Z276, including the development and maintenance of a safety and loss management program. In 2017, the BCOGC required permit holders to conduct self-assessments of their safety and loss management programs, and in 2018 the BCOGC issued required standards of performance and began auditing safety and loss management programs.³⁴⁸

278. Overall, the evidence³⁴⁹ shows that FEI's incremental new funding for its LNG facilities is needed and is an accurate reflection of its annual costs, recognizing that these costs will be subject to inflation and other changes due to factors such as regulatory requirements.

3. INCREMENTAL FUNDING IS NEEDED TO RESPOND TO SIGNIFICANT CHANGES IN OPERATING ENVIRONMENT

279. FEI's Base O&M requires an increase of \$10.416 million to address the significant changes in its operating environment as discussed in Part Two of this Final Submission. These incremental funding requests are to address needs that otherwise could not be addressed by

³⁴⁷ Exhibit B-1, pp. C-24 and C-27.

³⁴⁸ Exhibit B-1, p. C-28.

³⁴⁹ Exhibit B-10, BCUC IRs 1.28.8 to 1.28.13; Exhibit B-5, BCOAPO IRs 1.35.1 to 1.35.4; Exhibit B-12, BCUC IRs 2.173.1 to 2.173.10.

indexed O&M.³⁵⁰ As discussed in detail in the Application³⁵¹ and responses to IRs,³⁵² FortisBC is facing significant and challenging changes in its operating environment, including decarbonization policy from all levels of government, rising customer service expectations, increased need for engagement with stakeholders and indigenous communities, aging infrastructure and need for innovation and adoption of new technologies. The incremental funding requests are needed to increase Base O&M so that FortisBC can adequately respond to these changes and challenges.

280. The table below from the Application organizes the incremental O&M funding required by the key influences in FEI's evolving operating environment discussed in detail in Section B of the Application:

Table C2-7: FEI New Funding for the Term of Proposed MRP

| Incremental to Base | \$ millions |
|---|--------------------|
| Customer Expectations | \$ 1.360 |
| Engagement | \$ 3.360 |
| Indigenous Relations | \$ 0.888 |
| System Operations, Integrity and Security | \$ 4.808 |
| Total | \$ 10.416 |

281. The need for each of these incremental funding areas is addressed in the sections below.

3.1 Customer Expectations – Connect to Gas Activities

282. To address the key influence of changing customer expectations as described in Part Two of this Final Submission,³⁵³ FEI needs resources to broaden its Connect to Gas activities which support the addition of new customers, foster customer retention and help increase the adoption of natural gas appliances.³⁵⁴

³⁵⁰ Exhibit B-10, BCUC IR 1.29.1.1.

³⁵¹ Exhibit B-1, Section B1.

³⁵² See, for example, Exhibit B-10, BCUC IR 1.1.1.

³⁵³ Exhibit B-1, Section B.1.3.

³⁵⁴ Exhibit B-1, pp. C-29 to C-35.

283. The need to broaden Connect to Gas activities is supported by strong customer demand for FEI's services. FEI's growth in new customer attachments and residential market share demonstrates that there is strong customer desire and preference for natural gas, due to convenience and comfort of natural gas appliances as well as the fact that natural gas is substantially less expensive than other energy sources. To date, FEI's efforts to attract and retain customers have been beneficial to existing customers as the addition of new customers helps spread fixed cost over a greater base, helping to offset rate pressures.³⁵⁵ FEI should continue to increase these efforts for the benefit of existing and future customers.

284. Furthermore, while FEI has been successful in recent years in adding customers, FEI needs to increase efforts in response to multiple factors constraining or restricting the adoption of natural gas in the market.³⁵⁶ These factors include electrification of buildings under the CleanBC Plan, municipal adoption of increasingly stringent levels of the BC Energy Step Code, and municipal climate emergency declarations and the growing adoption of 100 percent renewable energy mandates by 2050, all of which place downwards pressure on the use of natural gas.³⁵⁷ Given these policies at all levels of government, FEI's current level of effort will not be sufficient and FEI needs to increase its investment in the Connect to Gas program to continue to add and retain customers, which helps keep natural gas rates low for all customers.³⁵⁸

285. FEI's existing Connect to Gas activities are also insufficient as FEI has mostly focused its activities on Vancouver Island, and has spent little on stakeholder engagement with builders, developers, and manufacturers for the purpose of advancing gas technology, adoption and use. There is therefore a need to broaden FEI's Connect to Gas activities to grow and retain customers in the face of the multiple challenges facing the utility.³⁵⁹ This need is underscored by the low or declining levels of natural gas literacy, indicated in the 2018 survey by Sentis

³⁵⁵ Exhibit B-1, BCUC IR 1.6.3.

³⁵⁶ Exhibit B-10, BCUC IR 1.30.3.1.

³⁵⁷ Exhibit B-10, BCUC IRs 1.1.1 and 1.30.5.

³⁵⁸ Exhibit B-10, BCUC IR 1.30.4.

³⁵⁹ Exhibit B-10, BCUC IRs 1.30.2, 1.30.11, and 1.30.12; Exhibit B-12, BCUC IRs 2.173.3 and 2.173.4.

Market Research Inc., the research by Innovative Research Group in 2018, and FEI's own experience in fielding thousands of enquiries each year. For example, the work by Innovative Research Group in 2018 revealed that 48 percent of respondents thought that natural gas was the same price or more than electricity.³⁶⁰ Given the multiple downward pressures on natural gas usage, FEI needs additional resources to increase its Connect to Gas activities to increase gas literacy and bring its services to new customers throughout the province.

286. Given this need for continued investment, FortisBC requires the following incremental funding amounts for Connect to Gas activities:

- (a) **Advertising – New Customer Additions and Conversions** (\$0.600 million): FEI needs to increase its communication efforts to make customers aware of the programs under the “Connect to Gas” umbrella and the incentives available to assist customers in switching to natural gas. Advertising initiatives to date have produced positive results, and FEI needs to increase its communications efforts to maintain or grow throughput on the system by educating and informing customers about the use of natural gas.³⁶¹ FEI provided a detailed breakdown on its current plan for advertising in response to BCUC IR 1.30.9.

- (b) **Natural Gas Use and Appliance Incentives** (\$0.350 million): FEI needs additional incentive funds to attract customers and increase the adoption of natural gas appliances, which have a higher up-front capital cost compared to alternatives.³⁶² The opportunity is illustrated by the fact that there are over 54,000 customers in the Vancouver Island area who are within 30 metres of a natural gas main and would benefit from accessing the Connect to Gas program. Participant results to date confirm that customers consumed less energy, reduced GHG emissions and lowered their operational costs as a result of connecting to lower cost natural gas and using high efficiency natural gas

³⁶⁰ Exhibit B-10, BCUC IRs 1.30.10 and 1.30.11.

³⁶¹ Exhibit B-1, p. C-31.

³⁶² Exhibit B-1, p. C-31; Exhibit B-10, BCUC IRs 1.30.2 and 1.30.15.

equipment. Incentives are proven to be effective as FEI has seen a 150 percent increase in conversion customers since 2014, from 1,799 to 4,486.³⁶³

- (c) **Collaboration with Stakeholders** (\$0.250 million): As discussed above, FEI's Connect to Gas stakeholder engagement efforts have thus far been focused on Vancouver Island. FEI needs to increase its engagement and collaboration with market influencers that have an impact on the acceptance and adoption of natural gas including builders, developers, architects, appliance manufacturers and distributors. FEI needs to engage closely with such partners, including investment in activities such as lunch and learn sessions, campaigns, collaborative case studies and pilot programs.³⁶⁴

3.2 Customer Expectations – In-House Resources

287. To address the key influence of changing customer expectations as described in Part Two of this Final Submission,³⁶⁵ FEI also requires additional in-house resources, including a Digital Advisor and a Communications Writer/Researcher, to support customer communication activities. The total funding required is \$0.200 million with FEI's share \$0.160 million (80 percent) and FBC's share \$0.040 million (20 percent), based on the approximate number of employees in each.³⁶⁶ The two positions are described in detail in response to BCUC IR 1.30.25 and 1.31.14, including relevant media platforms and specific roles and responsibilities.³⁶⁷ The need for these positions stems from changing customer preferences in favour of non-traditional communications channels. FortisBC's customers value ease of interaction, convenience, and responsiveness, and now expect flexible communication channels, such as text messaging, mobile applications and social media.³⁶⁸ While FortisBC has been using non-traditional communication channels, the growth in demand for online platforms is growing. For example,

³⁶³ Exhibit B-1, p. C-32.

³⁶⁴ Exhibit B-1, p. C-32.

³⁶⁵ Exhibit B-1, Section B.1.3.

³⁶⁶ Exhibit B-1, p. C-32; Exhibit 10, BCUC IR 1.39.1.

³⁶⁷ Exhibit B-10, BCUC IRs 1.30.25 and 1.31.14.

³⁶⁸ Exhibit B-1, p. C-32.

the percent of customers preferring Account Online as their communication channel increased from 16 percent to 28 percent between 2013 and 2018.³⁶⁹ The additional resources are needed to meet this customer demand, which will also enable FEI to engage with its customers more closely as an energy advisor.

288. FEI also clarified through a detailed comparison of job descriptions that the \$0.160 million for the Digital Advisor and the Communications Writer/Researcher positions are separate and distinct from the Digital Communications Advisor position and related costs discussed in section 3.5 below, which also require \$0.160 million.³⁷⁰ The fact that the funding level is the same is a coincidence.

3.3 Engagement - Raising Awareness for Consumers in a Lower Carbon Future

289. To respond to the key influence of increased expectations for public consultation and engagement described in Part Two of this Final Submission,³⁷¹ FEI requires an incremental \$2 million in funding to raise awareness of the important role of natural gas and FEI's infrastructure in supporting the transition to a lower carbon future. FEI delivers affordable, clean-burning natural gas to over one million customers in the province while also providing innovative energy solutions, including RNG, NGT and DSM programs. Communicating this message is key to developing new demand and retaining customers who expect FEI to bring forward innovative, cost effective energy solutions with lower emissions.³⁷²

290. FEI clarified in response to IRs that the funding for "Raising Awareness for Consumers in a Lower Carbon Future" has a different purpose, message, and audience than FEI's Connect to Gas activities. The funding for "Raising Awareness for Consumers in a Lower Carbon Future" is seeking to increasing awareness of the role of natural gas within a lower carbon economy to the public broadly. In contrast, Connect to Gas seeks to promote the adoption of natural gas

³⁶⁹ Exhibit B-10, BCUC IR 1.30.24.

³⁷⁰ Exhibit B-10, BCUC IRs 1.30.25 and 1.31.14.

³⁷¹ Exhibit B-1, Section B1.4.

³⁷² Exhibit B-1, p. C-34.

appliances and solutions in homes and businesses, aimed predominantly at builders, developers, architects, engineers, equipment manufacturers, and contractors. The messaging for Connect to Gas is technology focused, designed to influence the selection of equipment. The messaging for Raising Awareness for Consumers in a Lower Carbon Future is about the benefits of natural gas as an energy source and its economic, social and environment roles that are beyond messaging for benefits for cooking and heating with natural gas. Therefore, the two programs require the development of separate content, separate communications streams, events, workshops, sponsorships and advertising targeted at different audiences.³⁷³

3.4 Engagement - Climate Action Partners Program

291. To respond to the key influence of increased expectations for public consultation and engagement described in Part Two of this Final Submission,³⁷⁴ FEI also requires \$1 million for its Climate Action Partners Program which aims to educate stakeholders on FEI's energy offerings and on the role of the gas delivery system in driving progress toward the province's CleanBC Plan targets. More specifically, the Climate Action Partners program involves the development of work plans that meet the needs of the host organization, which FortisBC and the host agree upon before funding is committed for a qualified Senior Energy Specialist. The Senior Energy Specialist then completes the deliverables in the work plan and reports to FortisBC.³⁷⁵ Seven municipalities currently participate in the Climate Action partners program: City of Surrey; City of Victoria; District of Saanich; City of Kamloops; City of Kelowna; Regional District of Central Kootenay; and Regional District of Kootenay Boundary.³⁷⁶

292. The Senior Energy Specialist roles support and promote the use of FortisBC's energy solutions and are a central part of FEI's response to rapidly changing climate policy. Without FortisBC's active participation and engagement through the Senior Energy Specialist roles, and the Climate Action Partners program more broadly, FEI's services are often not considered in government climate plans and activities to shift the Province toward a lower carbon economy.

³⁷³ Exhibit B-10, BCUC IRs 1.31.4 and 1.31.11; Exhibit B-12, BCUC IRs 2.175.1 and 2.175.2.

³⁷⁴ Exhibit B-1, Section B1.4.

³⁷⁵ Exhibit B-10, BCUC IR 1.31.9.

³⁷⁶ Exhibit B-10, BCUC IR 1.31.8.

In a rapidly evolving energy market as there is today, a necessary part of FEI's operations is its response to policy and its ability to influence the course of change in the industry.³⁷⁷

293. The requested funding will: (1) fund additional Senior Energy Specialist roles³⁷⁸ that are in demand from various levels of government, Indigenous communities and other organizations; (2) expand partnerships with Indigenous communities, non-profit and academic organizations to strategically support initiatives to educate, promote and implement low-carbon solutions; and (3) provide targeted support to stakeholders.³⁷⁹

294. Overall, this incremental funding is justified as FEI needs to increase relationship building efforts with federal, provincial and local governments on policy planning and implementation given government policies aimed at electrification or otherwise restricting natural gas use. FEI must work with stakeholders to ensure that FEI's services and customer interest are considered.³⁸⁰

295. FortisBC clarified that the funding for the Climate Action Partners program is different than, and should not be confused with, "Indigenous Community Investments". Climate Action Partners program funding is not focused on building capacity, training, projects and community investment in the Indigenous communities in which FortisBC operates, and would not meet FEI's Community Investment criteria. It therefore cannot be grouped with FEI's "Indigenous Community Investments" funding.³⁸¹

³⁷⁷ Exhibit B-10, BCUC IR 1.31.10.

³⁷⁸ The Senior Energy Specialist roles are funded by multiple sources, as the Senior Energy Specialists work on a variety of low carbon initiatives such as Demand Side Management (DSM), RNG, and NGT. FEI and FBC DSM funding approved in the 2019-2022 DSM plans for Senior Energy Specialist roles is \$0.900 million collectively. There is also partial funding of \$0.180 million from NGT. (Exhibit B-10, BCUC IRs 1.31.6 and 1.31.7.)

³⁷⁹ Exhibit B-1, p. C-35.

³⁸⁰ Exhibit B-1, p. C-35.

³⁸¹ Exhibit B-10, BCUC IR 1.31.12.1.

3.5 Engagement – Other Supporting Resources

296. To respond to the key influence of increased expectations for public consultation and engagement described in Part Two of this Final Submission,³⁸² \$0.360 million is also required for resources to support increase consultation with stakeholders and right holders.³⁸³

297. This funding includes \$0.200 million in total for FEI and FBC, for a Digital Communications Advisor and costs required to support ongoing changes to and draft additional content for web-based platforms to communicate with customers and school-based stakeholders. FEI's share is \$0.160 million (80 percent) and FBC's share \$0.040 million (20 percent). The Digital Communications Advisor would support FortisBC's Talking Energy and Energy Leaders microsites and corresponding communications. FEI clarified that the \$0.160 million requested by FEI for this position and supporting costs is separate and distinct from the Digital Advisor and Communications Writer/Researcher positions which also require \$0.160 million.³⁸⁴ The fact that the funding level is the same is a coincidence.

298. This funding also includes \$0.200 million³⁸⁵ for early stage policy and program development including legal fees associated with regulatory developments. The need for this funding includes the costs of research into jurisdictional considerations pertaining to potential overlap between the federal government's Clean Fuel Standard and the Provincial government's Renewable and Low Carbon Fuel Requirements Regulation. Investigation of legal considerations at the early stages of policy and regulatory development will enable more timely and effective customer advocacy for policies and regulations that will mitigate risk and increase customer benefits by reducing longer-term compliance costs. FEI's existing legal resources are not sufficient for these tasks due to capacity constraints or because these are new and developing policy areas.³⁸⁶

³⁸² Exhibit B-1, Section B1.4.

³⁸³ Exhibit B-1, p. C-35.

³⁸⁴ Exhibit B-10, BCUC IR 1.30.25.

³⁸⁵ Exhibit B-1, p. C-36.

³⁸⁶ Exhibit B-10, BCUC IR 1.31.15.

3.6 Indigenous Relations

299. Incremental funding of \$0.888 million is required to respond to the expanding need for Indigenous relations efforts, as discussed in Section B1.4.1 of the Application. As a key illustration of the changes in this area, on October 24, 2019, B.C. became the first province in Canada to introduce legislation to implement the UNDRIP.³⁸⁷ As FEI's service territory crosses more than 150 Indigenous traditional territories and serves Indigenous reserve communities, Indigenous relationships are critical to continue to provide safe and reliable utility service through capital projects. As such, policy changes in this area can have a large impact on FEI's resource requirements.³⁸⁸

300. FEI's proposed incremental funding requests to renew and strengthen Indigenous relationships, particularly with respect to access to land, are as follows:

- (a) **Relationship Protocol Agreements with the Indigenous Community:** FEI requires \$0.488 million for two additional positions and support funding given the elevated status of UNDRIP implementation at both the federal and provincial levels of government. The resources are needed to enhance FEI's consultations with Indigenous communities and begin modernizing Indigenous operating arrangements. Annual increases in related legal costs for negotiations, engagement and capacity funding will also be required. The consequence of not undertaking this work is failing to obtain project permit approvals, license to operate throughout Indigenous communities as well as a higher cost to implement projects in the longer term if engagement and consultation are not addressed upfront.
- (b) **Indigenous Community Investments:** Additional funding of \$0.200 million for community investments and sponsorship is required to build capacity in the

³⁸⁷ Bill 41-2019: Declaration on the Rights of Indigenous Peoples Act. Online: <https://www.leg.bc.ca/parliamentary-business/legislation-debates-proceedings/41st-parliament/4th-session/bills/first-reading/gov41-1>.

³⁸⁸ Exhibit B-5, BCOAPO IR 1.37.1.

Indigenous communities in which FortisBC operates, and is also related to the changing external environment and increased expectations for engagement.

- (c) **Indigenous Supporting Resources:** FEI requires \$0.140 million for an Indigenous Employment Advisor to support Indigenous activities. This position will focus on the employment, training, awareness and engagement of Indigenous candidates. An additional \$0.060 million is required for consultant support to help with the upcoming Indigenous land code issues.

301. In response to CEC IR 1.7.4, FEI provided additional evidence supporting the increased need to engage stakeholders and Indigenous communities, including a description of Bill C-69 regarding the new environmental assessment process, which received royal assent on June 21, 2019.³⁸⁹ The evidence shows that FEI's incremental funding requests in this area are reasonable and should be granted.

3.7 System Operations, Integrity and Security – Integrity Management

302. In response to the key influence of FEI's operational needs as discussed in Section B.1.5 of the Application, FEI needs incremental funding of \$1.350 million related to integrity management. Due to FEI's aging infrastructure, there is an increasing risk of time-dependent failure mechanisms, such as corrosion. To manage these risks of failure, FEI needs to expand its Integrity Management Plan for pipeline assets to include facilities (e.g., compressor stations), to perform incremental asset condition assessments of non-piggable assets (e.g., non-piggable laterals and buried facilities piping), and to enhance its current lifecycle integrity management practices for its transmission pipelines.³⁹⁰ FEI must carry out these new integrity management activities to maintain the integrity of its aging assets in compliance with regulatory

³⁸⁹ An Act to enact the Impact Assessment Act and the Canadian Energy Regulator Act, to amend the Navigation Protection Act and to make consequential amendments to other Acts, Statutes of Canada, Chapter 28. Online: <https://www.parl.ca/DocumentViewer/en/42-1/bill/C-69/royal-assent>.

³⁹⁰ Exhibit B-1, p. C-38.

requirements of the BC OGC under the *Pipeline Act*,³⁹¹ and to remain consistent with industry practice.³⁹²

3.8 System Operations, Integrity and Security – Maintaining System Infrastructure

303. In response to the key influence of FEI's operational needs as discussed in Section B.1.5 of the Application, \$0.700 million is required related to maintaining system infrastructure. FEI needs to hire a Maintenance Planning Engineer and a Maintenance Planner to enable continuous improvement of FEI's asset management strategy. As FEI adds new assets each year and technology advances, equipment and systems are more complex and need more site or asset-specific maintenance planning and execution. Existing infrastructure is also aging and requires more frequent maintenance to extend its life, and minimize life cycle costs. FEI also needs to begin maintenance activities on line heaters on Vancouver Island that previously could not be taken out of service due to lack of redundancy. Maintaining both aging and new infrastructure appropriately helps prevent major outages, ensures security of supply, and enables the system to operate according to design parameters.³⁹³

3.9 System Operations, Integrity and Security – Operations Compliance and Safety

304. In response to the key influence of FEI's operational needs as discussed in Section B.1.5 of the Application, \$0.600 million is required for operations compliance and safety. FEI needs additional construction crews and Operational Support Representatives to comply with evolving codes, regulations, internal standards and industry practices. FEI identified the following items driving the need for additional resources:³⁹⁴

- **Vehicle Safety:** Improving vehicle safety by implementing improved vehicle ergonomics and outfitting the fleet with minor enhancements such as slip resistant steps, improved binning, and high visibility stripping as required.

³⁹¹ Specifically, Standard CSA Z662-15, published in June 2015.

³⁹² Exhibit B-10, BCUC IR 1.32.3.

³⁹³ Exhibit B-1, p. C-39.

³⁹⁴ Exhibit B-1, p. C-39; Exhibit B-5, BCOAPO IR 1.40.13.

- **Encroachments:** FEI is experiencing right of way encroachments that are limiting the ability to access the pipelines safely and reliably. Legal guidance is needed to successfully resolve the encroachment issues.
- **BC One Call:** Responding within 48 hours to requests for information from people planning to dig around underground gas assets is a legal responsibility in the Gas Safety Act. BC One Call Ticket volumes continue to increase annually and additional resources are required to meet response time requirements in the best interests of customers and improve public safety in and around gas lines.
- **FEI Construction Crew Resources:** FEI needs additional construction crews because of retirements and increased maintenance requirements. Funding is required for the training of these employees.

3.10 System Operations, Integrity and Security – Cyber Security

305. In response to the key influence of FEI's operational needs as discussed in Section B.1.5 of the Application, \$0.508 million is required for cyber security. Consistent with past years, FortisBC needs to increase expenditures for cyber security to respond to evolving cyber risks. As malicious persons are becoming more advanced, there has been an increase in phishing scams, online, via phone and in person. These scams are targeting FortisBC customers with the goal of gaining access to customer funds or information. To prevent these types of scams from being successful, additional resources are needed to implement and maintain technologies that recognize and address the increased threat landscape, support the ability to respond to cyber security events, keep the Companies' systems secure, and manage risk to the gas distribution system. New resources are also required to actively identify and respond to cyber security threats through participation in industry groups, security audits and internal investigations. The funding will be for three positions: one customer-focused cyber security position (shared between FEI and FBC) and two operational technology cyber security positions, each at an average cost of \$0.150 million per position. The remaining costs are for managed service and tools such as increased end-point licensing and enhanced security awareness to secure, and manage risk to the gas distribution system while maintaining reliability.³⁹⁵

³⁹⁵ Exhibit B-1, p. C-40.

3.11 System Operations, Integrity and Security – Data Analytics

306. In response to the key influence of FEI’s operational needs as discussed in Section B.1.5 of the Application, \$0.300 million is required for data analytics. As described in the Application, data analytics is the process of extracting and analyzing data sets to identify or uncover patterns, correlations, trends, customer preferences and other information for the purpose of allowing more informed business decisions. The requested funding is for additional staff required to support the increased use of data analytics at FortisBC. (The costs are shared - \$0.300 million for FEI and \$0.099 million for FBC.) Data analytics initiatives will use FortisBC’s data to reduce planned customer outages, improve asset management, optimize workforce deployment, and predict gas line hits.³⁹⁶

3.12 System Operations, Integrity and Security – Gas Control

307. In response to the key influence of FEI’s operational needs as discussed in Section B1.5 of the Application, \$0.650 million is required for gas control. FEI needs incremental funding for four additional gas controller positions to provide two-person Gas Control room coverage on a 24/7 basis, and additional SCADA communications lines to enable system monitoring of increased field devices. The proposed Gas Control staffing level is necessary to ensure FEI will be able to meet the requirements of its customers, align with industry standards, and continue to operate in a safe and reliable manner. FEI’s current staffing levels allow two persons during the day and one person at night to oversee the entire province of BC, with occasional gaps of only one person during the day as well. These current levels present increasing challenges in responding to alarms and emergencies in a progressively complex and demanding operational environment. They are also among the lowest coverage levels compared to regional industry peers, both local distribution and transmission pipeline companies. The proposed increased staffing will bring FEI’s Gas Control Room coverage up to two Gas Controllers at all times, on a 24/7 basis. This will provide more appropriate coverage for normal FEI operational requirements so that there are enough resources and attention devoted to monitoring and

³⁹⁶ Exhibit B-1, p. C-41.

ensuring the safe operation of the entire FEI gas network.³⁹⁷ There are no Canadian control room codes or standards, but the Canadian Energy Pipelines Association follows the U.S. Control Room Management Regulation, developed by the Pipeline & Hazardous Materials Safety Administration.³⁹⁸ At this time, the incremental funding will be sufficient for FEI to meet this industry standard, meet the requirements of its customers, as well as allow FEI to operate in a safe and reliable manner.³⁹⁹ Bringing FEI's control staff to 12 will bring FEI into the lower end of the range of control staffing at comparable local distribution companies.⁴⁰⁰

3.13 System Operations, Integrity and Security – Canadian Energy Pipelines Association (“CEPA”) Participation

308. In response to the key influence of FEI's operational needs as discussed in Section B1.5 of the Application, \$0.700 million is required for CEPA participation. FEI has been a member of CEPA since 2008, and in 2019 joined CEPA as an Integrity First Partner.⁴⁰¹ Integrity First is CEPA's framework to drive continual improvement and benchmarking, which is a core requirements for FEI under the *Pipeline Regulation*.⁴⁰² Participation as an Integrity First Partner obligates FEI to the fundamental elements of Integrity First, including a commitment to continual improvement, development of rigorous standards, and on-going independent verification, which will be evaluated through external audits.⁴⁰³ The incremental costs associated with this new level of CEPA Membership are as follows:

- \$0.100 million of funding is needed for increased annual membership fees and \$0.300 million in additional integrity management resources to meet the required CEPA performance level (i.e., level 3, “Continually Improving”).⁴⁰⁴

³⁹⁷ Exhibit B-1, pp. C-41 to C-42.

³⁹⁸ Exhibit B-10, BCUC IR 1.33.1.

³⁹⁹ Exhibit B-10, BCUC IR 1.33.2.

⁴⁰⁰ Exhibit B-10, BCUC IR 1.33.3.

⁴⁰¹ Exhibit B-1, Section B1.5.1.3,

⁴⁰² Exhibit B-5, BCOAPO IR 1.40.8.

⁴⁰³ Exhibit B-1, p. B-18.

⁴⁰⁴ Exhibit B-5, BCOAPO IR 1.40.18.

During 2019, FEI will be working with CEPA to establish a baseline performance level and an action plan for any areas identified as requiring improvements.⁴⁰⁵

- \$0.300 million is required for Gas Control costs to bring FEI into alignment with industry standard practice.⁴⁰⁶ The costs are comprised of \$0.165 million for a Gas Control employee to handle the additional auditing, reviewing and reporting duties and \$0.135 million for non-labour expenditures required for the implementation of CEPA defined control room management practices as part of CEPA membership requirements. Control room management improvements driven by CEPA are focused on risk reduction, such as improved SCADA system security, quicker operator response times, and minimization of operator risk. These improvements include the development and implementation of cyber security policies, alarm management philosophy, emergency response protocols, and operator fatigue management strategies.⁴⁰⁷

E. FBC'S BASE O&M REFLECTS APPROPRIATE ADJUSTMENTS TO ADDRESS KNOWN CHANGES AND EVOLVING OPERATING ENVIRONMENT

309. This section addresses in detail the specific calculation of FBC's 2019 Base O&M. FBC's proposed 2019 Base O&M on a per customer basis is to \$416, which is derived from a total 2019 Base O&M of \$57.670 million divided by 138,649 customers (12-month average number of customers).⁴⁰⁸ This is approximately 9 percent less than the 2013 Actual Formula O&M per customer of \$457. As detailed below, the adjustments to arrive at the Base O&M per customer amounts are each reasonable and appropriate and needed to provide the right starting point for the Proposed MRP. As noted in the Introduction of this Final Submission, FBC proposes to update the 2019 Base O&M per customer amount for the 2019 actual average of customers in its compliance filing.

310. The calculation of FBC's proposed 2019 Base O&M begins with 2018 actual O&M, which is representative of FBC's required level of O&M funding in that year and reflects efficiencies and productivity improvements achieved under the Current PBR Plan. To set the appropriate

⁴⁰⁵ Exhibit B-1, p. C-42.

⁴⁰⁶ Exhibit B-5, BCOAPO IR 1.40.18.

⁴⁰⁷ Exhibit B-1, p. C-42.

⁴⁰⁸ Exhibit B-1, p. C-44 (as updated by Exhibit B-1-3).

starting point for O&M expenditures for the Proposed MRPs the following adjustments to the 2018 actual O&M are needed:

- (a) Temporary O&M net savings included in the 2018 actual expenditures need to be added back to reasonably reflect ongoing costs, and an adjustment needs to be made to reflect the updated shared and corporate services costs as set out in Part Ten of this Final Submission;
- (b) To adjust from 2018 to 2019, the 2018 amount needs to be multiplied by the 2019 formula inflator, as approved in the Annual Review for 2019 Rates;
- (c) Additions and subtractions are needed to reflect (i) approved 2019 exogenous items which should now be in Base O&M, (ii) items held in deferral accounts in the Current PBR Plan that are now included in Base O&M, and (iii) items currently in O&M that will be recorded in a deferral account in the Proposed MRPs; and
- (d) Additions are needed for the incremental funding required for the term of the Proposed MRPs.

311. All of the adjustments are shown in Table C2-14 of the Application, as amended,⁴⁰⁹ which is reproduced below for reference.

⁴⁰⁹ Exhibit B-1-3.

Table C2-14: FBC 2019 Base O&M⁴¹⁰

| | |
|---|------------------|
| 2018 actual Base O&M | \$ 53.839 |
| Add temporary savings | 0.500 |
| Shared Services Studies Impact | 0.338 |
| Deduct 2018 actual FHI services direct charged to FBC | (1.023) |
| Deduct 2018 actual FI services direct charged to FBC | <u>(1.615)</u> |
| Adjusted 2018 Base O&M | \$ 52.039 |
| 2019 Inflation | <u>1.02382</u> |
| 2019 Base O&M before adjustments | <u>\$ 53.279</u> |
| <u>Adjustments:</u> | |
| Exogenous Factors: | |
| 2019 Z factor (EHT net of MSP) | 0.240 |
| 2019 Z factor - MRS | 1.540 |
| Deferrals: | |
| Manual meter read | 0.180 |
| Flow Through treatment: | |
| AMI Project cost reductions | (1.161) |
| BCUC levies | (0.237) |
| 2019 Normalized Forecast FHI Management Fee | 3.374 |
| FBC Costs included in FHI Corporate Services | (0.308) |
| Total adjustments | <u>3.628</u> |
| New funding for MRP term | <u>\$ 0.763</u> |
| 2019 Base O&M | <u>\$ 57.670</u> |

312. The key adjustments to the 2018 Actual amounts that were the subject of IRs are discussed below.

1. ADDBACK OF TEMPORARY O&M NET SAVINGS NECESSARY TO REASONABLY REFLECT ONGOING COSTS

313. The first adjustment is needed to set the Base O&M is to recognize that a portion of the \$0.940 million net savings that FBC achieved in 2018 were temporary – that is, it is not expected to be repeated in following years. This addback is necessary to ensure that the appropriate level of O&M funding is included in the 2019 O&M Base for the term of the Proposed MRP. Specifically, of the net savings that FBC achieved in 2018, approximately \$0.5

⁴¹⁰ Corporate/Shared Service Impact is comprised of the 2019 amount of \$0.428 million for Corporate Services (Section D5) and \$0.338 million for Shared Services impact (Section D4).

million for bad debts were temporary savings that are not sustainable and will be required in the Proposed MRP term.⁴¹¹

314. FBC's 2018 bad debt expense of \$0.5 million was unusually low compared to the historical five year average of \$1 million, which requires an adjustment to FBC's Base O&M to reflect a reasonable expectation for costs going forward.⁴¹² Bad debt often fluctuates from year to year due to factors such as colder weather (which may lead to higher bills) and general economic conditions, all of which can impact the ability of customers to pay. FBC proposes to adjust the Base O&M to reflect the 2013-2018 historical average of \$1 million which is likely to be indicative of the range experienced over the five-year term of the Proposed MRP.⁴¹³ The \$0.5 million of bad debt expense experienced in 2018 cannot reasonably be considered to be representative of bad debt expense over the next five years and, as such, using a five year historical average is a more appropriate starting point for the 2019 Base O&M.

2. ADJUSTMENTS NEEDED TO UPDATE FOR EXOGENOUS FACTORS, DEFERRALS AND FLOW-THROUGHS

315. Along with adjusting for the new Employer Health Tax, net of the Medical Services Plan (MSP) premiums reduction,⁴¹⁴ FBC's Base O&M is adjusted for one other exogenous factor, one deferral, and two flow-through items that reflect FBC's current operating environment and which are consistent with existing deferral or flow through treatment of costs that are largely uncontrollable. Each is addressed below.

2.1 *Incremental Costs to Comply with Mandatory Reliability Standards Can Now be Incorporated into Base O&M*

316. FBC's Base O&M should be adjusted to include the incremental costs to comply with Mandatory Reliability Standards ("MRS") that were approved for recovery during the Current PBR Plan as exogenous factors. During the Current PBR Plan, the BCUC approved exogenous

⁴¹¹ Exhibit B-1, pp. C-44 to C-45.

⁴¹² Exhibit B-10, BCUC IR 1.35.2.

⁴¹³ Exhibit B-12, BCUC IR 2.171.8.

⁴¹⁴ Exhibit B-1, pp. C-20 to C-21. There were no IRs on this adjustment.

factor treatment of FBC's costs to comply with Assessment Report ("AR") No. 8 and AR No. 10, which are required by law.⁴¹⁵ FBC is proposing to increase the Base O&M by \$0.940 million to reflect the amount required in 2019 for ongoing compliance with these standards and an additional \$0.600 million for the expected increase in costs beginning in 2020 to maintain compliance with AR No. 10.⁴¹⁶

317. While FBC's one-time costs of compliance have been completed, FBC must now incur annual costs to maintain compliance on an ongoing basis. The ongoing annual O&M costs to comply with AR No. 8 primarily includes labour and annual licensing fees required to maintain compliance with CIP v5 related to physical and cyber security controls, continuous monitoring, change management, patch management and vulnerability assessments. The ongoing annual O&M costs required to comply with AR No. 10 are to support and maintain Real Time Contingency Analysis software, outage coordination tool to comply with Reliability Coordinator processes, operational planning analysis and daily assessments.⁴¹⁷

318. FBC's proposal to include these MRS compliance costs within Base O&M is consistent with the treatment of MRS compliance costs under the Current PBR Plan and will provide an incentive for FBC to manage these costs efficiently.⁴¹⁸

2.2 Manual Meter Reading Costs Should Now be Included in Base O&M Given Approval to End Deferral of these Expenses

319. FBC's Base O&M should be adjusted to reflect the cost of manual meter reading that will no longer be deferred.⁴¹⁹ Pursuant to Order G-30-19, effective January 1, 2020, FBC will eliminate the use of the Radio-off Shortfall deferral account to record manual meter read costs. Therefore, the cost of the meter reads will be recorded in O&M expense, resulting in an increase to the 2019 Base O&M of \$0.180 million which is FBC's estimate of the cost to perform the meter reads. The \$0.180 million estimate is based on an estimated 2,300 radio-off meters,

⁴¹⁵ Order G-246-18 and Decision, page 11.

⁴¹⁶ Exhibit B-1, p. C-45; Exhibit B-12, BCUC IRs 2.178.7 and 2.178.8.

⁴¹⁷ Exhibit B-12, BCUC IRs 1.178.5 and 1.178.6.

⁴¹⁸ Exhibit B-10, BCUC IR 1.36.8.

⁴¹⁹ Exhibit B-1, p. C-46.

and is well below the costs over the past three years which ranged between \$252 and \$327 thousand.⁴²⁰ Offsetting revenue from the manual meter read fees will be recorded in Other Revenues.⁴²¹

2.3 AMI Project Cost Savings Should be Incorporated In Base now that AMI Project is Complete

320. FBC's Base O&M needs to be reduced by the ongoing AMI Project savings as the AMI Project is now complete. Because of the high variability of AMI costs and savings during the implementation period, they were tracked outside of the Current PBR Plan formula. As the AMI project is now complete, the ongoing savings of \$1.161 million are incorporated into Base O&M.⁴²²

2.4 BCUC Levies

321. FBC is proposing, consistent with FEI, that BCUC levies be forecast outside of the O&M formula and be recorded in a BCUC Levies Deferral Account. This change from the treatment in the Current PBR Plan is warranted given that BCUC levies are outside of the control of FBC.⁴²³ To implement this change, the amount of \$0.237 million, representing the 2018 actual expenditures adjusted by the 2019 formula inflator, will be removed from the 2019 Base O&M.⁴²⁴

3. INCREMENTAL FUNDING IS NEEDED TO RESPOND TO SIGNIFICANT CHANGES IN OPERATING ENVIRONMENT

322. FBC's Base O&M requires an increase of \$0.764 million to respond to the significant changes in FBC's operating environment as discussed in Part Two of this Final Submission. Specifically, FBC needs to respond to the increased need for stakeholder engagement and increasing operational needs, including continued system growth, increasing requirements for

⁴²⁰ Exhibit B-10, BCUC IRs 1.37.1 to 1.37.3.

⁴²¹ Exhibit B-1, p. C-46.

⁴²² Exhibit B-1, p. C-46.

⁴²³ Exhibit B-5, BCOAPO IR 1.84.1.

⁴²⁴ Exhibit B-1, p. C-46.

generation maintenance and maintaining system reliability, and the need to enhance cyber security. Each incremental funding request is discussed below.

3.1 Engagement

323. FBC requires \$0.080 million for its share of the resources to support web-based platforms and in-house resources as described above for FEI in Part Four, Section D3.2 of this Final Submission.⁴²⁵

3.2 System Operations, Integrity and Security

324. FBC's incremental funding in this area⁴²⁶ are required as set out below:

- (a) **Tree Management:** FBC needs incremental funding to respond to the high number of outages in the Kootenay area resulting from trees falling on the conductor. These trees are coming from outside the boundaries of the ROW and cannot be removed unless they are assessed and considered unhealthy. The \$0.075 million in funding will allow FBC to hire a qualified professional to identify, assess, and map root rot centres. FBC is working to identify areas where root rot is a concern and will assess the next steps to be taken from a safety and reliability perspective.⁴²⁷
- (b) **Network Operations, Engineering and Generation:**
 - Generation Dam Safety (\$0.232 million): FBC's Generation Dam Safety O&M is driven by the requirements of the Dam Safety Regulation, which was significantly revised in 2016.⁴²⁸ FBC needs incremental funding for dam safety reviews required by section 20 of the Dam Safety Regulation, including the requirements for inspections, instrumentation and documentation to support those reviews.

⁴²⁵ Exhibit B-1, p. C-47.

⁴²⁶ Exhibit B-1, Section B1.5.

⁴²⁷ Exhibit B-1, pp. C-47 to C-48.

⁴²⁸ Exhibit B-10, BCUC IR 1.39.8.1; B.C. Reg 40/2016, Dam Safety Regulation, Online: http://www.bclaws.ca/civix/document/id/complete/statreg/40_2016.

This includes safety inspections at three dams in 2020, with the fourth dam being review later in the term of the Proposed MRP. FBC also needs incremental funding related to Single Device Isolation certifications, and dam penstock assessments to determine the structural condition of these assets given lack of documentation of previous assessments. The requested funding of \$0.232 million reflects the average costs to comply with the requirements of the Dam Safety Regulation over the term of the MRP Plan.⁴²⁹

- Network Operations Apprentice program (\$0.197 million): FBC needs incremental funding to hire four additional apprentices required to provide reliable service to customers, and maintain SAIDI, SAIFI and trouble response service quality in an environment where employee demographics continues to be a challenge. FBC apprentice program has been successful, but it can take four years to complete an apprenticeship program and International Trade Administration apprentices are not graduating at a sufficient rate to meet anticipated demand due to retirements and promotions.⁴³⁰
- (c) **Cyber Security:** Like FEI, FBC needs to increase cyber security in response to escalating threats. The incremental funding of \$0.080 million is FBC's share of resources required overall with \$0.062 million for managed services and tools and the remaining \$0.018 million for FBC's portion of the shared customer cyber security position with FEI.⁴³¹
- (d) **Data Analytics:** Like FEI, FBC needs incremental funding of \$0.099 million to increase use of Data Analytics. Initiatives specific to FBC will be to use hourly AMI voltage data and existing connectivity models to mathematically determine

⁴²⁹ Exhibit B-1, p. C-48; Exhibit B-10, BCUC IR 1.39.8; Exhibit B-5, BCOAPO IR 1.49 series; Exhibit B-14, BCOAPO IR 2.133.1.

⁴³⁰ Exhibit B-1, p. C-48; Exhibit B-5, BCOAPO IR 1.50 series.

⁴³¹ Exhibit B-1, p. C-48

meter-transformer-phase connectivity, and make automatic GIS map corrections.⁴³²

325. The incremental funding requests detailed above should be accepted to provide FBC with the funding needed to respond to the increased need for engagement and its operational needs over the term of the Proposed MRP.

⁴³² Exhibit B-1, p. C-48.

PART FIVE: FEI'S BASE GROWTH CAPITAL PER GROSS CUSTOMER ADDITION

A. OVERVIEW

326. This part addresses FEI's Base Growth capital per Gross Customer Addition amount that will be subject to the unit cost approach described in Part Three of this Final Submission. Given the challenges with Growth capital under the Current PBR Plan, FEI carefully considered the key components of Growth capital expenditures and developed its proposal for a new base unit cost that better reflects the activity levels of customers requesting natural gas service.⁴³³

327. FEI's Growth capital consists of expenditures on mains, services, and meters and, for the Proposed MRP, also includes distribution pressure system improvements. These costs are all primarily driven by growth in customers. To set the 2019 base unit cost that will be used for 2020 and future years, FEI starts with the average 2016-2018 actual unit costs as this amount is representative of FEI's level of capital investment required to provide service to new customers. Two adjustments are then made to the 2016-2018 average actual⁴³⁴ unit cost to arrive at the '2019 Base unit cost'. The goal of these adjustments is to determine the appropriate starting point for Growth capital unit costs for the Proposed MRP, incorporating known and measurable adjustments as appropriate.

328. The calculation of the Base Growth capital per Gross Customer Addition is shown in Table C3-3 of the Application, as reproduced below. FEI noted in response to BCUC IR 2.187.2 that line 64 of the table below should be approximately \$300 thousand, rather than \$642 thousand. FEI will update its proposed Growth capital Base unit cost for this correction in its compliance filing following the BCUC's Decision in this proceeding.

⁴³³ Exhibit B-10, BCUC IR 1.41.2.

⁴³⁴ Inflation adjusted to 2019 dollars.

Table C3-3: FEI Growth Capital Proposed Base Unit Cost

| Line | Growth Capital (\$000) | 2016 Actual | 2017 Actual | 2018 Actual | Average | Reference |
|------|--|----------------|----------------|----------------|-----------|--------------------------|
| 1 | New Customer Mains | \$ 12,823 | \$ 16,467 | \$ 24,494 | | |
| 2 | New Customer Services | 31,246 | 39,149 | 53,993 | | |
| 3 | New Customer Meters | 3,430 | 3,927 | 4,397 | | |
| 4 | System Improvements (DP) | 2,953 | 3,566 | 4,433 | | |
| 5 | Subtotal Growth (Gross) | \$ 50,452 | \$ 63,108 | \$ 87,316 | | Sum of Lines 1 through 4 |
| 6 | CIAC | (2,505) | (2,770) | (2,529) | | |
| 7 | Total Growth (Net of CIAC) | \$ 47,947 | \$ 60,339 | \$ 84,787 | | Line 5 + Line 6 |
| 8 | Inflation Adjustment | 107.30% | 104.86% | 102.08% | | |
| 9 | Infl Adj Growth (Net) | \$ 51,447 | \$ 63,271 | \$ 86,551 | \$ 67,090 | Line 7 x Line 8 |
| 10 | Gross Customer Additions | 17,261 | 20,825 | 22,439 | 20,175 | |
| 11 | Unit Cost Growth Capital \$/CGA (Net of CIAC) | | | | \$ 3,325 | Line 9 / Line 10 |
| 12 | | | | | | |
| 13 | Construction Price Increase | | | | \$ 9,146 | |
| 14 | Muster Kit & Material alloc impact | | | | 642 | |
| 15 | Incremental | | | | \$ 9,787 | Line 13 + Line 14 |
| 16 | Average Gross Customer Additions | | | | 20,175 | Line 10 |
| 17 | Unit Cost Growth Capital \$/CGA Incremental | | | | \$ 485 | Line 15 / Line 16 |
| 18 | | | | | | |
| 19 | Total Unit Cost Growth Capital \$/CGA (Net of CIAC) | | | | \$ 3,811 | Line 11 + Line 17 |

329. This Part is organized around the following key points:

- The scope of FEI’s Growth capital appropriately includes the capital categories clearly and directly driven by growth in customers.
- The 2016-2018 average Growth capital expenditures provides the appropriate starting point as it reflects FEI’s current costs for Growth capital
- The proposed adjustments to the 2016-2018 average for construction price increases and the impact of muster kit and material allocations are needed to reflect FEI’s Growth capital costs going forward.

B. THE SCOPE OF FEI’S GROWTH CAPITAL APPROPRIATELY INCLUDES THE CAPITAL CATEGORIES CLEARLY AND DIRECTLY DRIVEN BY GROWTH IN CUSTOMERS

330. FEI necessarily incurs its Growth capital expenditures to attach new customers to the gas distribution system. Subject to the BCUC-approved main extension (“MX”) test, FEI is obligated under section 28 of the UCA to attach new customers if a supply line is near. The

expenditures to attach new customers include the installation of new mains, services, meters and distribution pressure system improvements, if required, to serve new customers. The primary driver for all of these expenditures is Gross Customer Additions, which is the number of new customers attaching to the gas distribution system with new mains and/or service installations.⁴³⁵

331. FEI describes each of the categories within Growth capital (mains, services, meters and distribution pressure system improvements) on pages C-56 to C-57 of the Application. Distribution pressure system improvements include looping of distribution gas mains to increase the capacity of the system to meet increasing customer demand. Distribution pressure system improvements occur when additional mains are required to be installed within the existing distribution network to increase system capacity in order to meet peak customer demand.⁴³⁶ FEI is proposing to add these improvements to the scope of Growth capital, as distribution pressure system improvements are driven by growth and the timing of expenditures more closely aligns with customer growth, unlike intermediate pressure system improvements which are generally much larger and tend to lead or lag a significant portion of the customer additions that created the need for the work.⁴³⁷

332. Although distribution pressure system improvements were not as highly correlated to Gross Customer Additions as new mains, services and meters,⁴³⁸ it is still logical to group distribution pressure system improvements within Growth capital. The lower correlation coefficients are due to distribution pressure system improvements being lumpy over time compared to customer additions, which are added more evenly.⁴³⁹ However, customer additions are ultimately what creates the need for distribution pressure system improvements and the timing of the expenditures is more closely aligned with customer additions than higher

⁴³⁵ Exhibit B-1, pp. C-56 to C-58.

⁴³⁶ Exhibit B-1, pp. C-56 to C-57.

⁴³⁷ Exhibit B-10, BCUC IR 1.40.4.

⁴³⁸ Exhibit B-10, BCUC IR 1.40.5; Exhibit B-12, BCUC IR 2.185.1.

⁴³⁹ Exhibit B-12, BCUC IR 2.185.1.

pressure system improvements.⁴⁴⁰ FEI explained how it determined that distribution pressure system improvements are driven by customer additions, as follows:

FEI determined that expenditures in the System Improvements (DP) category are driven by customer additions since system improvements are intended specifically to manage load increases that result from these additions. System improvements occur when additional mains are required to be installed with the existing distribution network to increase system capacity in order to meet peak customer demand. The process for determining the need for System Improvements in a distribution system involves applying the peak load associated with new and future (forecasted) customer accounts in a region to a current hydraulic model of the system. The resulting “future year” models represent the projected future of the system from a flow and pressure distribution perspective. These models identify any area where the distribution system is unable to maintain minimum delivery pressure at customer locations and the year that such conditions are projected to occur. The locations in which the future load is applied to the hydraulic model is determined based on FEI’s current knowledge of areas with active customer attachments, understanding of projected future development, consideration of Official Community Plans (OCPs) and other development plans within each system. The location within the distribution system of current and future load growth is an integral part of determining the location of projected low pressure areas and consequently the scope and location of any required System Improvement(s). A distribution system will generally accept more load without need for System improvements if the load is distributed evenly across the system. Account additions tend to be concentrated in areas under active development and not distributed evenly across the system. As a result, the primary driver in determining the need for System Improvements is customer additions. The proposed change to move System Improvements (DP) from Sustainment to Growth capital is based on the logic that expenditures in this category are driven by customer additions that necessitate upgrades to system capacity to maintain reliable service to existing and new customers.⁴⁴¹

333. FEI has not included other system reinforcement-type capital within the Growth category because these other expenditures are much larger and the timing leads or lags a significant portion of the customer additions driving the work. This other reinforcement-type capital includes intermediate pressure System Improvements, which require the looping or extension of higher pressure gas mains that carry large volumes of gas to population centers to

⁴⁴⁰ Exhibit B-10, BCUC IR 1.40.4; Exhibit B-12, BCUC IR 2.185.1.

⁴⁴¹ Exhibit B-12, BCUC IR 2.185.1.1.

serve increasing customer demand, and new stations, that are sometimes required to provide a secondary source of supply to a community to support increasing customer demand and improve system resilience. Although these expenditures are also primarily driven by customer additions, the expenditures are less frequent and higher cost, fluctuating greatly from year to year. For example, the forecast for intermediate system improvements in 2024 increases mainly due to a single large IP system improvement, on which FEI is forecast to spend \$3.536 million as shown in Table C3-12 of the Application.⁴⁴² Expenditures such as these tend to lead or lag a significant portion of the customer additions that created the need for the work. As such, they are not well suited to the proposed unit cost approach to Growth capital and are not included in Growth capital for the Proposed MRP.⁴⁴³

334. Because distribution pressure system improvements are closely aligned to the number of customer additions, they are also difficult to forecast over longer periods. Distribution pressure system improvements are driven not just by the total load increase, but by the exact location on the system that a customer attaches. When modeling a 5 year forecast, FEI must take a conservative approach by assuming that customers attach to the end of the system where the pressure is the weakest, which makes the alternative of forecasting distribution pressure system improvements problematic.⁴⁴⁴ These expenditures are more suitable to be included in FEI's proposed unit cost approach, where they are related to, and caused by, customer additions.

C. USE OF 2016-2018 AVERAGE IS REPRESENTATIVE OF FEI'S COSTS TO SERVE CUSTOMERS

335. FEI is proposing to use the recent 3-year historical average as the basis for developing its 2019 base. Using 2016 through 2018 actual Growth capital expenditures to determine the Growth capital base reflects recent experience and is representative of FEI's current level of

⁴⁴² Exhibit B-12, BCUC IR 2.185.3; Exhibit B-1, Table C3-12 (p. C-70).

⁴⁴³ Exhibit B-10, BCUC IR 1.40.4.

⁴⁴⁴ Exhibit B-12, BCUC IR 2.185.3.

capital investment required to provide service to new customers.⁴⁴⁵ Specifically, the 2016 through 2018 actual expenditures for New Customer Services and New Customer Mains incorporate the unit cost pressures that have been recently experienced related to local government requirements, increased service activities on Vancouver Island, unfavorable CAD/USD exchange rates and growth in larger industrial main additions. These pressures have been detailed in FEI's Annual Review materials, and are also described in Appendix B8-1: FEI Capital Directives.

336. Under the Current PBR Plan, the formula based approach for Growth capital uses the 2013 approved capital expenditures (with adjustments) as the Base. FEI is proposing to move to a three year average of 2016-2018 actual Growth capital costs (with adjustments) as using a three-year average will help normalize these costs and make them reflective of the costs to connect customers today.⁴⁴⁶

337. One cause of the variances in Growth capital during the Current PBR Plan was due to increased service activities on Vancouver Island, and the amalgamation of FEI, FEVI and FEW in 2015 that resulted in a three-year phase-in to a lower common rate. At the time that FEI was phasing in FEVI and FEW to lower common rates, new attachments in those regions increased materially. FEI expects the level of new customer attachments in those regions to remain strong. The actual Growth capital that FEI incurred 2016 through 2018 is reflective of the strong level of new attachments in those regions and is therefore a reasonable Growth capital base for the Proposed MRP.⁴⁴⁷

338. Using a three year average of actual Growth capital costs is also consistent with FEI's internal Growth capital forecasting methodology as set out and reviewed in FEI's 2014 PBR Application.⁴⁴⁸

⁴⁴⁵ B-1-1, Appendix B8-1, p 5-7.

⁴⁴⁶ Exhibit B-10, BCUC IR 1.41.2.

⁴⁴⁷ Exhibit B-10, BCUC IR 1.8.13.

⁴⁴⁸ Exhibit B-10, BCUC IR 1.41.8.

339. In summary, the three-year recent average, adjusted to incorporate construction price increases and muster kit and material allocation impacts as discussed below, will allow for an appropriate starting point for Growth capital unit costs for the Proposed MRP.⁴⁴⁹

D. ADJUSTMENTS FOR CONSTRUCTION PRICE INCREASES AND THE IMPACT OF MUSTER KIT AND MATERIAL ALLOCATIONS ARE NEEDED TO REFLECT FEI'S GROWTH CAPITAL COSTS GOING FORWARD

340. FEI's objective is to determine an appropriate starting point for Growth capital unit costs for the Proposed MRP term. To do so, FEI needs to include all known and measurable adjustments to the base. Accordingly, FEI has proposed two incremental cost adjustments for known and measurable changes which reflect prudent capital expenditures that are required to ensure the safe and efficient installation of new services. The two adjustments are for construction price increases and the impact of muster kit and materials allocation.⁴⁵⁰ FEI has not identified any offsetting efficiencies for the increased costs, and is not able to accommodate these costs within the unadjusted Growth capital unit cost.⁴⁵¹ Each of the adjustments is addressed below.

1. ADJUSTMENTS FOR CONSTRUCTION PRICE INCREASES ARE NEEDED

341. The average unit cost of Growth capital activities is impacted by a wide range of factors, including service size and length, site conditions, labour costs, municipal permitting, and system characteristics. FEI's analysis incorporating updated pricing indicates an increase in the average construction price of approximately 13 percent (\$9.146 million) in 2020 as compared to the 2016-2018 average in aggregate across all of the Growth capital activities. The factors resulting in the construction price increase of \$9.146 million are listed in the table below.⁴⁵²

⁴⁴⁹ Exhibit B-10, BCUC IR 1.8.13.

⁴⁵⁰ Exhibit B-1, pp. C-61 to C-62.

⁴⁵¹ Exhibit B-10, BCUC IR 1.42.11.

⁴⁵² Exhibit B-10, BCUC IR 1.42.10.

| Description | % Price Increase | Price Increase (\$000s) |
|----------------------------|-------------------------|--------------------------------|
| Contractor Price Increases | 8.7% | \$ 6,090 |
| Regional Growth Activity | 0.9% | \$ 597 |
| Field Quality Assurance | 2.2% | \$ 1,515 |
| Testing Installations | 1.3% | \$ 943 |
| Total | 13.1% | \$ 9,146 |

1.1 Contractor Price Increases

342. FEI proposes to adjust Base Growth capital for the new contractor pricing for 2019.⁴⁵³ FEI's mains and services contracts are awarded on a three-year term,⁴⁵⁴ and were competitively bid in 2018, with the new terms, including pricing, coming into effect in 2019. The final unit costs negotiated with the two successful bidders are higher than the unit costs in place in the 2016-2018 period. In aggregate, the new contractor pricing represents a 9 percent increase to unit costs compared to historical unit costs.⁴⁵⁵ Given FEI's recent competitive bid process for mains and services contracts, it is unlikely to see lower contractor pricing over the term of the Proposed MRP.⁴⁵⁶

1.2 Regional Growth Activity

343. FEI is proposing a 1 percent increase to the Base Growth capital unit cost to reflect the sustained growth and higher contract pricing on Vancouver Island.⁴⁵⁷ Due to the subsurface conditions and the municipal, pavement and traffic control requirements on Vancouver Island, FEI's mains and services contractors have increased their pricing for work on Vancouver Island by 13 percent, compared to 10 percent for the Interior and Lower Mainland. FEI experienced a significant increase in growth activities on Vancouver Island through the 2014-2018 period. In 2017 and 2018, approximately 31 percent of all new customer attachments were on Vancouver Island, compared to 25 percent in 2015 and 2016.

⁴⁵³ Exhibit B-10, BCUC IR 1.42.5.

⁴⁵⁴ Exhibit B-10, BCUC IR 1.42.3.

⁴⁵⁵ Exhibit B-1, p. C-61.

⁴⁵⁶ Exhibit B-10, BCUC IR 1.42.3.1.

⁴⁵⁷ Exhibit B-1, pp. C-61 to C-62.

344. The incremental amount of \$597 thousand related to Regional Growth Activity is comprised of two components. The first is an approximately \$230 thousand increase required for an expected 10 percent increase in Growth capital for work on Vancouver Island and the Sunshine Coast areas where the costs of contractor crews are higher. The second is an approximately \$367 thousand increase due to a shift in allocation of work to a higher cost contractors on Vancouver Island to perform the work due to contractor capacity.⁴⁵⁸ These cost pressures will be experienced by FEI and should be incorporated into the Base Growth capital amount.

1.3 Field Quality Assurance

345. FEI is proposing a 2 percent increase to its overall unit costs to reflect the costs of increased field quality audits.⁴⁵⁹ FEI estimates that the number of field audits related to Growth capital is expected to increase by approximately 700 per year.⁴⁶⁰ FEI is conducting increased field audits⁴⁶¹ of Growth capital construction to continue to ensure quality requirements are met and to maintain documentation and records quality. These audits serve to verify that the quality of works remains high and to identify workmanship or procedures that require correction with the goal of avoiding defects in the system that are difficult to identify at a later date. This oversight also enables FEI to maintain the standards for and quality of records information provided by our contractors so that we are able to maintain accurate information about the installations we have.⁴⁶²

346. The number of field audits rose during the Current PBR Plan period due to the introduction of a policy of completing four audits per month by supervisors and two audits per month by managers, as well as due to the steady and significant increase in new customer additions. FEI recently focused additional resources on smaller projects and service installations in Growth capital which, due to their short duration, are more difficult to have an

⁴⁵⁸ Exhibit B-12, BCUC IR 2.187.5.

⁴⁵⁹ Exhibit B-1, p. C-62. FEI conducts three types of field audits, operation field assessments, detailed work observations, and field observations, each as described in response to BCUC IR 2.187.8.

⁴⁶⁰ Exhibit B-10, BCUC IR 1.42.8.

⁴⁶¹ Exhibit B-10, BCUC IR 1.42.8.

⁴⁶² Exhibit B-1, p. C-62.

on-site presence in order to provide a balanced oversight of all capital works and ensure that all contractual obligations including quality and safety are being met.⁴⁶³

347. The incremental cost proposed to be added to Base Growth capital is \$1.5 million for the addition of nine full time equivalents to oversee the program to continue to ensure quality requirements are met and to maintain documentation and records quality.⁴⁶⁴ Based on the activity levels of recent years and the number of contractor crews working, FEI estimated that nine new construction supervisors would be required to achieve a level of oversight that ensures safety, quality, and value in the Growth capital program. FEI estimated an increase of approximately 700 audits per year assuming a minimum of six audits per month are performed by the nine new construction supervisors.⁴⁶⁵

1.4 Testing Installations

348. FEI is proposing a 1 percent increase in the overall unit costs due to increased time to test installations pursuant to requirements under CSA Z662. This testing is required to identify any material defects or installation errors before installations are placed into service. FEI estimates that the additional time to perform pressure tests in alignment with CSA Z662 will result in increased crew costs of approximately 3 percent or \$943 thousand.⁴⁶⁶ These additional costs required to comply with regulation should be added to the Base to make it the appropriate starting point for the Proposed MRP.

2. ADJUSTMENT FOR MUSTER KIT & MATERIAL ALLOCATION IMPACT IS NEEDED

349. FEI is proposing an increase to the 2019 Base Growth capital unit cost to adjust for the most up to date cost of muster kits and material allocation,⁴⁶⁷ which better reflect the actual cost for the materials used in an average main or service installation.⁴⁶⁸ Muster kits and

⁴⁶³ Exhibit B-12, BCUC IR 2.187.9.

⁴⁶⁴ Exhibit B-10, BCUC IR 1.42.9 (as corrected by Exhibit B-12, BCUC IR 2.187.7). The job descriptions for the positions are included in Exhibit B-12, Attachment 187.12.

⁴⁶⁵ Exhibit B-12, BCUC IR 2.187.10.

⁴⁶⁶ Exhibit B-12, BCUC IR 2.187.6.

⁴⁶⁷ Exhibit B-1, p. C-62 (as amended by Exhibit B-1-3); Exhibit B-10, BCUC IR 1.42.1.1.

⁴⁶⁸ Exhibit B-10, BCUC IR 1.42.15.

material allocations are the standard parts and fittings for routine work that are stocked in bulk at local musters and allocated out to completed jobs. FEI regularly reviews muster materials charges based on an analysis of detailed usage and makes adjustments where warranted.⁴⁶⁹

350. The muster kit material charge for services was increased in 2018 to better reflect the actual cost for the materials used in an average service installation.⁴⁷⁰ As muster kits are used mostly for New Services, the total muster kit and material allocation charges for New Services will increase while the allocation charges to New Mains will decrease, better reflecting the actual cost of materials used in the different capital activities. The net impact of the changes in the muster kit material charges for mains and services is approximately \$300 thousand, rather than the \$642 thousand as indicated on pages C-61 and C-62 of the Application.⁴⁷¹ FEI proposes to update its proposed Growth capital Base unit cost for the above correction to the Muster Kit and Material Allocation Impact in its compliance filing in this proceeding following the BCUC's Decision in this proceeding.

351. The forecast net increase of approximately \$300 thousand is comprised of an increase of approximately \$900 thousand for New Services offset by a decrease of approximately \$600 thousand in New Mains, as follows:⁴⁷²

- Driving the increase for New Services is an increase in the price for the muster kit for New Services from \$95 per kit to \$220 per kit, which increases the cost of muster kits and materials directly charged to New Services. This is offset partially by a reduction in material costs allocated to New Services, as more material costs are directly charged to New Services under the muster kit pricing approach instead of by allocation.
- For New Mains, there was no significant change in the price of a muster kit. Instead, the estimated reduction of \$600 thousand for muster kits and materials for New Mains better reflects the allocation of material charges for the various capital activities. As discussed in the response to BCUC IR 2.187.2, as muster kits are used mostly for New Services, the total muster kit and material allocation

⁴⁶⁹ Exhibit B-10, BCUC IR 1.42.14.

⁴⁷⁰ Exhibit B-1, p. C-62 (as amended by Exhibit B-1-3); Exhibit B-10, BCUC IR 1.42.1.1.

⁴⁷¹ Exhibit B-12, BCUC IR 2.187.2.

⁴⁷² Exhibit B-12, BCUC IR 2.187.4.

charges for New Services is expected to increase while the allocation charges to New Mains are expected to decrease, better reflecting the actual cost of materials used in the different capital activities.

352. The net impact of approximately net \$300 thousand is added to the 3-year historical average of \$4,424 thousand to come up with the 2019 Base Growth capital amount for Muster Kit and Material Charges. This approach provides a fair approximation of the expected impact of the muster kit and materials allocation change.⁴⁷³

353. FEI has not identified any offsetting efficiencies for capital expenditures related to the muster kit material charge and material allocation impact.⁴⁷⁴ In addition, FEI has not historically seen decreases to the cost of materials and therefore does not anticipate reduced material costs over the MRP period.⁴⁷⁵ These updated costs should therefore be reflected in FEI's Base Growth capital unit costs to provide the appropriate starting point for the Proposed MRP.

⁴⁷³ Exhibit B-12, BCUC IR 2.187.4.

⁴⁷⁴ Exhibit B-10, BCUC IR 1.42.15.

⁴⁷⁵ Exhibit B-10, BCUC IR 1.42.14.

PART SIX: CAPITAL FORECAST IS REASONABLE AND REFLECTS FORTISBC'S CAPITAL REQUIREMENTS

A. OVERVIEW

354. FortisBC is seeking approval of the level of forecast Sustainment and Other capital expenditures for FEI and Regular capital expenditures for FBC from 2020 to 2024, to be incorporated into FEI's and FBC's rates in the Proposed MRPs, respectively. This reflects FortisBC's approach to determining the majority of its capital expenditures using a five-year forecast of capital expenditures, while retaining a unit cost approach for only those categories of capital that can be suitably managed within a formula. Due to the significant changes in FortisBC's evolving operating environment and uncertainties inherent in a five-year forecast, FortisBC proposes to review its forecast capital in 2022 and, if necessary, file an updated forecast in the Annual Reviews for 2023 rates to account for any material changes to the forecast that occur over that time period and ask for approval of the changes. As is the case in the Current PBR Plans, FEI and FBC will seek approval of Major Projects outside of the framework of the Proposed MRPs. Major Projects are those projects the cost of which exceeds the BCUC-approved CPCN threshold and are therefore approved through a separate CPCN or other application.

355. This part of the Final Submission is organized around the following key points:

- FortisBC's proposed mix of a forecast and formula approach to capital is reasonable and warranted, as it responds to the challenges with the capital formula in the Current PBR Plans and will be sufficiently flexible in response to a challenging operating environment and unforeseen events.
- FortisBC's capital forecasts are the result of a robust capital planning process that reflect FortisBC's continual improvements to its capital management processes.
- FEI's Sustainment and Other capital is required for the safety, reliability and integrity of FEI's system and to maintain compliance and as such should be approved for inclusion in rates.

- FBC's forecast of its Regular capital is required for the safety, reliability and integrity of FBC's electrical system and to maintain compliance and as such should be approved for inclusion in rates.
- To mitigate uncertainty in the latter years of the forecast, in 2022, FortisBC will review its forecast capital for 2023 and 2024 and will file an updated capital forecast if necessary.
- Consistent with the process under the Current PBR Plans, FortisBC will continue to seek approval of Major Projects outside of the framework of the Proposed MRPs.

B. FORTISBC'S MIXED FORECAST AND FORMULA APPROACH TO CAPITAL IS REASONABLE AND WARRANTED

356. The collective experience of utilities and regulators has demonstrated that the treatment of capital under multi-year ratemaking plans is challenging.⁴⁷⁶ FortisBC's proposed mixed forecast and formula approach appropriately responds to the challenges under the Current PBR Plans and stakeholder feedback, reasonably limits a formula approach to categories of capital that have a clear and direct connection to customer growth, and retains the incentive to find efficiencies for categories of capital that are forecast for the Proposed MRP term. A five-year forecast approach of Regular capital expenditures (excluding FEI Growth capital) is responsive to stakeholder concerns and provides value to customers and FortisBC, including: (i) reduced regulatory costs and increased internal efficiencies; (ii) greater certainty and the ability to manage capital efficiently with a long-term view; and (iii) a sustained incentive to contain Regular capital within approved levels over the Proposed MRP term.⁴⁷⁷

1. RESPONSIVE TO CHALLENGES WITH CAPITAL DURING CURRENT PBR PLANS

357. As discussed in Part Two of this Final Submission, a change in approach is necessary to respond to the challenges in the capital-related formulas experienced by both FEI and FBC. FortisBC exceeded the capital formula amount each year and, in particular, faced challenges in

⁴⁷⁶ Exhibit B-1, p. B-72.

⁴⁷⁷ Exhibit B-9, MoveUP IR 1.8.2.

keeping the level of capital required to address customer growth within the formula capital amount.⁴⁷⁸ The formulaic approach to capital used in the Current PBR Plans, with a base adjusted annually for inflation, productivity, and growth, assumes the continuation of “business as usual” expenditure trends. Connecting capital to constant spending levels from year to year does not easily allow for fluctuations in these levels.⁴⁷⁹ FortisBC’s strong focus on productivity throughout the Current PBR Plan term was not enough to prevent spending in excess of the capital formula and resulted in insufficient funding to support the investment needs of FEI and FBC.⁴⁸⁰ Ultimately, these challenges created large expenditure variances, diminishing the intended incentive powers of the PBR plans.

358. In the Application and Appendices B8-1 (FEI) and B8-3 (FBC), FortisBC identified the main contributors to its cumulative capital expenditure variances compared to formula.⁴⁸¹ In response to BCUC IR 1.10.4, FortisBC compared and contrasted the contributors to annual variances between FEI and FBC as follows:⁴⁸²

Both FEI and FBC experienced significant cost pressures from Growth capital during the Current PBR Plan term; however, FEI experienced a comparatively larger impact to the overall capital variance to formula. As described in Appendix B8-1, FEI’s Growth capital was impacted by both higher volumes of customer additions and changes in the type of installation. The increased number of customers per service line and the regional distribution of additions, along with evolving municipal requirements, led to an increased unit cost overall. The combined volume and cost impacts led to significant variances in FEI’s Growth capital compared to formula.

The Sustainment and Other capital categories for FEI and FBC saw similar pressures over the Current PBR Plan term. Both saw impacts due to natural forces: flooding and land movement on the FEI system and weather events and fires on the FBC system. Both companies were also required to accommodate third party forced relocations of assets with relatively short notice provided by the proponents of the work. Both FEI and FBC routinely identified new work and

⁴⁷⁸ Exhibit B-1, p. B-33.

⁴⁷⁹ Exhibit B-12, BCUC IR 2.188.1.

⁴⁸⁰ Exhibit B-1, p. B-46.

⁴⁸¹ Exhibit B-1, p. B-33 to B-38; Exhibit B-1-1, Appendices B8-1 and B8-3; see also Exhibit B-10, BCUC IR 1.10.3 regarding FBC’s variances with respect to system improvements.

⁴⁸² Exhibit B-10, BCUC IR 1.10.4.

additional project scope within the Current PBR Plan. Although FEI is more able than FBC to minimize the impacts of additional work requirements due to its relatively larger size, with the cumulative impacts of the Growth capital pressures and the 2014 PBR Decisions that reduced available capital, both Companies were unable to meet system sustainment needs within the allowed capital funding during the term of the Current PBR Plans.

359. FEI's experience with Sustainment and Other capital over the Current PBR Plan term evidences how changes in its operating environment can impact capital planning. The formulaic approach to capital limited FEI's flexibility to address such changes. FEI has provided specific examples of challenges in its operating environment which are driven by the need to respond to emerging opportunities and technology-driven change.⁴⁸³

360. There are a number of reasons supporting FEI's move away from a formulaic approach, as follows:

- New information cannot easily be added to a formula as it is based on past expenditures. Even if new expenditures could be added, the future scope of work already included in the formula amounts may be unclear.⁴⁸⁴
- Sustainment and Other capital costs are driven by many factors other than growth or the total number of customers.⁴⁸⁵ Asset condition necessitating upgrades or refurbishments to the existing system and the pace of technological advancement are driving factors for spending in this category. Moreover, changes in the operating environment such as evolving legislation and public policy create the need for unforeseen expenditures which cannot be reflected in inflation and/or growth factors.⁴⁸⁶
- Changing stakeholder expectations and requirements influence the way FEI interacts with its customers and drives incremental costs in existing projects, or the need for additional projects. These changes are also not reflected in capital formulas.⁴⁸⁷

⁴⁸³ Exhibit B-12, BCUC IR 2.188.1.1.

⁴⁸⁴ Exhibit B-12, BCUC IR 2.188.1.

⁴⁸⁵ FEI has provided additional information with respect to the correlation coefficient between the number of new attachments and Sustainment and Other capital costs during the Current PBR Plan term: Exhibit B-12, BCUC IR 2.188.4.

⁴⁸⁶ Exhibit B-12, BCUC IR 2.188.1.

⁴⁸⁷ Exhibit B-12, BCUC IR 2.188.1.

361. As the cost drivers under the Current PBR Plans were not accurate predictors of capital spending requirements, using a bottom-up cost of service approach during the Proposed MRP term is responsive to identifiable challenges and therefore preferable.⁴⁸⁸ As FortisBC explained in its Rebuttal Evidence, using a bottom-up approach to forecast capital expenditures that lack a clear correlation to customer growth is preferable to hypothesizing a relationship between customer growth and total capital expenditures.⁴⁸⁹

FEI is proposing a unit cost approach to determining growth capital, which has a clear and direct relationship to customer growth. However, other categories of capital may have a non-linear or obscure relationship to customer growth. Upstream of customer connections, the nature of utility investment to serve load is frequently described as “lumpy”, as capacity increases are built to provide for future growth. As noted previously, FBC’s relatively small asset base means that these non-recurring expenditures can exacerbate year-to-year variation or give rise to periods of higher expenditures related to asset renewal. The linkage between customer growth and sustainment capital, which alone accounts for approximately one half of regular capital expenditures, is weak, since equipment condition is the primary driver of sustainment capital. A relationship between customer growth and expenditures in the Other Capital category is also indirect. Therefore, a bottom-up approach to forecasting capital projects is preferable to hypothesizing a relationship between customer growth and total capital expenditures.

362. The exclusion of the majority of FortisBC’s capital from a PBR formula reflects the reality that some utilities have capital plans that are not suitable for a formula due to the lumpiness described above. Capital expenditures have been forecast by utilities in other jurisdictions with large capital portfolios, including by utilities using Ontario’s custom incentive rate-setting (“IR”) Plan, the Enbridge Distribution 2014-2018 MRP and the Hydro Quebec Transmissions MRP.⁴⁹⁰

363. Consideration of capital variability and the value of flexibility is also important given FortisBC’s current operating environment and the possibility of emerging challenges arising during the Proposed MRP term.⁴⁹¹

⁴⁸⁸ Exhibit B-7, CEC IR 1.22.1.

⁴⁸⁹ Exhibit B-23, p. 23.

⁴⁹⁰ Exhibit B-7, CEC IR 1.11.2.

⁴⁹¹ Exhibit B-12, BCUC IR 2.188.1.

364. Therefore, FortisBC has proposed a forecast which more adequately addresses the challenges experienced in the Current PBR Plan term, incorporates feedback from stakeholders and will provide for the capital needs of the utility over the Proposed MRP term.⁴⁹² Ultimately, moving away from a formula-driven approach for the majority of Regular capital expenditures is warranted in order to limit the risk of large variances, while continuing to incent the proper management of capital spending during the Proposed MRP term. As addressed in Part Five of this Final Submission, FortisBC has appropriately limited the use of a formula to FEI's Growth capital which has a clear and direct relationship to customer growth.

2. RESPONSIVE TO STAKEHOLDER FEEDBACK

365. FortisBC has been responsive to stakeholder feedback in developing the Proposed MRPs, reflecting the importance of such feedback in the continued health of the Utilities. Stakeholders expressed particular concern with respect to the capital funding formula used during the Current PBR Plan term. As discussed above, a formulaic approach for all of FortisBC's capital expenditures created a number of challenges which FortisBC has attempted to address by adopting a predominantly cost of service-based approach to capital.

366. For example, as part of FEI's Annual Review for 2019 Delivery Rates, MoveUP highlighted FEI's "inability to maintain capital within bounds" as a "significant negative".⁴⁹³ This observation was made in response to a consistent pattern of capital spending variances through the latter years of the Current PBR Plan term. Similar observations were also made by other stakeholders. FortisBC summarized these observations as follows:

BCMEU: "remains concerned, as do other participants in the proceeding, about the significant variance in formula capital expenditures, particularly in the later years of the PBR. The BCMEU submits that this will be an important area for review and assessing whether a future PBR model should be implemented."⁴⁹⁴

⁴⁹² Exhibit B-10, BCUC IR 1.9.3.2.

⁴⁹³ Exhibit B-1, p. B-62.

⁴⁹⁴ Exhibit B-1, p. B-63.

CEC: “submits that the consistent over-spending relative to formula for capital is evidence that the formula has over-simplified a complex cost structure and does not serve its purpose well.”⁴⁹⁵

367. As FortisBC noted in its Application⁴⁹⁶ and Rebuttal Evidence, the proposed cost of service approach to forecasting capital expenditures is consistent with feedback from stakeholders, including the BCOAPO:⁴⁹⁷

BCPIAC suggests that cost-of-service (one year or multi-year) or a modified and much more limited PBR Plan that indexes only O&M revenues (with capital spending determined/approved in a mini-hearing) are two alternatives worth considering for the “next generation”.

368. While some interveners are opposed to reliance on PBR and the use of a formula approach (instead advocating for a full-cost of service approach), FortisBC’s proposed mixed approach strikes the appropriate balance between efficiency and the need for continued investment in its gas and electric systems. Moreover, a five-year cost of service forecast addresses some stakeholder requests for increased transparency in setting the capital forecast.⁴⁹⁸

3. FORECAST APPROACH RETAINS INCENTIVE FOR EFFICIENCIES

369. FortisBC’s capital plan during the Proposed MRP term includes prudent expenditures that are in the best interest of ratepayers. While the non-repetitive nature of some capital work limits opportunities for efficiencies and savings, adopting a five-year capital forecast does not change how savings are treated.

370. Similar to a formula-driven approach, FortisBC proposes that any variance between forecast and actual capital will be subject to the 50/50 earnings sharing mechanism. As such, any savings achieved will be shared equally between the FortisBC and ratepayers throughout

⁴⁹⁵ Exhibit B-10, BCUC IR 1.19.4.

⁴⁹⁶ Exhibit B-1, p. B-64.

⁴⁹⁷ Exhibit B-23, p. 23.

⁴⁹⁸ Exhibit B-10, BCUC IR 1.19.4.

the Proposed MRP term. The approved forecast for capital will be embedded in rates over the term, with no adjustment for actuals until after the end of the term.⁴⁹⁹

371. The proposed treatment of variances is an effective means of encouraging the management of capital expenditures at or below the amounts embedded in rates. As noted in response to BCUC IR 1.64.2:⁵⁰⁰

If capital expenditures were treated as flow-through, the Companies would have less incentive to pursue capital efficiencies as all benefits would immediately be returned to customers. Similarly, there would be no penalty to the Companies for over-spending as the revenue requirements impacts would be fully recovered by way of the flow-through mechanism.

372. Similarly, amending the earnings sharing ratio to 75/25 for the ratepayers/Utilities (as suggested in one IR) would reduce the incentive for FortisBC to manage its capital expenditures. FortisBC would retain fewer benefits if spending was lower than those embedded in rates and would incur less risk when costs increased above forecast amounts.⁵⁰¹

373. FortisBC's approach therefore retains a balanced incentive for the Utilities to strive for efficiencies and other savings where quantifiable benefits are possible.

C. FORTISBC'S FORECAST IS BASED ON A ROBUST CAPITAL PLANNING PROCESS

374. FortisBC's five-year forecast of its Regular capital is the result of a robust capital planning process based on a thorough assessment and prioritization of FEI's and FBC's systems and operational needs. When forecasting its capital expenditures for the Proposed MRP term, FortisBC primarily relied on a bottom-up forecast of individual asset needs as part of its robust and responsive capital planning process, which have been prioritized in an effort to increase efficiency and minimize customer rate impacts.⁵⁰²

⁴⁹⁹ Exhibit B-10, BCUC IR 1.64.2.

⁵⁰⁰ Exhibit B-10, BCUC IR 1.64.2.

⁵⁰¹ Exhibit B-10, BCUC IR 1.64.2.

⁵⁰² Exhibit B-7, CEC IRs 1.24.1 and 1.30.1.

375. The Utilities also use a top-down process for forecasting the capital expenditures associated with specific types of asset portfolios. As described in response to IGC IR 2.17.3 with respect to FBC:⁵⁰³

The top-down process included an analysis of the actual expenditure history to calculate a rolling average that was adjusted by inflation and other known requirements. Some of the expenditures that were forecast using this method included Transmission, Distribution and Station Urgent Repairs, New Connects and Forced Upgrades. For example, the calculation for Small Growth Projects is provided in response to BCUC IR 2.202.4. The remaining expenditures followed the bottom-up process, in which the project scope and estimate of the individual projects were completed using a zero based process.

376. FBC provided additional information with respect to expenditures forecast using this top-down process in response to information requests from the BCUC, including the Transmission Urgent Repair⁵⁰⁴ and Forced Upgrades and Line Moves programs.⁵⁰⁵ In both cases, FBC uses an inflation-adjusted three-year rolling average of actual historical expenditures. Given the nature of these programs (i.e., addressing urgent and unforeseen capital expenditures), spending varies due to the severity and number of upgrades or repairs.⁵⁰⁶ This variability makes the use of an inflation-adjusted, three-year historical average a reasonable way to forecast these expenditures.

377. In estimating the total funds required to complete a given project, FortisBC appropriately includes contingency amounts in order to mitigate the impact of uncertainties which are likely to create additional costs. FortisBC expects that contingency amounts will be expended.⁵⁰⁷ Moreover, as outlined in FortisBC's Rebuttal Evidence, despite inherent uncertainties with respect to projects in the latter years of the Proposed MRP term, FortisBC

⁵⁰³ Exhibit B-17, ICG IR 2.17.3.

⁵⁰⁴ Exhibit B-10, BCUC IR 1.10.6.

⁵⁰⁵ Exhibit B-10, BCUC IR 1.57.7.

⁵⁰⁶ See, for example, Exhibit B-1, p. C-90.

⁵⁰⁷ This is consistent with the definition of contingency used by the Association for the Advancement of Cost Engineering ("AACE International"): Exhibit B-10, BCUC IR 1.53.1.1.

did not include an “uncertainty premium” in its forecast as alleged in the evidence of Mr. Bell on behalf of the BCOAPO:⁵⁰⁸

FortisBC agrees that the longer the forecast period, the more uncertain the forecast becomes, but the result of this can go both ways since actual capital requirements may be either more or less than forecast. FEI’s and FBC’s Capital Planning Process is described in Section C3.2 of the Application. The forecasts provided by FEI and FBC were created using a bottom-up approach to quantify system needs based on identified projects and programs that are planned for execution. Detailed descriptions of the methods used for forecasting non-formulaic capital expenditures during the Proposed MRP term have been provided in various IR responses (for example, BCUC IRs 1.10.6, 1.46.5, 1.57.7, 2.202.4). As described in the response to BCUC IR 1.46.5, there is less certainty in the estimates for projects that are planned for execution more than two years in the future, and that uncertainty is reflected by an AACE Class 4-5 cost estimate for the project. In recognition of the uncertainties that are inherent in a five-year forecast, which FortisBC explained in detail in response to BCUC IR 1.51.5, FEI and FBC have proposed to review their 2023 and 2024 forecasts during the Annual Reviews for 2023 rates.

378. As indicated above, FortisBC’s proposal to mitigate the uncertainty in the latter years of the plan is instead to review its forecast in 2022 and file an update to the plan if necessary.

1. IMPROVEMENTS TO CAPITAL MANAGEMENT PROCESSES SUPPORT ACCURACY OF FORECAST

379. FortisBC’s forecast has also benefited from FortisBC’s continual improvements to its capital management processes. In particular, FortisBC has improved upon its maintenance and capital investment decision-making, planning and execution through the development of an asset management strategy common to both FEI and FBC.⁵⁰⁹ This initiative reflects the importance of consistently valuing and prioritizing investments, and recent capital pressures that are expected to continue.⁵¹⁰ The benefits of adopting this approach include:⁵¹¹

- Capital investments can be compared to inform the overall capital planning and execution to deliver the best value;

⁵⁰⁸ Exhibit B-23, p. 24.

⁵⁰⁹ Exhibit B-1, p. C-52.

⁵¹⁰ Exhibit B1-1, Appendix B8-3, p. 8.

⁵¹¹ Exhibit B-7, CEC IR 1.20.1.

- Decisions are supported by the best data available, improving FortisBC's ability to effectively balance decisions on safety, reliability and cost; and
- Detailed multi-year capital plans are developed to facilitate resource planning and deployment.

380. The development of a common asset management strategy included a high-level review of FortisBC's asset management competencies and practices,⁵¹² and the identification of four key principles which help demonstrate how FortisBC's decisions ultimately mitigate risks, improve performance and reduce non-essential costs.⁵¹³ These principles are: (i) consistent and defensible decisions using objective processes across asset classes; (ii) optimized decisions supported by the best data available; (iii) high accountability and ownership over assets by employees; and (iv) an integrated partnership model which involves collaboration between internal teams and stakeholders to balance sustainable system needs and regional priorities.⁵¹⁴

381. The development and implementation of this initiative has spanned the Current PBR Plan term, with the key principles driving changes to FortisBC's capital planning processes in response to opportunities for improvement.⁵¹⁵ For example, placing asset management personnel within each region of the service territory has allowed for the incorporation of local operational knowledge into the capital expenditure decision-making process. Consistency between all service territories has also been enhanced by standardizing FortisBC's existing project planning methodology through defined planning stages (i.e., identification of need, scope definition, cost estimating and execution).⁵¹⁶ These improvements have in turn informed and improved FortisBC's forecast of its capital expenditures over the Proposed MRP term.

382. As part of its common asset management strategy, FortisBC has also implemented the Asset Investment Planning ("AIP") tool.⁵¹⁷ This tool is part of a broader AIP process intended to

⁵¹² Exhibit B-1, pp. C-52 to C-53.

⁵¹³ This review involved a comparison to established industry practices derived from the international PAS55 standard: Exhibit B-1, p. C-52.

⁵¹⁴ Exhibit B-1, pp. C-52 to C-53.

⁵¹⁵ Exhibit B-1, Section 3.2.

⁵¹⁶ Exhibit B-1, p. C-53.

⁵¹⁷ Exhibit B-1, p. C-53.

assist FortisBC to prioritize and then optimize projects and programs. The implementation of the AIP process aligns with, and will contribute to, FortisBC's goal of consistent decision-making across asset classes.⁵¹⁸

383. More specifically, the AIP tool supports the consistent quantification of benefits and risk mitigation associated with each proposed investment, in addition to the optimization of the capital portfolio across asset types. By quantitatively valuing potential investments through a value framework, the AIP process supports capital planning and prioritization informed by risk-informed decision-making.⁵¹⁹ The framework comprises the following seven overarching values which are consistent with FortisBC's strategic objectives and core values: financial, reliability, environmental, health & safety, regulatory, corporate reputation and customer service.⁵²⁰

384. As described in response to BCUC IR 1.47.10, the AIP value framework then informs the optimization of capital expenditures:⁵²¹

Once projects are valued using the AIP value framework, the capital portfolios are optimized using the AIP optimization tool. The optimization process considers all projects and proposes a multi-year plan that delivers the greatest benefit, as measured by the value framework, while meeting any defined constraints. Constraints include resource and financial constraints as well as project constraints. For example, some capital expenditures, such as third party driven work, meter recall, or major inspections have little or no flexibility in timing.

385. As FortisBC described in the context of FEI's Sustainment and Other capital, it forecasts its capital expenditures using a comprehensive and collaborative approach based on the most current information available. This includes reviewing known work, the assemblage of necessary work into projects, development of project scopes and preparation of schedules. Projects are then prioritized based on risk and ability to execute based on available resources. FEI's proposed five-year capital plan was approved by FEI's Executive and Board of Directors.⁵²²

⁵¹⁸ Exhibit B-1, p. C-53; Exhibit B-7, CEC IR 1.21.1.

⁵¹⁹ Exhibit B-1, p. C-54.

⁵²⁰ Exhibit B-1, p. C-53; see also Figure C3-1 (p. C-54).

⁵²¹ Exhibit B-10, BCUC IR 1.47.10.

⁵²² Exhibit B-12, BCUC IR 2.191.1.

In response to BCUC IR 1.46.5, FortisBC provided its project development and forecasting methodology for the Proposed MRP term, which includes a description of the prioritization undertaken through the AIP value framework.⁵²³

2. FORTISBC ACTIVELY MANAGES ITS CAPITAL PLAN

386. FortisBC's capital plan will be actively managed by forecasting the timing and expected amount of planned expenditures in comparison to the approved capital plan budget. The reprioritization of capital spending is undertaken routinely as part of this process.⁵²⁴ All projects forecasts are revised on at least a monthly basis.⁵²⁵

387. The management of FortisBC's capital plan is therefore a dynamic and ongoing process, as changing conditions precipitate shifts in project timing.⁵²⁶ A revised project forecast either frees up capital funds and resources which can be re-allocated to unplanned projects or necessitates a re-evaluation of other projects. More critical or time-sensitive projects are given priority.

388. By actively managing the planning and execution of its capital plan, FortisBC strives to achieve the best value for ratepayers. This is assisted by:⁵²⁷

- Bundling work during the planning stages of capital projects that is at a common location or that is similar in nature to save on mobilization costs and material purchasing costs;
- Developing standardized designs to save on material purchases, spare parts, and to reduce training needs and improve efficiency of the workforce;
- Leveraging a flexible workforce that is scalable and able to move to where the work is needed and when it is needed by using a contracting strategy that also reduces overall costs;

⁵²³ Exhibit B-10.

⁵²⁴ Exhibit B-1-1, Appendix B8-1, p. 10.

⁵²⁵ Exhibit B-10, BCUC IR 1.45.1.

⁵²⁶ See, for example, Exhibit B-10, BCUC IR 1.45.1 regarding FEI's capital plan.

⁵²⁷ Exhibit B-1, pp. C-54 to C-55.

- Prioritizing projects and programs in such a manner as to allow for early engineering and design, procurement of materials and equipment, and comprehensive pre-job planning; and
- Working closely with municipalities in FortisBC's operating territory to coordinate planned capital work to minimize project costs and disruption to the public, including in some cases negotiating municipal operating agreements with many municipalities to bring cost certainty and improve working relationships.

389. The above-noted measures will assist FortisBC in remaining responsive to unforeseen changes in its operating environment and, ultimately, ensure that FortisBC's capital requirements are delivered in an effective and efficient manner that is responsive to the evolving needs of the Utilities and customers.

D. FEI'S FORECAST OF SUSTAINMENT AND OTHER CAPITAL IS REQUIRED FOR THE SAFETY, RELIABILITY AND INTEGRITY OF FEI'S SYSTEM, AND TO MAINTAIN COMPLIANCE

390. FEI's forecast of Sustainment and Other capital is reasonable and appropriate for the five-year term of the Proposed MRP. FEI has presented its forecast in detail in Section C3.3.2 of the Application and provided additional information substantiating its forecast in its responses to information requests.⁵²⁸

391. FEI's projected levels of Sustainment and Other capital spending for the Proposed MRP term was developed using a robust capital planning process.⁵²⁹ By identifying individual assets and prioritizing project needs, FEI has endeavored to increase efficiency and minimize customer rate impacts, while remaining attuned to an evolving operating environment which presents challenges and opportunities. Increased capital spending during the Proposed MRP term will ensure the safety, reliability and integrity of FEI's gas system, while maintaining regulatory compliance. The reasonableness of FEI's forecast Sustainment and Other capital is outlined in detail below.

⁵²⁸ Exhibit B-1.

⁵²⁹ Exhibit B-10, BCUC IR 1.11.3; Exhibit B-12, BCUC IRs 2.188.5.1, 2.191.4, and 2.196.4.

1. FEI'S FORECAST OF SUSTAINING AND OTHER CAPITAL IS INCREASING AT LESS THAN INFLATION

392. FEI's capital expenditure forecast for the 2020-2024 MRP term, as presented in Table C3-5 of the Application,⁵³⁰ maintains Sustainment and Other capital spending increases below the rate of inflation. Fluctuations in capital spending from year to year are at times greater than inflation due, in large part, to the timing and size of certain capital projects. While year to year variability cannot be entirely eliminated, FEI has attempted to levelize its capital expenditures to optimize resources for capital projects and to avoid rate fluctuations associated with capital spending.⁵³¹ As discussed above, this was achieved through a robust capital planning process that included a bottom-up forecast of individual asset needs, which were then prioritized in an effort to increase efficiency and minimize the impact to ratepayers.⁵³²

393. Mr. Bell's characterization of FEI's capital expenditures as "increase[ing] dramatically" during the Proposed MRP term is incorrect.⁵³³ In fact, FortisBC's planned expenditures during the Proposed MRP term trend downward when stated in real dollars.⁵³⁴ Further, the point of comparison should be to expenditures in 2017 to 2019, which are more consistent with longer-term system requirements. FortisBC explained:⁵³⁵

It is more relevant to compare FortisBC's forecast expenditures to the more recent 2017-2019 period than to the earlier years of the 2014-2019 PBR plan. As described in Section C3.3.2 of the Application and throughout the PBR Annual Review processes, in the period from 2014 to 2016 FEI attempted to maintain capital spending within the formula amount by reprioritizing some projects that were assessed as having some flexibility in timing. Ultimately, FEI determined that it was untenable to continue to manage within the formula allowed amount. This resulted in higher spending levels in 2017 to 2019 for Sustainment and Other capital relative to the 2014-2016 period that are more consistent with longer-term system requirements. Therefore, a comparison of 2020-2024 forecast expenditures to 2014-2016 actual expenditures is not relevant given

⁵³⁰ Exhibit B-1, p. C-64 (as amended by Exhibit B-1-2).

⁵³¹ Exhibit B-7, CEC IR 1.22.2.

⁵³² Exhibit B-12, BCUC IR 2.191.4.

⁵³³ Exhibit C7-5, p. 11.

⁵³⁴ Exhibit B-23, p. 16.

⁵³⁵ Exhibit B-23, p. 16.

that those expenditure levels were untenable to continue over the term of the PBR.

394. When adjusted to reflect FortisBC's weighted labour and materials index (in \$2020), FEI's average annual Sustainment and Other capital expenditures are forecast to increase by only 1.06 percent when compared to the same category of expenditures during the 2017-2019 period under the Current PBR Plan.⁵³⁶

2. FEI'S FORECAST OF SUSTAINMENT CAPITAL ARE REQUIRED TO ENSURE THE SAFETY, INTEGRITY AND RELIABILITY OF ITS ASSETS

395. FEI's Sustainment capital consists of expenditures for meter exchange programs, replacements and upgrades to the distribution and transmission systems to ensure safety, integrity and reliability, and expenditures for mains and service renewals and alterations. At a high level, a significant portion of FEI's transmission and distribution assets are more than forty-years old.⁵³⁷ This includes approximately 36 percent of FEI's distribution mains (~23,300 km), 55 percent of transmission pressure pipelines (~2,959 km) and 50 percent of intermediate pressure pipelines (~655 km).⁵³⁸ While an increased proportion of aged transmission and distribution assets does not have an immediate implication for the safe and effective operation of the gas system, FEI's Proposed MRP reflects the needs of a system with aged assets including in-line inspections and the proactive repair of anomalies.⁵³⁹

396. Through the Application and responses to information requests from the BCUC and interveners, FEI has demonstrated the reasonableness of its forecast Sustainment capital expenditures, including a detailed breakdown of each expenditure category with descriptions of larger projects. Table C3-7 in the Application, as corrected in the May 9, 2019 Errata to the Application,⁵⁴⁰ summarizes FEI's forecast Sustainment capital expenditures over the 2020-2024 MRP term, which are broken into the following categories: (i) Customer Measurement; (ii)

⁵³⁶ Exhibit B-23, p. 16.

⁵³⁷ See Exhibit B-12, BCUC IR 2.192.1 for an explanation of the trend in increased asset ages.

⁵³⁸ Exhibit B-10, BCUC IR 1.47.1.

⁵³⁹ Exhibit B-12, BCUC IRs 2.192.2 and 2.192.3.

⁵⁴⁰ Exhibit B-1-3.

Transmission System Reliability & Integrity; (iii) Distribution System Reliability; (iv) Distribution System Integrity; and (v) Sustainment Contributions in Aid of Construction (“CIAC”).⁵⁴¹ These categories include projects with expenditures over \$2 million, a description of which can be found in the attachment to BCUC IR 1.46.2.⁵⁴²

397. A description of FEI’s forecast for categories that were the subject of IRs from the BCUC and interveners is provided below.

2.1 Customer Measurement

398. FEI has forecast expenditures in the Customer Measurement category to grow at less than one percent per year relative to the 2017-2019 average expenditure, with relative stability between years.⁵⁴³ This includes expenditures related to meter exchanges and meter set upgrades. As summarized in Table C3-8 of the Application, expenditures in this category are primarily associated with “Meter Materials” which comprise meter exchange activity levels (both scheduled and unscheduled) and the meter unit cost. FEI has also provided a breakdown of the labour component cost for residential and both small and large commercial/industrial meter alterations and exchanges.⁵⁴⁴

399. Included within this category, FEI is retrofitting approximately 45,000 meters per year with bypass valves, at an approximate cost of \$2 million per year.⁵⁴⁵ The installation of bypass valves on meter sets allows meters to be exchanged without turning off gas to the residence, avoiding inconvenience to customers, and will result in savings in contact centre costs and operational efficiencies.⁵⁴⁶ Savings related to not having to turn off the meter set during the meter exchange process are expected to be realized beginning as early as 2026, when meters will need to be tested.⁵⁴⁷ The realization of the full benefits will coincide with the significant

⁵⁴¹ Exhibit B-1, Section C3.3.2.1.

⁵⁴² Exhibit B-10, BCUC IR 1.46.2, Attachment 1.46.2.

⁵⁴³ Exhibit B-1, p. C-66.

⁵⁴⁴ Exhibit B-1, Table C3-8; see also Exhibit B1-1, Appendix B8-2, pp. 2 to 3.

⁵⁴⁵ Exhibit B-12, BCUC IR 2.190.1.1.

⁵⁴⁶ Exhibit B-12, BCUC IR 2.190.1.

⁵⁴⁷ Exhibit B-12, BCUC IR 2.190.2.

completion of deployment the bypass valves, which will occur beyond the term of the Proposed MRP.⁵⁴⁸ Savings will therefore not be realized during the term of the Proposed MRP.

2.2 Transmission System Reliability & Integrity

400. This capital category comprises activities related to the ongoing safe and reliable operation of the transmission system, including pipeline alterations, alterations to transmission facilities and the inspection of pipelines. FEI has forecast expenditures for Transmission Reliability & Integrity spending to grow at less than four percent per year relative to the 2017-2019 average expenditure.⁵⁴⁹

401. While most areas of expenditure within this category have a lower or relatively stable spending forecast in comparison to the 2017-2019 average, significant variances are expected with respect to Pipeline Alterations, Pipeline Capacity Improvements, Compressor Unit Overhauls, LNG Plant Alterations and Pipeline Inspection. Section C3.3.2.1.2 of the Application provides further discussion regarding the reason for these variances. In particular, FEI notes:

- **Pipeline Alterations:** This area includes the replacement and modification of pipelines or pipeline fittings to support ongoing asset reliability and integrity driven by natural hazards mitigation efforts, code compliance, operation and maintainability or third party driven alterations.⁵⁵⁰ Higher expenditures relative to the 2017-2019 average are forecast for 2020 due to the Grand Forks to Trail 273 Pipeline Alteration. This replacement of approximately 2.7 km of pipeline will increase safety in response to population encroachments and is estimated to cost \$4.1 million.⁵⁵¹ Spending in all other years of the 2020-2024 MRP term are consistent with the 2017-2019 average expenditure levels and are generally below inflationary levels.⁵⁵² FEI expects to complete its multi-year valve replacement program on the Coastal Transmission System (“CTS”) in 2022 with a total cost since 2011 of \$12.088 million. As explained in response to BCUC IR 1.47.7, the automation of block valves located at strategic locations along the

⁵⁴⁸ Exhibit B-12, BCUC IRs 2.190.1 and 2.190.1.1.

⁵⁴⁹ Exhibit B-1, p. C-67.

⁵⁵⁰ Exhibit B-1-1, Appendix B8-2, p. 3.

⁵⁵¹ Exhibit B-1, p. C-68.

⁵⁵² Exhibit B-1, p. C-67.

CTS will assist FEI with emergency response and partially mitigate the consequences of a transmission pipeline rupture.⁵⁵³

- **LNG Plant Alterations:** The replacement or addition of equipment is necessary to ensure the ongoing safety and reliability of FEI's LNG facilities. The Tilbury and Mt. Hayes LNG facilities are integral to the operation of the FEI system, providing an alternate source of supply during peak demand days,⁵⁵⁴ and to provide LNG to FEI's transportation customers.⁵⁵⁵ Spending levels for LNG Plant Alterations are forecast to increase an average of 10 percent per year relative to the 2017-2019 average expenditure.⁵⁵⁶ The LNG Plant Alterations portfolio is made up of projects of variable sizes and scopes, with the \$3.2 million Air Cooler Upgrade at Tilbury LNG and the \$2.5 million 5 Year Turnaround at Tilbury LNG Expansion planned to take place in 2023.⁵⁵⁷ During 2023, fewer smaller projects are scheduled in order to balance resource demand and plant downtime.⁵⁵⁸
- **Pipeline Inspection:** FEI's in-line inspection programs are developed based on the age, attributes and condition of a pipeline, with inspection frequencies typically ranging from five to seven years.⁵⁵⁹ Spending levels for Pipeline Inspection, which includes pipeline and marine crossing inspections, are forecast to increase an average of 18 percent per year relative to the 2017-2019 average expenditure as a result of: (i) increasing length of inspectable pipeline; (ii) the adoption of circumferential magnetic flux leakage technology for all in-line inspected pipelines;⁵⁶⁰ and (iii) a maximum seven-year interval for reruns of geometry and standard magnetic flux leakage tools (an increase in frequency relative to the previous 10-year interval).⁵⁶¹ Pipeline inspections are completed on a scheduled basis, with costs fluctuating based on the number, length and

⁵⁵³ Exhibit B-10, BCUC IR 1.47.7.

⁵⁵⁴ Exhibit B-1-1, Appendix B8-2, p. 5.

⁵⁵⁵ Exhibit B-1, p. C-67.

⁵⁵⁶ Exhibit B-1, p. C-67.

⁵⁵⁷ FEI has yet to finalize its engineering analysis of project alternatives for the Air Cooler Upgrade at Tilbury LNG and therefore has not determined the technical feasibility or estimated cost of a repair option for this project, compared to replacement: Exhibit B-10, BCUC IR 1.47.9.

⁵⁵⁸ Exhibit B-10, BCUC IR 1.47.8.

⁵⁵⁹ Exhibit B-1-1, Appendix B8-2, p. 5.

⁵⁶⁰ FEI identified a material benefit to its integrity management program using circumferential magnetic flux leakage technology, and as such, extended its adoption across all in-line inspected pipelines. FEI is required to mitigate known hazards to its transmission pipelines and maintain its alignment with industry practice, despite cost pressures during the Current PBR Plan term: see Exhibit B-12, BCUC IR 2.189.1.

⁵⁶¹ Exhibit B-1, pp. C-67 to C-68; see also Exhibit B-12, BCUC IR 2.189.2 which outlines why a maximum of seven years is in line with industry practice and appropriate.

diameter of segments planned for inspection. FEI has provided a detailed breakdown of its forecast for the Pipeline Inspection area, which includes approximately \$2.8 million for the 2023 Huntingdon to Nichol in-line inspection,⁵⁶² in addition to a list of all pipeline inspections currently planned during the Proposed MRP term.⁵⁶³ Undertaking the Huntingdon to Nichol project is consistent with the revised seven-year inspection program and takes advantage of magnetic flux leakage, circumferential magnetic flux leakage and geometry tools.⁵⁶⁴

2.3 Distribution System Reliability

402. FEI's Distribution System Reliability expenditures primarily comprise works related to new or improvements to existing pressure control stations,⁵⁶⁵ alterations or improvements to distribution telemetry installations and distribution sectioning valves which are used in the case of emergencies to ensure public safety.⁵⁶⁶ FEI has forecast expenditures for Distribution System Reliability to grow at an average of 14 percent per year relative to the 2017-2019 average expenditure, with significant fluctuations from year to year in certain areas. These fluctuations are attributable to the timing of specific projects in this category and the offsetting of higher expenditure in other Sustainment capital categories.⁵⁶⁷ For example, FEI has provided additional information to explain why Distribution Sectioning Valves spending in 2021 and 2024 is expected to be higher than in other years due to specific project-related spending.⁵⁶⁸ Similarly, new Distribution Stations expenditures are forecast to increase in 2024 (in comparison to years 2021-2023) due to growth expected in the Fraser Valley necessitating two new stations.⁵⁶⁹

⁵⁶² Exhibit B-10, BCUC IR 1.47.8.

⁵⁶³ Exhibit B-12, BCUC IR 2.189.3.

⁵⁶⁴ Exhibit B-1, p. C-69; Exhibit B-12, BCUC IR 2.189.3.

⁵⁶⁵ Improvements to pressure control stations are generally in response to deteriorated condition, load change, obsolescence or regulatory compliance: Exhibit B-1, p. C-69.

⁵⁶⁶ Exhibit B-1, p. C-69; Exhibit B-1-1, Appendix B8-2, pp. 6 to 7.

⁵⁶⁷ Exhibit B-1, p. C-69.

⁵⁶⁸ Exhibit B-10, BCUC IR 1.47.14.

⁵⁶⁹ Exhibit B-10, BCUC IR 1.47.12.

403. While most areas of expenditure within this category have a relatively stable spending forecast in comparison to the 2017-2019 average, FEI's forecast includes Distribution Stations and Distribution System Capacity Alterations – both of which include projects with an anticipated spend profile greater than \$2 million during the Proposed MRP term.⁵⁷⁰ In particular, FEI notes:

- **Distribution System Telemetry Alterations:** FEI must regularly replace or upgrade its telemetry equipment, or install new telemetry equipment when needed. FEI is forecasting additional expenditures of approximately \$2.5 million over the Proposed MRP term to install additional telemetry required by operations to enable early warning of system-upset conditions and allow for the efficient and informed deployment of resources.⁵⁷¹
- **Distributions Stations Alterations:** FEI periodically replaces or upgrades equipment and components at distribution pressure regulating stations, including obsolete station remote terminal units, line heaters and/or regulators and odorization equipment.⁵⁷² Overall spending over the term is forecast to grow by an average of 13 percent per year relative to the 2017-2019 average expenditure due to the number of stations that require upgrades. These upgrades will address capacity shortfalls, obsolete equipment, and worker safety risks.⁵⁷³ Expenditures in 2022 and 2024 are forecast to be higher than the average during the Proposed MRP term by \$3.6 million and \$1.4 million, respectively. As FEI noted in the Application, increased expenditures in these years are caused by capital portfolio optimization to offset expenditure fluctuations in other portfolios. In response to BCUC IR 1.47.10, FEI provided additional detail with respect to the optimization of its Sustainment capital and which portfolios offset higher expenditures in 2022 and 2024.⁵⁷⁴
- **Distribution System Capacity Alterations:** System capacity alterations increase capacity to meet peak customer demand and address low capacity areas.⁵⁷⁵ For the 2020-2024 MRP term this category no longer includes distribution system improvements, which have been moved to Growth capital to better reflect the

⁵⁷⁰ Exhibit B-1, p. C-70.

⁵⁷¹ Exhibit B-12, BCUC IR 2.193.5.

⁵⁷² Exhibit B-1-1, Appendix B8-2, p. 6.

⁵⁷³ Exhibit B-1, p. C-70.

⁵⁷⁴ Exhibit B-10, BCUC IR 1.47.10; see also BCUC IRs 1.47.11 and 1.47.11.1.

⁵⁷⁵ Exhibit B-1-1, Appendix B8-2, p. 6.

investment drivers.⁵⁷⁶ The Proposed MRP term includes two projects with anticipated spending over \$2 million, including: (i) SI – 1850m x 168 IPST McLeod, Chilliwack in 2022 with an estimated project cost of approximately \$2.4 million; and (ii) SI – 1300m x 323 IPST Riverside, Abbotsford in 2024 with an estimated project cost of approximately \$3.6 million.⁵⁷⁷

2.4 Distribution System Integrity

404. FEI's Distribution System Integrity spending over the Proposed MRP term is growing at an average of one percent per year relative to 2017-2019 average expenditure levels. One driver of increased forecast spending within this category is the installation of secondary supply to NW Kamloops, forecast to cost approximately \$2.3 million in 2023.⁵⁷⁸

405. Furthermore, FEI has forecast increased expenditures for main and service renewals during the Proposed MRP term in order to address areas where recurring leaks or mains in poor condition are identified.⁵⁷⁹ Gas mains that are more likely to have integrity-related concerns are identified using asset leak history and condition assessments, and proactively scheduled for replacement. Planning projects in this manner allows replacement work to be undertaken at a lower cost and with less disruption than numerous unplanned repairs.⁵⁸⁰

3. FEI'S FORECAST OF OTHER CAPITAL REFLECTS REASONABLE AND NECESSARY COSTS TO MEET OPERATIONAL AND COMPLIANCE REQUIREMENTS

406. FEI has demonstrated through the Application and in response to information requests that its forecast requirements for Other capital expenditures across the Proposed MRP term are reasonable. FEI's Other capital expenditures are broken down into the following categories: (i) Equipment; (ii) Facilities; and (iii) Information Systems ("IS").⁵⁸¹ Table C3-17 of the Application

⁵⁷⁶ Exhibit B-1, p. C-69.

⁵⁷⁷ See Exhibit B-1, p. 70; Table C3-12 (p. C-70).

⁵⁷⁸ Exhibit B-1, pp. C-71 to C-72.

⁵⁷⁹ Exhibit B-1, p. C-72.

⁵⁸⁰ Exhibit B-1-1, Appendix B8-2, p. 7.

⁵⁸¹ Exhibit B-1, Section C3.3.2.2; see also Exhibit B1-1, Appendix B8-2, Section 1.2.3 for a detailed description of each capital category.

summarizes the forecast spending in these categories, each of which is discussed in further detail below.⁵⁸²

3.1 Equipment Capital

407. Equipment capital expenditures include the acquisition and/or replacement of tools and equipment and vehicles to meet FEI's operational requirements. Expenditures are primarily driven by obsolescence, excessive wear and regulatory compliance. Overall spending for Equipment capital is forecast to decline by approximately three percent per year, relative to 2017-2019 average expenditures during the Current PBR Plan term.⁵⁸³ Elevated spending on Equipment capital during the Current PBR Plan term was driven by growth, and in particular the addition of operations headcount to work on Growth capital projects.⁵⁸⁴

408. A nine percent increase in spending forecast for 2020 is offset by reduced spending in the remainder of the Proposed MRP term, amounting to the above-noted decline of three percent per year. FEI has forecast material changes in the areas of Tools and Equipment and Fleet Services in comparison to the 2017-2019 average, while other areas have relatively stable spending forecasts.⁵⁸⁵ With respect to the material variances, FEI notes the following:

- **Tools and Equipment:** A modified tool replacement program will cost an additional \$1.2 million per year between 2020 and 2024. Many tools that FEI personnel use to operate and maintain the distribution and transmission systems lack appropriate engineering documentation because they were designed, fabricated or modified in FEI's machine shop. Additional funding is needed to eliminate modified tools or ensure appropriate documentation for all tools that are used for pressure control or are pressure bearing.⁵⁸⁶
- **Fleet Services:** FEI's fleet replacement costs are forecast to be lower and trending downward over the Proposed MRP term compared to 2017-2019 average expenditures. This decline is attributable to headcount changes and the

⁵⁸² Exhibit B-1, Table C3-17 (p. C-73).

⁵⁸³ Exhibit B-1, Table C3-18 (p. C-74); FEI also provided a detail cost breakdown of its actual 2014 through 2018 and projected 2019 Equipment capital expenditures: Exhibit B-10, BCUC IR 1.48.1.

⁵⁸⁴ Exhibit B-10, BCUC IR 1.48.2.

⁵⁸⁵ Other areas comprise Measurement Services (i.e., gas leak detectors), Radio Communications (i.e., radio system upgrades) and Supply Chain: Exhibit B-1, p. C-73; Table C3-18 (p. C-73).

⁵⁸⁶ Exhibit B-1, pp. C-73 to C-74.

reprioritization of vehicle purchases from the earlier years of the Current PBR Plan term, when spending was low due to deferred spending.⁵⁸⁷ The Proposed MRP term also includes a significant number of larger unit replacements in response to age, safety and reliability issues.⁵⁸⁸ FEI also provided additional information with respect to the types of vehicles it purchases and recent drivers which have increased expenditures, including for example, the weakened Canadian dollar, fuel economy and emissions requirements and the deployment of new safety standards.⁵⁸⁹

3.2 Facilities Capital

409. FEI's forecast spending for Facilities capital during the Proposed MRP term is consistent with historical trends. Facilities capital expenditures include the acquisition or leasing of land, buildings or facilities furniture and equipment, with a primary focus on capacity planning, upgrading and the replacement of end of life assets.⁵⁹⁰ FEI has 55 non-plant office and muster sites, with buildings ranging from 1 year to over 100 years in age.⁵⁹¹

410. Given the cyclical nature of building assets' lives and conditions, FEI's forecast includes fluctuations from year to year with the lowest expenditure amount of approximately \$5.8 million anticipated in 2022 and the highest of approximately \$8.0 million anticipated for 2021.⁵⁹² A number of larger projects to address muster replacements and large roof replacements for the Coastal Facilities group of buildings is driving increased capital expenditures for 2020, 2021 and 2023. This spending is primarily in response to assets approaching their end of life.⁵⁹³

3.3 Information Systems Capital

411. FEI anticipates IS expenditures to grow approximately three percent per year relative to the 2017-2019 expenditure average. Table C3-19 of the Application provides a breakdown of

⁵⁸⁷ Exhibit B-1, p. C-74.

⁵⁸⁸ Exhibit B-12, BCUC IR 2.194.3.

⁵⁸⁹ Exhibit B-12, BCUC IR 2.194.1.

⁵⁹⁰ Exhibit B-1, p. C-74.

⁵⁹¹ Exhibit B-1-1, Appendix B8-2, p. 10.

⁵⁹² Exhibit B-1, Table C3-17 (p. C-73).

⁵⁹³ Exhibit B-1, p. C-74.

spending across four IS categories: (i) IS Sustainment; (ii) Application Enhancements; (iii) Cybersecurity; and (iv) Business Technology Applications.⁵⁹⁴ In response to BCUC IR 1.48.4, FEI provided a summary of actual 2014-2018 and projected 2019 IS capital expenditures, broken down by category.⁵⁹⁵

412. Expenditures in all categories, except for IS Sustainment, are forecast to increase from 2017-2019 levels. The increased expenditures forecast for 2020-2024 are for projects required to improve business processes and productivity, retain and attract customers, continue to meet compliance requirements, retain and attract new employees, replace outdated applications, and increase the use of data analytics. Resources will be allocated to higher value projects using FortisBC's prioritization process, undertaken on an annual basis.⁵⁹⁶

E. FBC'S FORECAST OF CAPITAL IS REQUIRED FOR THE SAFETY, RELIABILITY AND INTEGRITY OF FBC'S ELECTRIC SYSTEM, AND TO MAINTAIN REGULATORY COMPLIANCE

413. FBC's forecast of Regular capital expenditures for the Proposed MRP term, including Growth, Sustainment and Other capital, is primarily based on specific identified asset needs. FBC's forecast of Regular capital is reasonable and appropriate for the five-year term of the Proposed MRP. FBC has presented its forecast in detail in Section 3.4 of the Application and provided additional information substantiating its forecast in its responses to information requests.

414. As discussed in Part Six, Section C of this submission, FBC's projected level of Regular capital spending for the Proposed MRP term was developed using a robust bottom-up capital planning process supplemented by top-down forecasting based on historical trends for some categories where appropriate. By identifying individual assets and prioritizing project needs,

⁵⁹⁴ Exhibit B-1, Table C3-19 (p. C-75) (as amended by Exhibit B-1-2); see also Exhibit B-10, BCUC IR 1.48.3 for a reconciliation of IS categories between the Current PBR Plan and Proposed MRP terms.

⁵⁹⁵ Exhibit B-10, BCUC IR 1.48.4.

⁵⁹⁶ Exhibit B-1, p. C-76.

FBC has endeavored to increase efficiency and minimize customer rate impacts. FBC's forecast also reflects FBC's evolving operating environment which presents challenges and opportunities necessitating increased capital spending. These expenditures ensure the safety, reliability and integrity of FBC's electric system, while maintaining regulatory compliance.⁵⁹⁷ The reasonableness of FBC's forecast Regular capital expenditures, including Growth, Sustainment and Other capital, is outlined in detail below.

1. FBC'S FORECAST OF REGULAR CAPITAL IS INCREASING DUE TO DISCRETE, NON-RECURRING PROJECTS

415. FBC's Regular capital expenditure forecast is based on a combination of historical trends and known future requirements. The majority of the increase in the Proposed MRP term compared to the 2017-2019 period is driven by discrete and non-recurring projects which have been subject to extensive review and justification. Given the impact of these types of projects on FBC's capital forecast, historical spending is not, in all cases, a reliable basis on which to evaluate future spending.

416. Discrete or non-recurring projects make up 26 percent of FBC's Regular capital forecast for the Proposed MRP term, an increase of 15 percent when compared to FBC's capital requirements during the 2017-2019 period.⁵⁹⁸ Projects of this kind are primarily driven by increasing demand for electricity, the need to upgrade or replace infrastructure to ensure safe and reliable service, and by new legislative requirements.⁵⁹⁹ As FortisBC explained in its Rebuttal Evidence:⁶⁰⁰

Given FBC's relatively small asset base compared to many utilities, the timing of these non-recurring expenditures can easily give rise to year-to-year variation or to periods of asset renewal resulting in higher spending. FBC is cognizant of the rate impacts of higher capital spending but is unable to compromise its ability to serve load, maintain reliability, ensure public and employee safety, and meet legislative requirements.

⁵⁹⁷ Exhibit B-12, BCUC IR 2.196.4.

⁵⁹⁸ Exhibit B-23, Table 2.

⁵⁹⁹ Exhibit B-23, p. 18.

⁶⁰⁰ Exhibit B-23, p. 18.

417. Consideration of historical capital spending is therefore not necessarily a reliable basis on which to evaluate future spending. In Table 2 of FortisBC's Rebuttal Evidence, FortisBC provides a detail breakdown of expenditures associated with non-recurring projects for Growth and Sustainment capital. FBC's forecast spending with respect to both categories of capital is expected to increase above 2017-2019 levels.⁶⁰¹

418. A number of non-recurring projects with larger expenditures are the primary drivers of increased spending during the Proposed MRP term. The need and associated expenditures for these projects has been extensively canvassed in FortisBC's Application and in response to various information requests. The projects summarized below have the largest expenditures during the Proposed MRP term:⁶⁰²

- **Sexsmith 2nd Transformer Addition (Transmission Growth):** FBC forecasts approximately \$4.6 million in 2020 to add a new 40MVA 138/13kV transformer and two new 113kV distribution feeders to the Sexsmith substation.⁶⁰³ The Sexsmith substation is a critical piece of FBC's system, serving approximately 4,450 residential customers, 1,530 commercial customers and providing contingency in the event of unplanned outages. FBC's 2018 distribution load forecast indicates that peak load on the existing 32 MVA T1 transformer will exceed nameplate capacity in 2020. This project is driven by past and ongoing growth in Kelowna and will allow for continued reliable service to existing customers as a result of growth-based pressures.⁶⁰⁴ Following an assessment of alternatives, this project was determined to provide the most benefit.⁶⁰⁵
- **Beaver Park Substation Upgrade (Transmission Growth):** FBC forecasts approximately \$7.9 million between 2022 and 2023 to replace an existing transformer that can no longer be adequately maintained, in addition to adding a second transformer and switchgear in order to support N-1 contingency planning criteria. Area load for the Beaver Park substation is forecast to exceed nameplate capacity in winter 2021.⁶⁰⁶ FBC determined that the addition of a

⁶⁰¹ Exhibit B-23, Table 2, Lines 71 and 111.

⁶⁰² See Exhibit B-23, Table 2, Lines 57 to 111 for a summary of all non-recurring projects, along with references to FortisBC's Application and responses to information requests.

⁶⁰³ Over \$0.8 million was also forecast to be spent in 2019: see Exhibit B-1, p. C-82; Exhibit B-10, BCUC IR 1.53.1.

⁶⁰⁴ Exhibit B-10, BCUC IR 1.53.1.

⁶⁰⁵ Exhibit B-5, BCOAPO IR 1.62.2.

⁶⁰⁶ Exhibit B-1, p. C-83.

second distribution transformer would provide additional operational flexibility and improved contingency options.⁶⁰⁷ This project is currently at a Class 5 level of scope definition.⁶⁰⁸

- **Porcelain Cutouts Replacement (Distribution Sustainment):** FBC needs to spend approximately \$17 million during the Proposed MRP term to replace 2,000 porcelain cutouts per year. Fused porcelain cutouts provide overcurrent protection, limiting outages to affected equipment, and are used for the switching of distribution equipment, feeder branches and taps.⁶⁰⁹ During the Current PBR term, FBC experienced a high number of porcelain cutout failures⁶¹⁰ which, if left unrepaired, would create a safety hazard for employees and prolonged outages for customers as a result of decreased service reliability. FBC's forecast expenditures reflect an increasing rate of failure and the need for replacement when such failures occur.⁶¹¹ The estimated cost per-unit is consistent with historical actuals⁶¹² as the project consists of a high volume of low-cost activity.⁶¹³
- **Distribution PCB Mitigation (Distribution Sustainment):** FBC needs to replace approximately 1,450 distribution transformers and related distribution equipment at a cost of approximately \$13.6 million across the Proposed MRP term.⁶¹⁴ The expenditures for this project are for remediation in response to federal PCB Regulations (SOR/2008-273) which prohibits the release of more than one gram of PCBs into the environment.⁶¹⁵ FBC has confirmed the PCB level for a majority of affected equipment through testing and nameplate information and will replace equipment with PCB contamination of 50 ppm or more pursuant

⁶⁰⁷ Exhibit B-5, BCOAPO IR 1.62.2.

⁶⁰⁸ Exhibit B-10, BCUC IR 1.53.1.

⁶⁰⁹ Exhibit B-1, p. C-97.

⁶¹⁰ This comprised 246 cutout failures from 2014-2018: Exhibit B-5, BCOAPO IR 1.78.1; Exhibit B-1, p. C-97.

⁶¹¹ FBC attributed failures to environmental effects, manufacturing processes, lack of quality control, or improper installation: Exhibit B-1, p. C-98.

⁶¹² Exhibit B-1, p. C-98; Exhibit B-12, BCUC IR 2.202.5.

⁶¹³ FBC did not consider filing a CPCN application for this project because the project estimate does not meet the CPCN threshold of \$20 million, and considers its inclusion in the 2020-2014 forecast to be sufficient opportunity for review of the program: Exhibit B-10, BCUC IR 1.57.10.

⁶¹⁴ Exhibit B-1, Table C3-37 (p. C-95); Exhibit B-10, BCUC IR 1.57.8.

⁶¹⁵ Exhibit B-1, p. C-97.

to the regulation.⁶¹⁶ Remediation is expected to be completed by the end of 2025.⁶¹⁷

- **Salmo and Fruitvale Station Upgrades (Station Sustainment):** FBC's forecast includes expenditures of approximately \$14.7 million for the Salmo and Fruitvale Station Upgrades, with the former having an in-service date of 2021.⁶¹⁸ Both projects involve the replacement of an existing transformer and the installation of a second transformer in order to increase capacity in the area.⁶¹⁹ FBC intends to decommission the Ymir and Hearn stations within the next five years due to age and equipment condition.⁶²⁰ As outlined in response to BCOAPO IR 1.73.1, the Salmo Station Upgrade is necessary to meet load growth and will address a number of outstanding system limitations.⁶²¹ FBC has been responsive to questions from interveners with respect to this project, including a detailed account of project alternatives.⁶²² When evaluating the alternatives for this project, the recommended option to install two 20 MVA transformers at Salmo station was selected because it provides single contingency distribution reliability and sufficient capacity for the area over the expected life span of the new transformers.⁶²³

419. Costs associated with these large non-recurring projects, while below the \$20 million threshold for a CPCN, materially increase FBC capital expenditures during the Proposed MRP term. A number of additional smaller Sustainment capital projects have also increased FBC's forecast Regular capital expenditure.⁶²⁴ As demonstrated by the examples provided above, FBC has provided detailed information supporting the necessity of these capital expenditures.

⁶¹⁶ Exhibit B-12, BCUC IR 2.202.1; Exhibit B-10, BCUC IR 1.57.8; Exhibit B-1, p. C-97.

⁶¹⁷ Exhibit B-12, BCUC IR 2.202.2.

⁶¹⁸ Exhibit B-1, p. C-92; Table C3-34 (p. C-91).

⁶¹⁹ Exhibit B-1, pp. C-92 to C-93.

⁶²⁰ Exhibit B-8, ICG IR 1.6.1.

⁶²¹ Exhibit B-5, BCOAPO IR 1.73.1.

⁶²² See Exhibit B-5, BCOAPO IRs 1.73.1 to 1.73.6.1; Exhibit B-8, ICG IR 1.6.1.

⁶²³ Moreover, the recommended option to transfer Ymir load to Salmo station instead of Cottonwood station was selected due to cost and the ability to maintain the supply: Exhibit B-5, BCOAPO IR 1.73.6.

⁶²⁴ See, for example, BCUC IR 1.54.2 which outlines the main drivers of FBC's Generation Sustainment capital.

2. FBC'S FORECAST GROWTH CAPITAL IS REQUIRED TO MEET CUSTOMER DEMAND AND LOAD GROWTH

420. FBC's Growth capital consists of expenditures for transmission and distribution infrastructure upgrades which are required to meet new customer demand and load growth. As outlined in Table C3-22 of the Application, FBC's Growth capital expenditures during the Proposed MRP term are forecast to be higher on average than 2017-2019 expenditures.⁶²⁵ Increased spending is primarily driven by discrete projects that will add capacity to FBC's electric system in order meet future load growth.⁶²⁶ FBC's forecast for Growth capital during the Proposed MRP term is outlined in more detail below.

2.1 *Transmission Growth Capital*

421. FBC's transmission system requirements are based on forecast load in order to ensure there is sufficient supply in the event of adverse weather conditions or during periods of peak demand.⁶²⁷ As FBC's Regular Transmission Growth capital only consists of discrete projects, most of which have expenditures over \$1 million, annual expenditures in this category are variable during the Proposed MRP term.

422. For example, FBC has forecast capital expenditures of over \$5 million in both 2020 and 2023, significantly exceeding the average of \$1.5 million for the 2017-2019 period.⁶²⁸ These increases are associated with the Sexsmith 2nd Transformer Addition and Beaver Park Substation Upgrade, discussed in more detail above.⁶²⁹ FBC has also identified and justified the need for the following projects, which are planned to be completed with the 2020-2024 term:

- **Summerland Transformer Replacement (Growth):** FBC forecasts approximately \$2.6 million between 2020 and 2021 to upgrade the capacity of the substation transformer which currently supplies the District of Summerland municipal

⁶²⁵ Exhibit B-1, Table C3-22 (p. C-82).

⁶²⁶ Exhibit B-1, p. C-82.

⁶²⁷ Exhibit B-1, p. C-82.

⁶²⁸ Expenditures in 2021 and 2022 also exceed the 2017-2019 average, but to a lesser degree: Exhibit B-1, Table C3-23 (p. C-82).

⁶²⁹ See Part Six, Section E.1 above for further discussion of these projects.

utility.⁶³⁰ Peak load at this wholesale delivery point is forecast to exceed 95 percent of the contract demand limit in 2021 and, as such, this upgrade is required to provide reliable service in accordance with the terms of the associated wholesale supply contract.⁶³¹ A detailed alternatives analysis will be undertaken once the District of Summerland makes a decision with respect to future voltage conversion.⁶³² While this project is currently on hold pending this decision, development information communicated by the District of Summerland indicates that significant deferral is unlikely.⁶³³ The inclusion of the project in FBC's forecast is reasonable as significant new load is likely to materialize.⁶³⁴

- **DG Bell Second Transformer Addition:** FBC forecasts approximately \$1.1 million in 2024 in order to begin the installation of a second distribution transformer at the DG Bell substation. An additional \$4.3 million will be required to complete the project, with an in-service date of 2025. FBC's proposed timing for this project reflects the 2018 distribution load forecast and will increase substation supply capacity to maintain the current level of reliability and support N-1 contingency planning criteria.⁶³⁵ While FBC considered the construction of distribution upgrades to strengthen ties to other stations, thereby deferring the requirement for a second transformer, the proposed project provided additional operational flexibility and improves contingency options.⁶³⁶

2.2 Distribution Growth Capital

423. FBC's Distribution Growth capital during the Proposed MRP term includes expenditures associated with the Small Growth Projects program, the Unplanned Growth Projects program, and one discrete project – the DG Bell Feeder 4 Addition. Table C3-24 of the Application outlines FBC's expenditures between 2020-2024 in comparison to the 2017-2019 average of approximately \$1.2 million. In addition to the impact the DG Bell Feeder 4 Addition project will

⁶³⁰ See Exhibit B-10, BCUC IR 1.53.1 for a description of the current phase of scope of definition for this project.

⁶³¹ Exhibit B-1, pp. C-82 to C-83.

⁶³² Exhibit B-5, BCOAPO IR 1.62.2.

⁶³³ Exhibit B-12, BCUC IRs 2.197.6 and 2.197.7.

⁶³⁴ Exhibit B-12, BCUC IR 2.197.7.

⁶³⁵ Exhibit B-1, p. C-83.

⁶³⁶ Exhibit B-5, BCOAPO IR 1.62.2.

have on expenditures in 2020 (described further below), FBC forecasts increased spending across the Proposed MRP term for small growth projects.⁶³⁷

424. FBC's planned expenditures for the Proposed MRP term reflect significant growth in recent years and upgrades that are required to ensure continuing acceptable standards of service.⁶³⁸ The Small Growth Projects program consists of planned projects with a cost of less than \$0.5 million, including service upgrades, voltage regulation, ties to accommodate load splitting, single to three phase upgrades and conductor upgrades.⁶³⁹ Given the variability in timing and location of distribution load growth, FBC classifies small growth projects as either mandatory, essential or flexible.⁶⁴⁰ FBC's Small Growth Projects program is composed of 25 percent mandatory work, 50 percent essential work and 25 percent flexible work.⁶⁴¹ This allows for workload management and levelization where possible.⁶⁴²

425. FBC has provided additional information with respect to its annual Distribution Growth capital spending for the Current PBR Plan term, as this information informs its forecast spending during the Proposed MRP term.⁶⁴³ This includes a detailed breakdown of all expenditures for individual projects within both the Small and Unplanned Growth Projects programs.⁶⁴⁴ During the Current PBR Plan term, FBC attempted to maintain spending for small growth projects within the formula capital envelope,⁶⁴⁵ but some flexible projects were deferred beyond the Current PBR term in order for funds to be reallocated to higher priority projects.⁶⁴⁶ For the Proposed MRP period, the 2017-2019 average expenditures would be insufficient to maintain acceptable standard of service, and would require the deferral of

⁶³⁷ Exhibit B-1, pp. C-83 to C-84.

⁶³⁸ Exhibit B-5, BCOAPO IR 1.63.2.

⁶³⁹ Exhibit B-1, p. C-83; Exhibit B-12, BCUC IR 2.198.4.

⁶⁴⁰ Exhibit B-12, BCUC IR 2.198.2.

⁶⁴¹ Exhibit B-12, BCUC IR 2.198.4.

⁶⁴² Exhibit B-12, BCUC IR 2.198.2.

⁶⁴³ See, for example, Exhibit B-5, BCOAPO IR 1.63.1.

⁶⁴⁴ Exhibit B-12, BCUC IR 2.198.1

⁶⁴⁵ Exhibit B-12, BCUC IR 2.198.2.

⁶⁴⁶ Exhibit B-14, BOAPO IR 2.137.1.

necessary projects in favour of new growth projects, which could result in a negative impact on service to FBC customers.⁶⁴⁷

426. FBC has also explained the need for the DG Bell Feeder 4 Addition, which is forecast to cost \$2 million with an in-service date in 2020. The project includes the addition of a fourth feeder for the DG Bell substation and is in response to significant residential customer growth in the upper Mission area of Kelowna.⁶⁴⁸ FBC considered alternatives and concluded that by coordinating with the construction of the City of Kelowna's new road corridor its proposed projects would not require additional land rights or access roads.⁶⁴⁹

3. FBC'S FORECAST SUSTAINMENT CAPITAL IS NECESSARY TO ENSURE SAFETY, INTEGRITY AND RELIABILITY

427. FBC's Sustainment capital consists of expenditures for system reinforcements, asset replacements and upgrades to the generation, transmission and distribution assets, to ensure safety, integrity and reliability. FBC has forecast increased spending on Sustainment capital between 2020-2024. Table C3-25 of the Application summarizes spending during the Proposed MRP term, as compared to the average spending between 2017-2019.⁶⁵⁰ FBC's Sustainment capital is divided into five categories of expenditure, each of which is discussed below.

3.1 Generation Sustainment Capital

428. FBC anticipates higher spending for Generation capital across the Proposed MRP term compared to the average of 2017-2019.⁶⁵¹ These increases are driven by: (i) complying with Dam Safety and Occupational Health and Safety ("OHS") regulations; (ii) upgrades to equipment due to condition and obsolescence; and (iii) the deterioration of aged concrete structures and buildings that pose a risk to operations and personnel safety.⁶⁵² In response to BCUC IR 1.54.2,

⁶⁴⁷ Exhibit B-12, BCUC IR 2.198.5.

⁶⁴⁸ Exhibit B-1, p. C-84.

⁶⁴⁹ Exhibit B-5, BCOAPO IR 1.63.3.

⁶⁵⁰ Exhibit B-1, p. C-84.

⁶⁵¹ Exhibit B-1, pp. C-84 to C-85.

⁶⁵² Exhibit B-1, p. C-85

FBC provided further information with respect to each of these drivers and the projects associated with each.⁶⁵³

429. FBC ensures the safe operation of its four generating facilities, including 15 generating units, by actively monitoring its infrastructure to maintain alignment and compliance with industry standards, guidelines and associated regulations.⁶⁵⁴ The above-noted drivers of increased Generation Sustainment capital expenditures during the Proposed MRP term reflect the need to operate a safe and reliable system.

430. In Table C3-26 of the Application,⁶⁵⁵ FBC summarized the expenditures for its four Generation Sustainment capital programs. Each program and associated spending drivers has been thoroughly canvassed during this proceeding, as outlined below:

- **Hydraulic Dam Structures:** This program includes capital projects related to FBC's concrete structures and superstructures, in addition to its water flow control, lifting and dam safety equipment. FBC identified and provided a detailed description of a number of projects with expenditures in excess of \$1 million which are planned for completion during the Proposed MRP term.⁶⁵⁶ FBC has filed detailed supporting evidence in response to IRs, including third party engineering and condition assessment reports.⁶⁵⁷ For example, FBC anticipates expenditures of approximately \$4.6 million during the Proposed MRP term for the Concrete Structures Rehabilitation Project. This represents an increase of approximately \$1.8 million when compared to those of the Current PBR Plan term.⁶⁵⁸ This project, which began in 2014, is intended to ensure FBC's compliance with the BC Dam Safety Regulation and proactively address the deterioration of concrete structures at FBC generation plants which are between

⁶⁵³ Exhibit B-10, BCUC IR 1.54.2.

⁶⁵⁴ Exhibit B-1, p. C-84.

⁶⁵⁵ Exhibit B-1, p. C-85.

⁶⁵⁶ Exhibit B-1, pp. C-85 to C-86; Table C3-27 (p. C-85).

⁶⁵⁷ Exhibit B-5-1, BCOAPO, Confidential Attachments 65.1; 66.1; 66.2.1; 66.3.2; 66.4.2; 66.5; see also Exhibit B-12, BCUC IRs 2.199.1, 2.199.2 and 2.199.3 and Exhibit B-5, BCOAPO IRs 1.66.2, 1.66.3, and 1.64.1 for additional information provided with respect to the Lower Bonnington Dam (LBO) Spillway Gates Refurbishment Project, Other Gates Upgrade Project and Dam Safety Instrumentation Project.

⁶⁵⁸ See Exhibit B-10, BCUC IR 1.54.3 for an explanation of spending variances between the Current PBR Plan term and the Proposed MRP term.

87 and 112 years old.⁶⁵⁹ FBC prioritizes these types of repairs, with the highest priority areas being scheduled within 1 to 2 years after identification, in order to mitigate against employee safety hazards, operational issues and ultimately structural failures.⁶⁶⁰ FBC also anticipates expenditures of approximately \$1.6 million for Other Hydraulic Dam Structures projects during the Proposed MRP term, representing a material increase from the 2017-2019 average of \$58,000. Expenditures are primarily driven by three mandatory projects, the requirements of the BC Dam Safety Regulation, and one essential project (per FBC's Capital Priority Classification) which address the deterioration of dam infrastructure.⁶⁶¹

- **Generating Equipment:** This program includes capital projects related to FBC's excitation, governor, unit control, lubrication and cooling water systems, in addition to its turbine generator and generator switchgear assets. Expenditures for each year of the Proposed MRP term are forecast to exceed the 2017-2019 average.⁶⁶² As part of the Application, FBC identified and provided a detailed description of a number of projects with expenditures in excess of \$1 million which are planned for completion during the Proposed MRP term, including: (i) the Upper Bonnington Dam (UBO) Unit 6 Turbine Runner Replacement Project; (ii) the Generator Excitation System and Control System Replacement Project; and (iii) the Generator Thrust Bearing Cooling System Upgrade Project.⁶⁶³ Moreover, the scope, timing and duration of Other Generating Equipment capital projects (which comprises a number of smaller projects) has resulted in expenditures which are higher than the 2017-2019 average.⁶⁶⁴ In response to BCUC IR 2.199.8, FBC provided a detailed description of planned annual capital expenditures for capital projects in this category.⁶⁶⁵
- **Generation Auxiliary Equipment:** This program includes capital projects related to FBC's station service system, cranes, elevators, sump pumps, dewatering and drainage system, heating and cooling system, compressed air system, communication and network systems, and security systems. Capital expenditures are forecast to exceed the 2017-2019 average in 2020 and 2021, before dropping

⁶⁵⁹ Exhibit B-1, p. C-85; Exhibit B-10, BCUC IR 1.54.3.

⁶⁶⁰ Exhibit B-10, BCUC IRs 1.54.2 and 1.54.3.

⁶⁶¹ These projects include the Superstructure Upgrades project, LBO Superstructure Anchor Bolts project, Dam Stability Anchors project and Forebay Well Upgrades project: Exhibit B-12, BCUC IRs 2.199.4 and 2.199.6.

⁶⁶² Exhibit B-1, p. C-86; Table C3-28 (p. C-87).

⁶⁶³ Exhibit B-1, p. C-87.

⁶⁶⁴ Exhibit B-12, BCUC IR 2.199.8.1.

⁶⁶⁵ Exhibit B-12, BCUC IR 2.199.8.

for the remainder of the Proposed MRP term.⁶⁶⁶ Forecast projects with expenditures in excess of \$1 million include the Dewatering and Drainage Systems Rehabilitation Project and Station Service Upgrade Project – both of which are required to address equipment at the end of its service life. As FBC explained in response to BCUC IR 2.199.9, execution of the Dewatering and Drainage Systems Rehabilitation Project will commence in 2021.⁶⁶⁷ Preparation for this project began during the Current PBR Plan term and is expected to continue into 2020.⁶⁶⁸ FBC also provided a detailed breakdown of its planned Other Auxiliary Equipment projects, as compared to expenditures during the Current PBR Plan term. Spending in this category is expected to decline in 2021 after the completion of the DC Crane Control Upgrades Project.⁶⁶⁹

- **Buildings and Structures:** This category includes capital projects related to buildings and building components, heating and ventilation systems, fences and access roads. FBC has forecast significant spending variability between years of the Proposed MRP term.⁶⁷⁰ In particular, the majority of the capital expenditures for the Corra Linn Annex Building Replacement Project are forecast for 2024,⁶⁷¹ resulting in spending above the 2017-2019 average.⁶⁷² This reflects the impact of discrete non-recurring projects on FBC's capital expenditures, as discussed above. Moreover, in response to information requests from the BCUC, FBC clarified the scope and need for the Floor Covers Replacement Project during the Proposed MRP term.⁶⁷³

3.2 Transmission Sustainment Capital

431. FBC anticipates increased spending for Transmission Sustainment capital across the Proposed MRP term, when compared to the average of 2017-2019. Expenditures of this kind are required to proactively manage the condition and integrity of FBC's transmission line facilities, manage the risk to employees and public safety, and maintain an acceptable level of

⁶⁶⁶ Exhibit B-1, pp. C-87 to C-88; Table C3-29 (p. C-88).

⁶⁶⁷ Exhibit B-12, BCUC IR 2.199.9.

⁶⁶⁸ Exhibit B-12, BCUC IR 2.199.10.

⁶⁶⁹ Exhibit B-12, BCUC IR 2.199.11.

⁶⁷⁰ Exhibit B-1, p. C-88; Table C3-30 (p. C-88).

⁶⁷¹ Total expenditures for the Corra Linn Annex Building Replacement Project are expected to approximately \$1.8 million, with approximately \$1.6 million spent in 2024: see Exhibit B-1, Table C3-30 (p. C-88).

⁶⁷² FBC explained expenditures during the Current PBR Plan term under the heading "COR Annex Building Replacement: Exhibit B-12, BCUC IR 2.199.12.

⁶⁷³ See Exhibit B-10, BCUC IR 1.54.2; Exhibit B-12, BCUC IRs 2.199.13 and 2.199.13.2.

service for customers. As summarized in Table C3-31 of the Application, FBC divides Transmission Sustainment capital into four programs – with the Transmission Line Rehabilitation and Transmission Rights of Way programs representing the primary drivers of increased spending between 2020 and 2024.⁶⁷⁴ These programs are summarized below:

- **Transmission Line Rehabilitation:** Based on a condition assessments completed on an eight-year cycle, FBC will undertake the rehabilitation measures of stubbing poles, replacing poles, cross-arms, and guy wires.⁶⁷⁵ The determination of which transmission lines should be prioritized for rehabilitation is based on voltage level, system reliability, criticality of the line, and operational importance to the system. Each rehabilitation is prioritized as either urgent, priority or recommended – with the timing of work completion based on its categorization.⁶⁷⁶ As FBC explained in response to BCUC IR 1.70.3.2:⁶⁷⁷

Transmission Line Rehabilitation costs are forecast by region, based on the number of poles in the prior year's condition assessment program and the inflation-adjusted historical unit cost of rehabilitation. As the number of structures to be rehabilitated cannot be known in advance, the unit costs are determined on the basis of poles assessed, which assumes a constant proportion of poles for rehabilitation to poles assessed. In the 2020-2024 term, additional funds have been included to replace insulators.

In 2020, FBC has forecast an 83 percent increase in Other Transmission Line Rehabilitation when compared to the 2017-2019 average. Consistent with the approach described above, the increase relates to the higher number of poles in the transmission lines undergoing rehabilitation and the replacement of the insulators.⁶⁷⁸ Moreover, an additional \$1.1 million is forecast in 2020 for the 30 Line Rehabilitation Project between the South Slocan and Coffee Creek Substations.⁶⁷⁹ As FBC outlined in response to BCUC IR 2.200.1, the 2018 condition assessment results support the need for this large-scale refurbishment

⁶⁷⁴ Exhibit B-1, Table C3-31 (p. C-89).

⁶⁷⁵ Exhibit B-1, p. C-89; Exhibit B-12, BCUC IR 2.200.2.

⁶⁷⁶ Exhibit B-12, BCUC IR 2.200.3.

⁶⁷⁷ Exhibit B-5, BCOAPO IR 1.70.3.2.

⁶⁷⁸ Exhibit B-5, BCOAPO IR 1.70.3.2; FBC also provided further clarification on this point in Exhibit B-14, BCOAPO IR 2.138.1.

⁶⁷⁹ Exhibit B-1, p. C-90

project.⁶⁸⁰ There are no other transmission lines requiring similar levels of rehabilitation at this time.⁶⁸¹

- **Transmission Rights of Way:** This program involves acquiring rights of way and easements for existing transmission lines, and addressing access issues with respect to existing rights of way. FBC requires access to its transmission lines in order to ensure their ongoing operation and maintenance. This includes lines situated on private property and those without formal road access.⁶⁸² FBC's forecast during the Proposed MRP term includes 30, 32 and 19 Line Right of Way Improvements, which together comprise a multi-year project to acquire and clear additional right of way. The project is intended to reduce the number of tree-related outages which account for a significant percentage of transmission-related outages on each line.⁶⁸³ As a result of this project, capital expenditures in this category are higher than the 2017-2019 average.⁶⁸⁴

3.3 Stations Sustainment Capital

432. Expenditures for FBC's Substation ("Stations") Sustainment capital are forecast to increase for the 2020-2024 period. As discussed above, larger discrete projects including the Salmo and Fruitvale Station Upgrades are the primary drivers of this increase. Both projects are being undertaken to address transformer and equipment condition and, as a result, the historical rate of station upgrades has no bearing on their replacement timing.⁶⁸⁵ FBC is confident that all the planned Station Sustainment capital projects will be completed during the Proposed MRP term, as deferrals during the Current PBR Plan term were driven by capital pressures.⁶⁸⁶

433. Table C3-34 of the Application summarizes the forecast expenditures for these projects, in addition to the following four programs: (i) Station Urgent Repairs; (ii) Station Assessment /

⁶⁸⁰ Exhibit B-12, BCUC IR 2.200.1.

⁶⁸¹ Exhibit B-12, BCUC IR 2.200.2.

⁶⁸² Exhibit B-1, p. C-90.

⁶⁸³ Exhibit B-1, p. C-90.

⁶⁸⁴ See Exhibit B-1, Table C3-33 (p. C-90).

⁶⁸⁵ Exhibit B-1, p. C-91; Exhibit B-12, BCUC IR 2.201.2.

⁶⁸⁶ Exhibit B-12, BCUC IR 2.201.3.

Minor Planned Projects; (iii) Transformer Replacements; and (iv) Station Equipment.⁶⁸⁷ FBC provided additional information with respect to expenditures that have increased materially compared to the 2017-2019 average, as follows:

- **Transformer Replacements:** The replacement of FBC's transformers is triggered by a condition assessment which includes consideration of asset health, reliability, age, risk of failure, loading, outdated load tap changers and the impact to the FBC system. The historical rate of transformer replacement was therefore not a consideration in determining the number of replacements during the Proposed MRP term.⁶⁸⁸ FBC has provided the condition assessment reports in support of its planned replacements.⁶⁸⁹ In response to BCUC IR 2.201.1, FBC explained the higher cost for the AS Mawdsley Transformer Replacement when compared to the other projects planned to be completed within the Proposed MRP term.⁶⁹⁰
- **Station Equipment:** FBC's Station Equipment program includes expenditures to replace or refurbish obsolete or aging substation equipment, and maintain or improve substation reliability.⁶⁹¹ Table C3-36 of the Application summarizes particular areas of capital expenditures and each is discussed in detail.⁶⁹² Specific planned expenditures are identified following a condition assessment in the previous year. Where requested, FBC has provided such assessments.⁶⁹³ As part of this program, FBC tests the effectiveness of ground grids at all stations. The proper functioning of ground grids minimizes safety risk to employees and the general public who are in or around stations.⁶⁹⁴ In response to BCOAPO IR 1.75.1, FBC provided the location of Ground Grid Upgrades expenditures planned for 2022 and 2024. These upgrades are in response to high priority deficiencies in need of mitigation.⁶⁹⁵

⁶⁸⁷ Exhibit B-1, Table C3-34 (p. C-91).

⁶⁸⁸ Exhibit B-1, pp. C-91 to C-92; Exhibit B-12, BCUC IR 2.201.2.

⁶⁸⁹ Exhibit B-5, BCOAPO IR 1.72.1.

⁶⁹⁰ Exhibit B-12, BCUC IR 2.201.1.

⁶⁹¹ Exhibit B-1, p. C-93.

⁶⁹² Exhibit B-1, pp C-93 to C-95; Table C3-36 (p. C-93). In particular, FBC also provided an explanation for increased spending for Other Station Equipment: Exhibit B-5, BCOAPO IR 1.77.1.

⁶⁹³ See, for example, Exhibit B-5-1, Confidential Attachment 74.1.

⁶⁹⁴ This approach is consistent with the recommended practices of the Institute of Electrical and Electronics Engineers (IEEE): Exhibit B-1, pp. C-94 to C-95; see also B-14, BCOAPO IR 2.140.1 for a description of how FBC forecasts Ground Grid Upgrade spending.

⁶⁹⁵ Exhibit B-1, p. C-94.

3.4 Distribution Sustainment Capital

434. FBC proactively manages the condition and integrity of its distribution line facilities through Distribution Sustainment capital expenditures. FBC has forecast an increase in expenditures during the Proposed MRP term compared to the 2017-2019 period. While the majority of capital expenditures in this category are based on recent historical expenditures, two non-recurring programs have significant costs between 2020 and 2024: the Porcelain Cutouts Replacement and Distribution PCB Mitigation programs.⁶⁹⁶ These programs are discussed in detail above in Part Six, Section E.1 of this Final Submission, supported by additional information FBC furnished in response to information requests.

435. FBC's Application summarizes forecast Distribution Sustainment capital expenditures during the Proposed MRP term, including a thorough discussion of each area identified in Table C3-37.⁶⁹⁷ Between 2020 and 2024 spending in a number of areas is expected to remain relatively consistent with or below the 2017-2019 average, including Distribution Line Rehabilitation, Distribution Line Rebuilds, Distribution Urgent Repairs, Other Distribution Sustainment programs.⁶⁹⁸ Expenditures forming part of the Distribution Small Planned Capital program, which includes off-cycle and non-urgent repairs to keep distribution lines safe and reliable, are based on a three-year average adjusted by a general inflation rate of two percent for escalation.⁶⁹⁹

436. In its Application and in response to various information requests from the BCUC, FBC explained the need for increased spending for the Meter Exchanges program during the Proposed MRP term. FBC also provided a detailed breakdown of these costs for 2020-2024.⁷⁰⁰ While the advanced metering infrastructure ("AMI") project was completed in 2016,⁷⁰¹ meter

⁶⁹⁶ Exhibit B-1, p. C-95.

⁶⁹⁷ Exhibit B-1, pp. C-95 to C-99.

⁶⁹⁸ See Exhibit B-1, Table C3-37 (p. C-95).

⁶⁹⁹ As noted in Exhibit B-12, BCUC IR 2.202.4, FBC included annual expenditures in the Small Planned capital program to replace the highest-risk porcelain cutouts. The Small Planned capital program forecast will be updated to remove these duplicate costs upon approval of the Porcelain Cutouts Replacement program.

⁷⁰⁰ Exhibit B-12, BCUC IR 2.202.7.

⁷⁰¹ Exhibit B-1, p. C-98; Exhibit B-10, BCUC IR 1.57.12.

damage and failures resulted in expenditures during the Current PBR Plan term.⁷⁰² Beginning in 2020, FBC will resume compliance sampling of meters resulting in increased capital expenditures. In response to BCUC IR 2.202.6, FBC described the sampling program, as required by Measurement Canada, including the number of meters that will be sampled.⁷⁰³

3.5 Telecommunications Sustainment Capital

437. FBC's telecommunications system requires ongoing investment to replace aging or failed systems and is an integral component in the protection relaying system, remedial action schemes, substation operations and control, and generation dispatch systems. Specific planned expenditures for telecommunications are identified using a condition assessment in the previous year, with forecast expenditures set based on historical expenditures. FBC has forecast increased capital expenditures during the Proposed MRP term driven by the need to upgrade or replace aging systems, and in order to adhere to regulatory requirements.⁷⁰⁴

438. Table C3-38 of the Application summarizes FBC's Telecommunications Sustainment capital as divided into four discrete programs which are discussed in detail below.⁷⁰⁵

- **Communication Upgrades:** This is an ongoing project to upgrade FBC's telecommunications facilities to enhance the ability for system operators to respond to system events and actively monitor the status of the transmission and distribution system. FBC explained the current state of its existing equipment in its Application, justifying the need for these upgrades in the furtherance of protecting FBC's power system, employees and the general public.⁷⁰⁶
- **Station Smart Device Upgrades:** A number of FBC's electronic relays, which facilitate efficiencies in the operations, engineering and planning areas, and enhance system reliability, are aged or failing. By updating these devices, FBC anticipates a decreased need for complex protection schemes through the co-ordination of protective devices, accurate information and real time telemetry

⁷⁰² See Exhibit B-10, BCUC IRs 1.57.11, 1.57.11.1, and 1.57.11.2.

⁷⁰³ Exhibit B-12, BCUC IR 2.202.6.

⁷⁰⁴ Exhibit B-1, p. C-99.

⁷⁰⁵ Exhibit B-1, Table C3-38 (p. C-99).

⁷⁰⁶ Exhibit B-1, p. C-99.

on system status, faults and other problems.⁷⁰⁷ This is an ongoing program with expenditures forecast to decline across the Proposed MRP term⁷⁰⁸ and is managed using a prioritization system based on several factors.⁷⁰⁹ As an ongoing program, FBC has confirmed its continuation beyond the Proposed MRP term.⁷¹⁰

- **SCADA Systems Sustainment:** This program funds SCADA software systems and infrastructure at and between the System Control Centre and Backup Control Centre. While this program funds MRS-related system upgrades in order to maintain compliance with MRS standards, FBC has also identified a need to upgrade/update existing SCADA systems independent of these standards.⁷¹¹ Increased forecast spending is driven by ongoing costs arising from MRS Assessment Reports 8 and 10, and delayed expenditure for hardware and software systems in previous years.⁷¹²
- **Systems Upgrades and Replacements:** This program includes expenditures associated with the replacement of several FBC telecommunications systems which have reached their end of life, including the: (i) Backbone Transport Technology Migration project; (ii) SCADA System Replacement project; and (iii) VHF Radio System Replacement project. Each of these projects is forecast to require expenditures in excess of \$1 million and are summarized in FBC's Application.⁷¹³ FBC also provided a detailed breakdown of costs associated with these three projects for each year of the Proposed MRP term.⁷¹⁴ As FBC explained in response to BCUC IR 2.203.5.1, the Backbone Transport Technology Migration project was deferred from the Current PBR Plan term as the vendor of the legacy SONET equipment agreed to continue the product for several additional years. While some additional expenditures were required to satisfy short and medium term substation communication needs as a result of project deferral, the cost of delivering the Backbone Transport Technology Migration project has only increased due to inflation. FBC expects to benefit from the experience of other utilities and the ability to evaluate mature solutions, with

⁷⁰⁷ Exhibit B-1, p. C-100.

⁷⁰⁸ Exhibit B-1, p. Table C3-38 (p. C-99).

⁷⁰⁹ Exhibit B-12, BCUC 2.203.1.

⁷¹⁰ Exhibit B-12, BCUC 2.203.2.

⁷¹¹ Exhibit B-10, BCUC IR 1.58.2.

⁷¹² Exhibit B-10, BCUC IR 1.36.5; Exhibit B-5, BCOAPO IR 1.79.1.

⁷¹³ Exhibit B-1, pp. C-100 to C-101.

⁷¹⁴ Exhibit B-12, BCUC IR 2.203.4.

the savings from deferring the project expected to offset any additional expenditures required.⁷¹⁵

4. FBC HAS TAKEN STEPS TO MITIGATE FUTURE DAMAGE FROM STORMS AND WILDFIRES

439. During the Current PBR term, FBC incurred considerable wildfire and storm restoration costs.⁷¹⁶ Asset damages by wildfires include distribution poles, insulators, wires, transformers and related hardware, and transmission poles, insulators and wires.⁷¹⁷ Restoration costs are embedded in the Urgent Repair Sustainment capital budget.⁷¹⁸ As FBC explained in response to BCUC IR 1.57.5, it has implemented multiple layers of defense to minimize future damage from wildfires and storms – including vegetation management:⁷¹⁹

The first layer of this involves the execution of FBC’s Asset Management program to ensure that the system remains in a resilient state and able to withstand these types of environmental impacts.

The FBC Transmission and Distribution system has a Condition Assessment performed on an eight year cycle. The program consists of a pole test and treat component and an above ground visual condition inspection.

[...]

Supplementing the Condition Assessment, an Annual Line Patrol (ALP) is completed on the full Transmission and Distribution System yearly. This will identify any issues that may arise outside of the eight year Condition Assessment cycle. Any deficiencies that are identified during the ALP that would prevent the facility from safely performing its function to its next planned Condition Assessment cycle will be repaired off-cycle.

FBC’s strategy with respect to vegetation maintenance is to have a systematic, methodical approach to vegetation management on all transmission and distribution facilities throughout the FBC service area. A well developed vegetation maintenance program inherently reduces the risk of wildfires by reducing grow-ins and the possibility of obvious hazard trees falling into the line.

⁷¹⁵ Exhibit B-12, BCUC IRs 2.203.5.2 and 2.203.6.

⁷¹⁶ Exhibit B-10, BCUC IRs 1.57.2.2.2, 1.57.2.3, 1.57.2.4, and 1.57.3.

⁷¹⁷ Exhibit B-10, BCUC IR 1.57.3.1.

⁷¹⁸ Exhibit B-10, BCUC IRs 1.57.2.2.2 and 1.57.4.

⁷¹⁹ Exhibit B-10, BCUC IR 1.57.5.

[...]

FBC utilizes the principles of Integrated Pest Management (IPM) to manage unwanted vegetation on its transmission and distribution systems. Regular inspections and patrols are conducted to determine the physical location and condition of vegetation and hazard trees.

[...]

As a further defense against wildfire damage, FBC and the British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development, have a Wildfire Response Agreement in place. In the event that a wildfire has the potential to threaten FBC assets the Province will use its best efforts to provide its services to protect them.

440. FBC's vegetation management practices meet or exceed the requirements of Mandatory Reliability Standard FAC-003-4 'Transmission Vegetation Management' for transmission facilities of 200 kV or higher.⁷²⁰

441. As described in Part Six, Section E.3.2 of this Final Submission, FBC also intends to enhance the ROW for 30, 32 and 19 Lines. Of FBC's 72 transmission lines, tree contacts on 30 Line account for 17 percent of the transmission related outages. Tree contacts on 32 Line and 19 Line each account for approximately eight percent of FBC's transmission related outages.⁷²¹ The planned enhancements to the ROW for these lines are needed to reduce outages related to these lines.

5. FBC'S FORECAST OF OTHER CAPITAL REFLECTS REASONABLE AND NECESSARY COSTS TO MEET OPERATIONAL AND COMPLIANCE REQUIREMENTS

442. FBC has demonstrated through the Application and in response to information requests that its forecast requirements for Other capital expenditures across the Proposed MRP term are reasonable. During the 2020-2024 term, FBC's Other capital expenditures are forecast to be higher than the 2017-2019 average in each of the following categories: (i) Equipment; (ii)

⁷²⁰ Exhibit B-10, BCUC IR 1.57.5.

⁷²¹ Exhibit B-1, p. C-90.

Facilities; and (iii) Information Systems (“IS”).⁷²² Table C3-39 of the Application summarizes spending in these categories, each of which is discussed in further detail below.⁷²³

5.1 Equipment Capital

443. FBC’s Equipment capital expenditures include the acquisition of fleet vehicles, and other specialized tools and equipment⁷²⁴ due to obsolescence, excessive wear and in order to maintain regulatory compliance.⁷²⁵ In response to BCUC IR 1.59.1, FBC provided actual, projected and forecast expenditures for each category and explained the main factors driving increased costs.

444. For example, expenditures in FBC’s Fleet Vehicle category include the acquisition and/or replacement of various vehicle types to meet the utility’s operational requirements. Each replacement is made on a unit-by-unit basis based on a number of factors.⁷²⁶ Many vehicle replacements cannot be deferred given the risk of negatively impacting employee and safety. Moreover, excessive repair costs, down time and equipment shortages degrade service response times and ultimately increase operating costs.⁷²⁷ Starting in 2015, FBC’s costs for Fleet Vehicles have been negatively impacted by the USD/CAD exchange rate. Further exchange rate impacts are reflected in the forecast expenditures during the Proposed MRP term.⁷²⁸

5.2 Facilities Capital

445. FBC’s Facilities capital expenditures include the acquisition or leasing of land, buildings, and building equipment. FBC has 17 non-plant office sites, with the oldest being 80 years in age. In response to BCUC IR 1.59.3, FBC provided a breakdown and description of Facilities capital

⁷²² Exhibit B-1, pp. C-102 to C-105.

⁷²³ Exhibit B-1, Table C3-39 (p. C-102).

⁷²⁴ FBC explained that the 2020 increase in spending for Tools and Equipment is due to the acquisition of an underground cable puller: Exhibit B-10, BCUC IR 1.59.1.

⁷²⁵ Exhibit B-1, p. C-102.

⁷²⁶ These factors include a vehicles suitability to meet current and future business requirements, ability to maintain adequate safety, age, condition, and compliance with regulations: Exhibit B-1, p. C-102.

⁷²⁷ Exhibit B-1, p. C-102.

⁷²⁸ Exhibit B-10, BCUC IR 1.59.1.

expenditures for the Proposed MRP term.⁷²⁹ While this category of expenditures is primarily focused on capacity planning, upgrading and the replacement of end of life assets (i.e., sustainment of existing buildings), FBC has proposed to make an addition to the Oliver District Office – resulting in elevated expenditures during 2020.⁷³⁰ The proposed renovation would increase the size of the building by approximately 2,000 sq. ft. and provide a dedicated area for work crews to muster. There is currently insufficient space for work crews in the existing office space.⁷³¹

5.3 Information Systems Capital

446. FBC's IS capital expenditures include enhancing, replacing, upgrading and sustaining existing applications and infrastructure, while introducing new technology capabilities as needed. A number of matters related to IS capital expenditures were also discussed in Part Six, Section D.3.3 of this Final Submission in relation to FEI.

447. During the Proposed MRP term, IS expenditures are forecast to increase at less than two percent per year relative to 2017 to 2019 average expenditures.⁷³² Table C3-40 of the Application summarizes FBC's IS capital expenditures, broken down into the following categories: (i) Information Systems Sustainment; (ii) Application Enhancements; (iii) Cybersecurity; and (iv) Business Technology Applications. Each category is also outlined in detail as part of FBC's Application.⁷³³ In response to BCUC IR 1.59.4, FBC also provided a summary of actual 2014-2018 and projected 2019 IS capital expenditures.⁷³⁴

448. FBC selected its core applications/systems in order to promote scalability and ability to be upgraded, enhanced and integrated. This approach minimizes FBC's need to acquire and implement new business technology solutions. FBC's core enterprise applications include SharePoint (document management/collaboration), ESRI GIS (electric network mapping),

⁷²⁹ Exhibit B-10, BCUC IR 1.59.3.

⁷³⁰ Exhibit B-1, p. C-103; Exhibit B-10, BCUC IRs 1.59.2 and 1.59.2.1.

⁷³¹ Exhibit B-10, BCUC IR 1.59.2.

⁷³² Exhibit B-1, p. C-104.

⁷³³ Exhibit B-1, pp. C-104 to C-105; Table C3-40 (p. C-104).

⁷³⁴ FBC also provided IS capital expenditures for 2014-2019: Exhibit B-10, BCUC IR 1.59.4.

Clevest Workforce Management (field worker work order delivery and updating) and Cascade Plant Maintenance (transmission and generation-related).⁷³⁵ Moreover, where infrastructure and/or applications will benefit both FBC and FEI customers, a shared asset framework is used to equitably distribute costs for assets that have a shared use and benefit.⁷³⁶

F. FORTISBC WILL REVIEW ITS FORECAST CAPITAL FOR 2023 AND 2024 TO MITIGATE UNCERTAINTY

449. Due to its evolving operating environment and other uncertainties inherent in a five-year forecast, FortisBC proposes to review its forecast capital for 2023 and 2024 in its Annual Review for 2023 rates. Should FortisBC deem it necessary, it will file an updated forecast of the 2023 to 2024 expenditures in 2022 to account for any material changes to the forecast that occur over that time period and ask for approval of the changes.

450. While FortisBC evaluates its capital plans on an ongoing basis in order to meet forecast load and ensure the safety, reliability and integrity of its gas and electric systems, certain factors create uncertainties warranting a review of capital expenditures later in the Proposed MRP term. In response to BCUC IR 1.51.5, FortisBC identified the following factors:⁷³⁷

- **Load Growth:** Planned growth capital projects are dependent on current expectations of load growth. To the extent that load growth occurs more slowly, more rapidly, or in areas unanticipated at the time of filing, projects will be introduced or re-scheduled to ensure that customer requirements can be met.
- **Condition of Facilities:** Sustainment capital projects are largely driven by the need to maintain the reliability and integrity of networks and equipment. The Companies conduct condition assessment activities on an ongoing basis; any material developments related to the condition of facilities could likewise result in new projects or in changes to the scope of projects.
- **Third Party Driven Work:** Significant infrastructure projects that require FEI or FBC to relocate its assets could result in new projects. Likewise, the cancellation

⁷³⁵ Exhibit B-1, p. C-104.

⁷³⁶ Exhibit B-1, pp. C-104 to C-105.

⁷³⁷ Exhibit B-10, BCUC IR 1.51.5.

of currently identified infrastructure projects could result in the cancelation or delay of the FEI or FBC required relocations.

- **Scope and Cost Refinement:** FEI and FBC continue project development work on the projects identified as Major Projects. While approval of these Major Projects will most likely be sought by way of a CPCN application, if upon further project development, a Major Project is found not to meet the criteria for a CPCN, it may instead be included in a mid-term update.
- **Other Factors:** Unknown factors may also affect the inclusion, timing, scope or costing of projects. As an example, the deterioration of the Canada/US exchange rate during the Current PBR Plan term, as discussed in Appendices B8-1 and B8-3 of the Application, contributed to the capital cost pressures for FEI and FBC.

451. Reforecasting is both a simple and transparent means of addressing some of the above-noted factors. This contrasts with a comprehensive formula review which could require a potentially lengthy and complex process to determine which projects or cost pressures ought to be reflected in the formula.⁷³⁸

452. FortisBC's proposed timeframe for reviewing its forecast capital for 2023 and 2024 is appropriate in that it has the potential to mitigate against the above-noted factors, while also maintaining sufficient incentive for FortisBC to achieve its original forecast.

G. FORTISBC WILL CONTINUE TO SEEK APPROVAL OF MAJOR PROJECTS OUTSIDE OF THE MRP FRAMEWORK

453. FortisBC will continue to seek approval of Major Projects by way of CPCN or an application under section 44.2 of the UCA. FortisBC is proposing that the approved CPCN thresholds for FEI and FBC of \$15 million and \$20 million, respectively, continue for the Proposed MRP term.⁷³⁹

⁷³⁸ Exhibit B-12, BCUC IR 2.188.3.

⁷³⁹ Exhibit B-10, BCUC IR 1.50.1; see also Exhibit B-1, pp. C-77; C-106. FBC also confirmed that the Current PBR Plan threshold is longer required as the majority of capital expenditures for Proposed MRP term are based on a forecast: Exhibit B-10, BCUC IR 1.50.2.

454. While FortisBC is not seeking any approval of Major Project expenditures in this Application,⁷⁴⁰ FortisBC provided examples and details with respect to Major Project applications that may arise over the course of the Proposed MRP term. This includes information with respect to project need, scope, forecast construction timelines and, where available, preliminary cost estimates.⁷⁴¹ FortisBC also identified that is investigating other projects which may be brought forward during the Proposed MRP term. Consistent with the BCUC's direction for the 2014-2019 PBR Plans, FortisBC will bring forward any changes to O&M or Regular capital as a result of a Major project in the appropriate rate-setting proceeding.⁷⁴²

⁷⁴⁰ Exhibit B-10, BCUC IRs 1.49.2 and 1.60.4.

⁷⁴¹ See Exhibit B-1, pp. C-77 to C-80; C-106 to C-108; Exhibit B-10, BCUC IRs 1.49.5 and 1.60.5.1.

⁷⁴² Exhibit B-7, CEC IR 1.29.1.

PART SEVEN: SERVICE QUALITY INDICATORS ARE APPROPRIATE AND USEFUL IN MONITORING ON SAFETY, RELIABILITY AND RESPONSIVENESS TO CUSTOMER NEEDS

A. OVERVIEW

455. FortisBC's proposed SQIs for FEI and FBC build on the experience with the SQIs under the Current PBR Plans and will enable the monitoring of FEI and FBC's service quality throughout the Proposed MRP term to ensure that any efficiencies and cost reductions do not result in a degradation of the quality of service to customers.⁷⁴³ FortisBC's proposed SQIs are based on a careful review of the current suite of SQIs, considering past BCUC determinations and stakeholder feedback, to determine whether the current SQIs and their benchmarks and thresholds remain appropriate in measuring service quality. As the current SQIs have proven to be appropriate and useful in monitoring the Utilities' performance during the Current PBR Plan term, FortisBC is proposing limited adjustments for the term of the Proposed MRPs. Similar to the SQIs relied upon during the Current PBR Plan, the proposed SQI metrics reflect a broad range of business processes, measure important elements of the service experienced by FortisBC customers, and will provide an appropriate balance of metrics focused on safety, reliability and responsiveness to customer needs. As under the Current PBR Plans, FEI and FBC will report each year's results to the BCUC and stakeholders as part of the Annual Review. FortisBC submits that its proposed suite of SQIs should be approved.

456. This part of the Final Submission is organized around the following key points:

- FortisBC has refined its existing SQIs using experience gained during the Current PBR Plan term and, where applicable, has reviewed benchmarks against its recent past performance to determine whether changes are required.

⁷⁴³ See, Exhibit B-1-1, Appendix C5-1, Table A:C5-1-2 (p. 3) and Appendix C5-2, Table A:C5-2-2 (p. 3) for the history and evolution of FEI and FBC's SQIs.

- FEI's proposed adjustments to the SQIs reasonably reflect recent trends, stakeholder feedback and changed circumstances, and will improve the usefulness of the SQIs.
- FBC's proposed adjustments to the SQIs reasonably reflect recent trends, stakeholder feedback and changed circumstances, and will improve the usefulness of the SQIs.
- FortisBC is proposing no changes to the existing process for interpreting metric performance, as approved for the Current PBR Plan.

B. PROPOSED SUITE OF SERVICE QUALITY INDICATORS BUILD ON PAST EXPERIENCE

457. The proposed suite of SQIs are the result of a careful review process by FortisBC to ensure that the SQIs are updated as needed for the term of the Proposed MRPs. FortisBC reviewed and assessed the appropriateness of its existing SQIs, incorporating both its experience during the Current PBR Plan term and feedback received from stakeholders as part of the Annual Review processes. FortisBC also took into consideration the factors identified by the BCUC when it determined the benchmarks and thresholds for the Current PBR Plans to assist in determining whether a given threshold or benchmark was appropriate.⁷⁴⁴

458. FortisBC's conclusion regarding the performance of the existing suite of SQIs is that they have worked well and generally remain appropriate. FortisBC concluded in Section B2.3.5.1 of the Application:⁷⁴⁵

FEI's and FBC's Current PBR Plans include a number of targeted and informational SQIs. The SQIs are considered to be an important part of any MRP to ensure that any achieved cost savings are not at the expense of reduced service quality. The review of annual SQI results, as presented in multiple Annual Reviews and Appendices C5-1 and C5-2, indicates that both Utilities have met their service quality targets in almost all of the years. FortisBC believes that the tracking and monitoring of SQIs and the existing approach for setting service quality targets have been successful and should be maintained. Nevertheless,

⁷⁴⁴ Exhibit B-10, BCUC IRs 1.84.1 and 1.84.3.

⁷⁴⁵ Exhibit B-1, p. B-46.

SQIs should be reviewed periodically to ensure the metrics and benchmarks remain appropriate. The Companies have done so in Section C7.

459. FortisBC's review of existing SQI benchmarks and thresholds focused on reviewing metric performance during the Current PBR Plan term to determine if modifications were required. This approach reflects FortisBC's view that recent performance is a better measure of an acceptable level and cost of service for its customers. By basing the proposed benchmarks on performance in recent years, rather than general industry standards, the benchmarks are also reflective of the costs required to provide the service.⁷⁴⁶ This approach is consistent with the BCUC's decisions for the Current PBR Plans.⁷⁴⁷

460. FortisBC also considered the need for consistency together with the need to add or replace SQIs as circumstances change over time. Consistency is important as it enables the identification of trends in the performance of individual metrics and the overall service level provided to customers.⁷⁴⁸ FortisBC explained as follows:⁷⁴⁹

Where the impact of any change in investment strategies or operating practices may not be fully realized over a single PBR/MRP term, it is important to maintain consistency in which SQIs are reported in order to identify longer-term trends against an established baseline of performance. For example, changing the methodology used to calculate the reported results for a metric will make it difficult to detect any trends in performance, as the results would no longer be an "apples to apples" comparison.

461. As the existing suite of SQIs have worked well,⁷⁵⁰ FortisBC is proposing to continue with most of the SQIs and is only proposing changes where needed to reflect recent trends, stakeholder feedback or changes in circumstances. In the sections below, FortisBC addresses each of its proposed changes.

⁷⁴⁶ Exhibit B-10, BCUC IR 1.90.1.

⁷⁴⁷ BCUC Decision G-138-14, BCUC Decision G-139-14 and BCUC Order G-14-15.

⁷⁴⁸ Exhibit B-10, BCUC IR 1.90.2.2.

⁷⁴⁹ Exhibit B-10, BCUC IR 1.90.2.2.

⁷⁵⁰ Exhibit B-10, BCUC IRs 1.84.6 and 1.90.3.

C. FEI'S SQIS REFLECT REASONABLE ADJUSTMENTS FOR RECENT TRENDS, STAKEHOLDER FEEDBACK AND CHANGES IN CIRCUMSTANCES

462. FEI proposes nine SQIs with benchmarks and thresholds, and four informational SQIs, as set out in Section 7.2 and Appendix C5-1 of the Application, that represent a broad and balanced set of SQIs that are useful and appropriate for monitoring FEI's performance during the Proposed MRP term. FEI's proposed SQIs are supported by detailed information in the Application. For each SQI with a benchmark and threshold, FEI provided the methodology used to determine the existing approved benchmark and calculated a proposed benchmark based on FEI's recent performance (i.e., the average of 2016 to 2018 results).⁷⁵¹ FEI also provided its rationale for determining the thresholds for SQIs for the Proposed MRP.⁷⁵² As discussed below, both the benchmarks for the Public Contacts with Gas Lines and Billing Index SQIs were modified, along with the threshold for the Public Contacts with Gas Lines SQI.

463. Table C7-1 of the Application provides a comparison of FEI's current and historical SQIs, reflecting proposed changes from the Current PBR Plan.⁷⁵³ Highlighted cells indicate the changes proposed for the MRP term.

⁷⁵¹ Exhibit B-10, BCUC IRs 1.84.2 and 1.84.3.

⁷⁵² Exhibit B-10, BCUC IR 1.84.5.1.

⁷⁵³ Exhibit B-1, Table C7-1 (p. C-148).

Table C7-1: Comparison of FEI Current and Proposed SQIs

| Indicators with Benchmarks and Thresholds | | | Current | | Proposed | |
|---|----------------------------------|---|-----------|-----------|-----------|-----------|
| | | | Benchmark | Threshold | Benchmark | Threshold |
| Annual results | Safety | Emergency Response Time - Calls responded to within one hour | >= 97.7% | 96.2% | >=97.7% | 96.2% |
| Annual results | Safety | Telephone Service Factor (Emergency) - Calls answered in 30 seconds or less | >= 95% | 92.8% | >=95% | 92.8% |
| 3 Year rolling average | Safety | All Injury Frequency Rate | <= 2.08 | 2.95 | <= 2.08 | 2.95 |
| Annual results | Safety | Public Contacts with Gas Lines | <= 16 | 16 | <=8 | 12 |
| Annual results | Responsiveness to Customer Needs | First Contact Resolution | >= 78% | 74% | >=78% | 74% |
| Annual results | Responsiveness to Customer Needs | Billing Index | <= 5 | <=5 | <=3 | 5 |
| Annual results | Responsiveness to Customer Needs | Meter Reading Accuracy - Number of scheduled meter reads that were read | >= 95% | 92% | >=95% | 92% |
| Annual results | Responsiveness to Customer Needs | Telephone Service Factor (Non Emergency) - Calls answered in 30 seconds or less | >= 70% | 68% | >=70% | 68% |
| Annual results | Responsiveness to Customer Needs | Meter Exchange Appointment Activity | >=95% | 93.8% | >=95% | 93.8% |
| Informational Indicators | | | | | | |
| Annual results | Responsiveness to Customer Needs | Customer Satisfaction Index | n/a | n/a | n/a | n/a |
| Annual results | Responsiveness to Customer Needs | Average Speed of Answer (replaces Telephone Abandonment Rate) | n/a | n/a | n/a | n/a |
| Annual results | Reliability | Transmission Reportable Incidents | n/a | n/a | n/a | n/a |
| Annual results and 5 Year rolling average | Reliability | Leaks per KM of Distribution System Mains | n/a | n/a | n/a | n/a |

464. In addition to the material presented in the Application, FortisBC provided detailed responses to information requests, including on SQIs that FEI proposes to keep unchanged from those approved for the Current PBR Plan.⁷⁵⁴ While FEI explained that it is looking into future indicators of safety performance,⁷⁵⁵ none of the IRs suggest that FEI should be changing or adding any SQIs other than those proposed.

465. Each SQI that FEI has proposed to modify is addressed below.

⁷⁵⁴ See, for example, Exhibit B-10, BCUC IRs 1.86.1 (Meter Reading Accuracy SQI), 1.87.1 and 1.87.1.1 (Customer Satisfaction Index SQI); Exhibit B-12, BCUC IRs 2.233.1 and 2.233.2 (Telephone Service Factor (Emergency) SQI), 2.233.4 (Average Injury Frequency Rate SQI) and 2.233.6 (First Contact Resolution SQI).

⁷⁵⁵ Exhibit B-5, BCOAPO IR 1.86.1; Exhibit B-10, BCUC 1.84.6; and Exhibit B-12, BCUC IRs 2.233.8 and 2.233.8.1.

1. CHANGES TO THE PUBLIC CONTACTS WITH GAS LINES SQI REFLECT IMPROVED PERFORMANCE

466. FEI's proposed changes to its SQI to measure public contact with buried gas lines⁷⁵⁶ should be approved to improve clarity and ease of understanding, and to update the benchmark and threshold to reflect recent improved performance. FEI's three proposed changes to this SQI are as follows:⁷⁵⁷

- For clarity, FEI proposes to change the name of the SQI from "Public Contacts with Pipelines" to "Public Contacts with Gas Lines".
- FEI proposes to report actual results on an annual basis rather than a three-year rolling average approach. Reporting on a single year is easier to understand, in the context of this metric, and provides a clearer indication of FEI's performance in a given year, compared to using a rolling three-year average.
- FEI proposes to lower the benchmark from 16 to 8 and the threshold from 16 to 12. The benchmark of 8 reflects FEI's performance in the range of 8 to 9 from 2014 to 2018.⁷⁵⁸ FEI attributes the improved performance in this metric to increased awareness through targeted workshops and a higher number of calls generated by the BC One Call program. While this positive trend is offset by an increase in the number of line damages resulting from increased construction activities, FEI considers the performance sustainable.⁷⁵⁹

467. FEI therefore recommends the Public Contacts with Gas Line SQI for the Proposed MRP with the proposed adjustments to improve clarity and ease of understanding and to reflect FEI's improved performance.

⁷⁵⁶ See Exhibit B-1-1, Appendix C5-1, p. 8. This SQI reflects the number of line damages per 1,000 BC One Calls received.

⁷⁵⁷ See Exhibit B-1, pp. C-149 to C-150; Exhibit B-1-1, Appendix C5-1, pp. 8 to 9.

⁷⁵⁸ Exhibit B-1-1, Appendix C5-1, p. 9.

⁷⁵⁹ Exhibit B-1, Application, p. C-149.

2. LOWER BILLING INDEX SQI BENCHMARK IS IN RESPONSE TO PERFORMANCE AND EFFICIENCIES

468. FEI's proposal to update the benchmark for the Billing Index metric⁷⁶⁰ should be approved to reflect recent improved performance. FEI proposes a revised benchmark of 3 (down from the previous 5) reflecting recent improved historical performance and efficiencies achieved in producing bills.⁷⁶¹ During the Current PBR Plan term, FEI performed better than the BCUC-approved benchmark (with a low of 0.57 in 2016 and a high of 2.63 in 2018) and did not experience any significant billing issues.⁷⁶² The lower benchmark is therefore appropriate. The existing threshold of 5, however, remains appropriate as it is based on achieving specific performance for each of the three components of the metric.⁷⁶³ As explained in the Application, FEI's Billing Index SQI measures the percentage of customer bills produced meeting the following three components: (i) Billing completion; (ii) Billing timeliness; and (iii) Billing accuracy.⁷⁶⁴

469. FBC recommends the continuation of the Billing Index as an appropriate SQI for the Proposed MRP with the proposed lower benchmark to reflect recent improved performance.

3. TRANSPARENT REPORTING OF GHG EMISSIONS MORE APPROPRIATE THAN AN SQI

470. FEI should discontinue reporting total GHG emissions as part of the Annual Review process under the Proposed MRPs, as FEI is already reporting GHG emissions reductions in other contexts where it is more meaningful.⁷⁶⁵ The requirement to report total GHG emissions results is not an approved SQI, but is the result of a BCUC directive on FEI's Annual Review for 2015 Delivery Rates⁷⁶⁶ that requires FEI to provide estimated annual GHG emissions reported to

⁷⁶⁰ Exhibit B-1, p. C-149.

⁷⁶¹ Exhibit B-1-1, Appendix C5-1, p. 11.

⁷⁶² Exhibit B-1, p. C-149.

⁷⁶³ Exhibit B-10, BCUC IR 1.84.5.1.

⁷⁶⁴ Exhibit B-1-1, Appendix C5-1, p. 10.

⁷⁶⁵ Exhibit B-1, p. C-150.

⁷⁶⁶ BCUC Decision G-86-15, p. 19.

the Ministry of Environment in its Annual Reviews.⁷⁶⁷ FortisBC does not discount the importance of managing and reducing GHG emissions,⁷⁶⁸ and indeed has proposed the inclusion of targets relating to the reduction of GHG emissions as part of its proposed Targeted Incentives.⁷⁶⁹ However, the inclusion of GHG reductions along with FEI's SQIs does not fit well. Further, the Utilities publish a Sustainability Report annually which includes GHG emissions information. The Sustainability Report provides added context to GHG emissions figures and is therefore a more suitable format for reporting GHG emissions.⁷⁷⁰ Therefore, FEI proposes to discontinue reporting of total GHG emissions as part of the Proposed MRP.

4. AVERAGE SPEED OF ANSWER SQI REPLACES TELEPHONE ABANDONMENT RATE SQI FOR BOTH FEI AND FBC

471. For both FEI and FBC, the existing Telephone Abandonment Rate SQI should be replaced by a new informational metric, Average Speed of Answer (sometimes referred to as "ASA"). The ASA more clearly relates to the customer experience and will enable better analysis of metric trends.

472. The Average Speed of Answer more directly relates to the customer because shorter wait times are preferable to longer ones. The Average Speed of Answer will measure the time it takes for a caller to speak to a customer service representative after they have selected a menu option and are placed in a specific queue (i.e., emergency, non-emergency, trouble or non-trouble queues).⁷⁷¹ A call is considered answered where a customer is connected to a representative and not when a caller receives an automated message (e.g., a callback offer or balance inquiry).⁷⁷² This metric allows for easier analysis of results. For example, wait time at certain times on certain days can be better isolated and explained in terms of staffing levels,

⁷⁶⁷ Exhibit B-1, p. C-150.

⁷⁶⁸ See, for example, Exhibit B-12, BCUC IR 2.209.4.

⁷⁶⁹ Exhibit B-1, p. C-150.

⁷⁷⁰ Exhibit B-6, BCSEA IR 1.18.1, Attachment 18.1; Exhibit B-15, BCSEA IR 2.43.4, Attachment 43.4.

⁷⁷¹ Exhibit B-5, BCOAPO IR 1.91.1.

⁷⁷² Exhibit B-10, BCUC IR 1.88.4.

unexpected absences, technology issues, etc.⁷⁷³ For reference, FortisBC has provided the historical metrics for Average Speed of Answer during the Current PBR Plan term.⁷⁷⁴

473. The Telephone Abandonment Rate is an inferior metric as FortisBC has no way to confirm why a customer chooses to abandon a call, making it difficult to identify whether call abandonment was related to what is perceived as a negative customer experience.⁷⁷⁵ The Telephone Abandonment Rate has also become less relevant as callers have increasingly taken advantage of FortisBC's interactive self-service options, which results in call abandonment without needing to speak to a representative (e.g., obtaining automated power outage information).⁷⁷⁶ As a result, it is unclear if an abandoned call is the result of a negative experience, or the success of FortisBC's interactive self-serve options. FEI and FBC will not continue to report on the Telephone Abandonment Rate.⁷⁷⁷

474. The Average Speed of Answer is appropriately reported as an informational metric for the following reasons:⁷⁷⁸

- The ASA is a replacement for the existing Telephone Abandonment Rate informational metric. The ASA addresses some of the challenges and limitations of the Telephone Abandonment Rate. Moreover, FEI and FBC have not historically set internal targets for the ASA, rather both utilities have used it to support the monitoring of the Telephone Service Factor by providing further analysis of trends and outcomes.⁷⁷⁹
- There is no need to add additional SQIs in this area as the existing suite of indicators with benchmarks and thresholds have worked well and provide a good indication of the ability of FEI and FBC to be responsive to customer needs. More specifically, the existing TSF and FCR metrics combined already provide a holistic measure of service quality achieved within the contact centres.

⁷⁷³ Exhibit B-1, pp. C-150, C-152 and C-153; Exhibit B-1-1, Appendix C5-1, pp. 15 to 16 and Appendix C5-2, pp. 11 to 12.

⁷⁷⁴ Exhibit B-1-1, Appendix C5-1, Table A:C5-1-15 (p. 16) and Appendix C5-2, Table A:C5-2-12 (p. 12).

⁷⁷⁵ Exhibit B-1-1, Appendix C5-1, p. 15.

⁷⁷⁶ Exhibit B-1-1, Appendix C5-2, p. 11.

⁷⁷⁷ Exhibit B-10, BCUC IRs 1.88.6, 1.88.6.1, 1.93.2 and 1.93.8.1.

⁷⁷⁸ Exhibit B-10, BCUC IR 1.88.3.

⁷⁷⁹ Exhibit B-10, BCUC IRs 1.88.1 and 1.93.3.

FortisBC's contact centre sites are in fact managed and resourced to meet TSF and FCR targets.

- The ASA complements the TSF and is used as such within FortisBC's contact centres. ASA and TSF are both time-based indicators and determined from the same pool of data; however, while ASA provides a picture of the average speed of answer, the TSF provides a measure of service quality for the vast majority of customers (i.e., 70% of customers experience their calls answered within 30 seconds or less). Thus, ASA would be duplicative, have limited value, and require additional context as a stand-alone indicator with thresholds and benchmarks.

475. FortisBC therefore recommends the approval of the Average Speed of Answer as a replacement for the Telephone Abandonment Rate as an informational metric. The ASA is a superior metric that is more closely tied to the customer experience and FortisBC's performance on the metric can be more reasonably measured and analyzed.

D. FBC'S SQIs REFLECT REASONABLE ADJUSTMENTS FOR RECENT TRENDS, STAKEHOLDER FEEDBACK AND CHANGES IN CIRCUMSTANCES

476. FBC's proposed eight SQIs with benchmarks and thresholds and four information SQIs represents a broad and balanced view of FBC's service quality and should be approved. FBC's proposed suite of SQIs is supported by detailed information in the Application. For each existing SQI, FBC has provided the historical performance, benchmark and threshold levels during the Current PBR Plan term.⁷⁸⁰ FBC is proposing modifications to benchmarks and thresholds of its SQIs in response to recent historical performance and is proposing to add a new Interconnection Utilization SQI in response to the concerns of wholesale customers.

477. Table C7-5 of the Application provides a comparison of FEI's current and historical SQIs, reflecting proposed changes from the Current PBR Plan.⁷⁸¹ Highlighted cells indicate the changes proposed for the MRP term.

⁷⁸⁰ Exhibit B-10, BCUC IR 1.90.7.

⁷⁸¹ Exhibit B-1, Table C7-5 (p. C-151).

Table C7-5: Comparison of FBC Current and Proposed SQIs

| Indicators with Benchmarks and Thresholds | | | Current | | Proposed | |
|---|----------------------------------|---|-----------|-----------|-----------|-----------|
| | | | Benchmark | Threshold | Benchmark | Threshold |
| Annual | Safety | Emergency Response Time - Calls responded to within two hours | >= 93% | 90.6% | >=93% | 90.6% |
| 3 Year | Safety | All Injury Frequency Rate | <=1.64 | 2.39 | <=1.64 | 2.39 |
| Annual | Responsiveness to Customer Needs | First Contact Resolution | >= 78% | 72% | >=78% | 74% |
| Annual | Responsiveness to Customer Needs | Billing Index | <= 5 | <=5 | <=3 | 5 |
| Annual | Responsiveness to Customer Needs | Meter Reading Accuracy - Number of scheduled meter reads that were read | >= 97% | 94% | >=98% | 95% |
| Annual | Responsiveness to Customer Needs | Telephone Service Factor - Calls answered in 30 seconds or less | >= 70% | 68% | >=70% | 68% |
| Annual | Reliability | System Average Interruption Duration Index - Normalized | <= 2.22 | 2.62 | TBD | TBD |
| Annual | Reliability | System Average Interruption Frequency Index - Normalized | <= 1.64 | 2.50 | TBD | TBD |

Informational Indicators

| | | | | | | |
|----------------|----------------------------------|---|-----|-----|-----|-----|
| Annual results | Responsiveness to Customer Needs | Customer Satisfaction Index | n/a | n/a | n/a | n/a |
| Annual results | Responsiveness to Customer Needs | Average Speed of Answer (replaces Telephone Abandonment Rate) | n/a | n/a | n/a | n/a |
| Annual results | Reliability | Generator Forced Outage Rate | n/a | n/a | n/a | n/a |
| Annual results | Reliability | Interconnection Utilization | n/a | n/a | n/a | n/a |

478. FBC has also responded in full to information requests regarding its proposed SQIs, including on SQIs that remain unchanged from those approved for the Current PBR Plan.⁷⁸² The IRs confirm that FBC’s proposed changes are reasonable and the remainder of the SQIs should continue as proposed.

479. Each of the FBC proposed changes to its suite of SQIs is addressed below.

⁷⁸² See, for example, Exhibit B-5, BCOAPO IR 1.88.2 (Emergency Response Time, All Injury Frequency Rate, Telephone Service Factor SQIs); Exhibit B-12, BCUC IR 2.233.6 (First Contact Resolution SQI).

1. REVISED FIRST CONTACT RESOLUTION SQI THRESHOLD ALIGNS WITH PAST PERFORMANCE

480. The BCUC should approve FBC's proposal to increase the threshold for First Contact Resolution ("FCR")⁷⁸³ from 72 percent to 74 percent, as the increase aligns with improved performance in recent years. As shown in Table A:C5-2-6 of the Application, FBC's First Contact Resolution results trended upward during the Current PBR Plan term, improving from 73 percent in 2014 to 82 percent in 2018.⁷⁸⁴ The increased threshold will align more closely with this past performance.⁷⁸⁵

481. FBC proposes to retain the existing benchmark at 78 percent as this performance level remains above the industry average for call centre performance. The current FCR benchmark was approved by the BCUC at 78 percent based on setting a target that was above the industry average for call centre performance, which was 71 percent in 2012. The 2018 industry average for call centre performance remains similar, at 70 percent. As a result, the existing benchmark of 78 percent remains above the industry average for call centre performance.⁷⁸⁶

482. Therefore, FBC recommends approval of the continuation of the FCR with the updated threshold to reflect recent improved performance.

2. LOWER BILLING INDEX SQI BENCHMARK CONSISTENT WITH SIMILAR FEI CHANGE

483. FBC's proposal to lower the benchmark for the Billing Index SQI from 5 to 3 should be approved as it better reflect historical results, which have improved from 2.34 in 2014 to 0.29 in 2018, and aligns with FEI's SQI.⁷⁸⁷

⁷⁸³ FCR measures the percentage of customers who have their issues resolved in one contact with FBC. The FCR rate is impacted by the quality and effectiveness of FBC's coaching and training programs and the composition of different call drivers: Exhibit B-1-1, Appendix C5-2, p. 7.

⁷⁸⁴ Exhibit B-1-1, Appendix C5-2, p. 7.

⁷⁸⁵ Exhibit B-5, BCOAPO IR 1.89.1.

⁷⁸⁶ Exhibit B-5, BCOAPO IR 1.89.2.

⁷⁸⁷ Exhibit B-1-1, Appendix C5-2, pp. 7 to 8; Exhibit B-10, BCUC IR 1.91.1.

484. FBC has not altered the existing threshold of 5.0, as it is based on achieving a specific performance for each billing sub measure (i.e., completion, timeliness and accuracy) and therefore remains appropriate.⁷⁸⁸ The proposed benchmark and threshold levels take into consideration that there are a combination of factors reflected in the Billing Index. Impacts to these three factors may precipitate large fluctuations if issues occur, even if such issues are relatively minor. While each of the factors carries the same weight in the calculation of the overall Billing Index SQI, they are nonetheless related in that an issue experienced in one may lead to impacts in others.⁷⁸⁹ Weather events or unplanned information system outages are issues that may negatively impact billing processes.⁷⁹⁰

485. Together, the proposed benchmark and threshold levels reflect a high level of service quality and will ensure consistency between FBC and FEI. For example, a benchmark of 3.0 equates to a 97 percent of bills delivered within two business days to Canada Post, 97 percent of customers billed within two business days of the scheduled billing date and 99.95 percent of bills completed accurately.⁷⁹¹ FBC therefore recommends approval of this metric with the updated benchmark to reflect recent performance.

3. CONSOLIDATED METER READING ACCURACY SQI REMAINS EFFICIENT AND EFFECTIVE

486. The BCUC should approve FBC's proposed updates to the benchmark and threshold for the Meter Reading Accuracy SQI as it reflects FBC's improved performance in recent years. The Meter Reading Accuracy SQI compares the number of meters that are read to those scheduled to be read. FBC proposes to increase the benchmark to 98 percent (currently 97 percent) and increase the threshold to 95 percent (currently 94 percent).⁷⁹² During the Current PBR Plan

⁷⁸⁸ Exhibit B-5, BCOAPO IR 1.90.2.

⁷⁸⁹ Exhibit B-10, BCUC IR 1.91.1.

⁷⁹⁰ Exhibit B-10, BCUC IR 1.91.1.

⁷⁹¹ Exhibit B-10, BCUC IR 1.91.1.

⁷⁹² Exhibit B-1, p. C-152; Exhibit B-1-1, Appendix C5-2, p. 9.

term, FBC's results for this SQI have generally been higher than the benchmark approved by the BCUC.⁷⁹³ The increase to the benchmark and threshold reflect this performance.

487. The Meter Reading Accuracy SQI appropriately includes both electronic and manual meter reading. While 97 percent of FBC's meters are now read using remote electronic meter reading,⁷⁹⁴ manual meter reading is sometimes necessary when the location of a meter does not allow for a radio signal, failures occur due to weather or other system issues, or a customer requests a manual reading.⁷⁹⁵ FBC should continue to report on the combined performance of manual and electronic meter readings for a number of reasons:⁷⁹⁶

- The impact of both electronic and manual reads is currently accounted for in the meter reading SQI and being combined as one SQI reflects the overall level of service quality experienced by customers;
- A separate manual meter reading SQI could be subject to large variations that are not reflective of the overall service quality experienced by manually read customers because the subset of customers is small (approximately 2 percent or 2,100 customers);
- Separate and different thresholds and benchmarks would need to be considered, which may imply a different level of service quality expectations. More specifically, the relatively small base of manual meter read customers may create the need for a threshold level that accommodates for the potential variations noted above and as such may appear low relative to the electronic meter reading SQI; and
- Separate SQIs would imply equal weighting and importance since both metrics would appear on the SQI list and there is no method to weight them for importance. In this instance, undue weighting would be placed on an SQI that reflects the experience of the 2 percent of customers that have manual meter readings.

488. This SQI is therefore appropriate and useful, consistent with the practice of utilities in Alberta and Ontario, and ensures FBC is accountable for obtaining meter readings for all

⁷⁹³ Exhibit B-1-1, Appendix C5-2, Table A:C5-2-9 (p. 9).

⁷⁹⁴ Exhibit B-10, BCUC IRs 1.92.1 and 1.92.1.1.

⁷⁹⁵ Exhibit B-10, BCUC IR 1.92.1.1.

⁷⁹⁶ Exhibit B-14, BCOAPO IR 2.143.1.

customers.⁷⁹⁷ FBC recommends continuation of this metric with the proposed updates to the benchmark and threshold to reflect recent performance.

4. OUTAGE MANAGEMENT SYSTEM HAS INFLUENCED SYSTEM AVERAGE INTERRUPTION DURATION AND FREQUENCY INDEXES

489. The BCUC should accept FBC's proposal to modify the SAIDI and SAIFI SQIs. FBC's proposed modification and rationale are summarized as follows:⁷⁹⁸

- FBC proposes to report the actual results on a single-year basis rather than a three-year rolling average. Reporting a single year's results in comparison to the benchmark and threshold is easier to understand and provides a clearer indication of FBC's performance in a given year.
- As the implementation of the OMS in 2017 has impacted how outage data is tracked and how SAIDI and SAIFI are reported, FBC will provide the proposed benchmark and threshold for the MRP term once 2019 actual results are available.

490. As indicated above, the existing benchmarks and thresholds are no longer appropriate due to the introduction of the OMS. The OMS replaced a manual system and automated the tracking and reporting of outage data through integration with the FBC AMI system.⁷⁹⁹ In the context of SAIDI, the introduction of the OMS and resulting change to outage start time has increased reported outage times, causing SAIDI values to increase. This increase has occurred despite no changes to FBC's operating practices.⁸⁰⁰ The implementation of OMS has also impacted SAIFI, but to a lesser degree than SAIDI.⁸⁰¹

491. FBC will propose new benchmarks and thresholds for SAIDI and SAIFI based on three years actual operating experience with the OMS. FBC will have three full years of SAIDI and SAIFI results reflecting the impact of OMS starting in early 2020 (i.e., 2017, 2018, and 2019). As

⁷⁹⁷ Exhibit B-10, BCUC IR 1.92.1.2.

⁷⁹⁸ Exhibit B-1, p. C-153; Exhibit B-1-1, Appendix C5-2, pp. 12 to 15.

⁷⁹⁹ Exhibit B-1-1, Appendix C5-2, p. 13.

⁸⁰⁰ Exhibit B-1-1, Appendix C5-2, p. 13.

⁸⁰¹ Exhibit B-1-1, Appendix C5-2, p. 14; Exhibit B-10, BCUC IR 1.94.5.

the evidentiary record has closed, FBC will propose the benchmark and the threshold for the Proposed MRP term in its compliance filing following the BCUC's Decision in this proceeding.

492. Relying on the most recent three-year average is consistent with how previous benchmarks have been set, and is the most reasonable benchmarking method.⁸⁰² As both the FBC system and its environment in which it operates are constantly changing, a three-year average balances the need to smooth some of the variability in the data while ensuring the benchmark accurately reflects current operating conditions.⁸⁰³

493. FBC's SAIDI or SAIFI should continue to be normalized in accordance with the Institute of Electrical and Electronics Engineer ("IEEE") method. Consistent with common utility practice in Canada, FBC's reliability statistics include all outages of one minute or longer (i.e., major outages).⁸⁰⁴ Normalization of FBC's transmission and distribution reliability metrics results in the exclusion of outages resulting from major events (i.e., outages exceeding a threshold number of customer-hours).⁸⁰⁵ As FBC explained:⁸⁰⁶

The main benefit of removing major events from the reported SAIDI and SAIFI values is that it provides more stability in the data and allows FBC to focus investment decisions and operating practices in areas that most benefit "normalized" customer reliability.

If major events were included in the reported values they would introduce a greater amount of variability from year to year for the reported SAIDI and SAIFI values. This would make it increasingly difficult to measure the quality of service provided by FBC as it relates to reliability. Major events are primarily driven by severe weather, forest fires, etc. that occur in random locations that are outside the control of FBC and that may not reflect year over year performance.

⁸⁰² Exhibit B-10, BCUC IRs 1.94.3, 1.94.4, 1.94.4.1, 1.94.4.2, 1.94.5.1, 1.94.5.2, and 1.94.5.3.

⁸⁰³ Exhibit B-14, BCOAPO IR 2.144.1.

⁸⁰⁴ Exhibit B-10, BCUC IR 1.94.1; see also Exhibit B-10, BCUC IRs 1.94.2 and 1.94.2.1 for an explanation of how SAIDI and SAIFI would differ if outages of less than one minute were added to the calculation.

⁸⁰⁵ See Exhibit B-4, BCMEU IR 1.11.1 for additional information on how FBC normalizes SAIDI and SAIFI.

⁸⁰⁶ Exhibit B-10, BCUC IR 1.94.1.1.

494. FBC collects and studies major outages that qualify as “major events” separately.⁸⁰⁷ This information is used to help inform decisions around design practices and to improve FBC’s operational response during these events.

495. FBC recommends its proposed modifications to the SAIDI and SAIFI SQIs as appropriate to ensure the ongoing value of these metrics. No further changes are warranted.

5. ADDITION OF THE INTERCONNECTION UTILIZATION METRIC PROVIDES INFORMATION SPECIFIC TO FBC’S WHOLESALE CUSTOMERS

496. The BCUC should accept FBC’s proposal to establish a new Interconnection Utilization informational service quality indicator. The proposed indicator is responsive to concerns raised by the BCMEU that the existing SQIs were not prepared in contemplation of the concerns of wholesale customers.⁸⁰⁸ The Interconnection Utilization SQI will monitor the level of service provided to municipal wholesale customers, including the City of Penticton, City of Summerland, City of Grand Forks and City of Nelson.⁸⁰⁹

497. The proposed “Interconnection Utilization” SQI is a measurement of the time that an interconnection point was available and providing electrical service to customers. With respect to FBC’s performance on this metric, Table A:C5-2-15 of the Application provides a breakdown of each interconnection point.⁸¹⁰ FBC also provided the total outage time for each interconnection point dating back to 2014, including explanations for elevated outage times.⁸¹¹ These historical results show stable performance from year to year, with an interconnection utilization performance of 99.96 percent (or 105,082 out of 105,120 hours) in 2018.⁸¹²

⁸⁰⁷ Exhibit B-10, BCUC IR 1.94.1.1.

⁸⁰⁸ Exhibit B-1, pp. C-153 to C-154.

⁸⁰⁹ Exhibit B-1-1, Appendix C5-2, p. 15.

⁸¹⁰ Exhibit B-1-1, Appendix C5-2, Table A:C5-2-15 (p. 15); see also Exhibit B-4, BCMEU IR 1.8.1 for a further breakdown dating back to 2009.

⁸¹¹ Exhibit B-10, BCUC IR 1.95.5.

⁸¹² See Exhibit B-1-1, Appendix C5-2, Table A:C5-2-16 (p. 16) for a summary of historical performance during the Current PBR Plan term; See also Exhibit B-10, BCUC IR 1.95.6 for an explanation of this calculation.

498. It is appropriate for this measure to be informational only⁸¹³ as the current reporting for SAIDI and SAIFI reflects the reliability of the FBC system as a whole, including the wholesale customers.⁸¹⁴ Further, the Interconnection Utilization is largely impacted by factors outside of FBC's control. FBC explained as follows:⁸¹⁵

The metric itself is simply an indication of the total time that the interconnections were both available and in service. However, included within this data are a number of scenarios where the interconnection could be unavailable due to factors outside of FBC control. Some examples are:

- The interconnection may be out of service due to an issue on the customer system;
- The interconnection may be out of service at the request of the customer to accommodate maintenance, emergency repairs, etc.; and
- Following an interruption, there may be a delay in returning the system to normal configuration since the customer has switched its customers to an alternate supply.

499. Adding this metric will nonetheless provide greater visibility and an avenue for the BCMEU to bring forward and discuss system reliability concerns, if any.⁸¹⁶ For instance, in this proceeding, the City of Nelson has raised concerns with the reliability of the point of supply at Coffee Creek in the Kootenay Lake region. FBC is taking steps to address these concerns, as follows:⁸¹⁷

This substation is primarily served by 30 Line, which is operated as a radial feed and is routed through remote and rugged terrain and which is subject to outages due to severe weather and contacts from trees outside of the right of way. FBC has completed, or is in the process of completing, several upgrades to address these concerns, including the 30 Line Rehabilitation Project shown in Table C3-32 and improvements to the 30 Line right of way included in Table C3-33. FBC is also

⁸¹³ Informational SQIs are those that are useful for assessing performance but are not tied to specific benchmarks or thresholds: see Exhibit B-4, BCMEU IR 1.7.1.

⁸¹⁴ See Exhibit B-13, BCMEU IR 2.22.1 for additional reasons for providing the interconnection utilization metric as an informational SQI.

⁸¹⁵ Exhibit B-13, BCMEU IR 2.22.1.

⁸¹⁶ Exhibit B-4, BCMEU IR 1.7.1.1.

⁸¹⁷ Exhibit B-10, BCUC IR 1.95.4.

in the process of evaluating future options meant to improve the reliability of the supply to the region.

500. See Part Six, Sections E.3.2 and E.4 of this Final Submission for further information on the 30 Line Rehabilitation Project.

501. Other metrics, such as SAIDI and SAIFI specific to Municipal Wholesale customers, are not feasible due to a lack of access to historical customer counts for the interconnections required for the calculation. FBC recommends the Interconnection Utilization metric as it is responsive to customer concerns, is simple and easy to understand, is based on readily available data, and will provide visibility to the reliability of serve at interconnection points to serve wholesale customers.⁸¹⁸

6. AVERAGE SPEED OF ANSWER SQI REPLACES TELEPHONE ABANDONMENT RATE SQI FOR BOTH FEI AND FBC

502. As discussed above in Section C.4 of this Final Submission, for FEI and FBC, the existing Telephone Abandonment Rate SQI should be replaced by the ASA, as it more clearly relates to the customer experience and will enable better analysis of metric trends.

E. IMPLICATIONS OF SERVICE QUALITY PERFORMANCE REMAINS AS APPROVED BY BCUC

503. The existing process for interpreting metric performance as approved for the Current PBR Plan should continue as it was the product of a consensus recommendation in 2014,⁸¹⁹ has been proven to work under the Current PBR Plans, and is efficient as all parties can continue to be guided by previous BCUC determinations. In summary, as under the Current PBR Plans, FEI and FBC will report each year's actual results, once available, to the BCUC and stakeholders as part of the Annual Review. This will allow for a comparison of the Utilities' SQI performance against the benchmark targets and thresholds.⁸²⁰ During the Annual Reviews under Current PBR

⁸¹⁸ Exhibit B-10, BCUC IR 1.95.1.

⁸¹⁹ BCUC Order G-14-15, dated February 4, 2015.

⁸²⁰ Exhibit B-1, p. C-147; see also Exhibit B-10, BCUC IR 1.90.8; Exhibit B-5, BCOAPO IR 1.86.2.

Plans, the BCUC has provided guidance on how a serious degradation of service should be determined,⁸²¹ which would continue to apply to the Proposed MRPs.⁸²² In the event of a serious degradation of service quality caused in whole or in part by FortisBC's actions or inactions, the BCUC may order a reduction to the share of earnings sharing retained by the Utilities. Any such reduction, which is to be determined following a further BCUC process, may amount to a maximum penalty of 10 percent of the earnings sharing earned by FortisBC (i.e., a 60 percent share to customers, as opposed to the standard 50 percent).⁸²³

⁸²¹ BCUC Decisions G-138-14, p. 156 and G-139-14, p. 151.

⁸²² Exhibit B-1, p. C-147.

⁸²³ Exhibit B-7, CEC IR 1.45.1.

PART EIGHT: CLEAN GROWTH INNOVATION FUND

A. OVERVIEW

504. To respond to the significant changes in FortisBC's operating environment, FortisBC proposal for a Clean Growth Innovation Fund (the "Innovation Fund") is justified and in the public interest.⁸²⁴ Policy direction from all levels of government moving towards decarbonization and the expectations of customers has created an increased need for innovation and the development of new technologies.⁸²⁵ The Innovation Fund is required to accelerate the pace of clean energy innovation, to achieve performance breakthroughs and costs reductions, and to provide cost effective, safe and reliable solutions for customers. The Innovation Fund will assist FortisBC in addressing the expectation to reduce emissions, and forms part of FortisBC's proactive strategy to support the transition to a lower carbon economy, while maximizing the use of its energy delivery systems for the benefit of its customers.

505. The Innovation Fund aligns with policy objectives across all levels of government by focusing on innovative activities that reduce GHG emissions and is also responsive to customer expectations as it focuses on bringing forward cost-effective energy solutions that reduce customer emissions. The Innovation Fund is complementary and incremental to FortisBC's current innovative activities and is ultimately required to meet British Columbia's energy objectives.

506. This Part of the Argument is organized around the following key points:

- The Innovation Fund is needed to reduce GHG emissions while providing customer benefits and maintaining the long-term viability of the utilities.
- Ratepayer funded innovation is reasonable and appropriate.

⁸²⁴ Exhibit B-1, p. C-145.

⁸²⁵ Exhibit B-1, p. C-128.

- A robust governance structure will maintain prudent distribution of the Innovation Fund.
- FortisBC will report regularly to the BCUC and customers on the Innovation Fund.
- The proposed rate rider is a reasonable funding mechanism.
- The Innovation Fund satisfies the requirements of sections 59 and 60 of the UCA.

B. THE INNOVATION FUND IS NEEDED TO ACCELERATE GHG EMISSIONS REDUCTION WHILE PROVIDING CUSTOMER BENEFITS AND MAINTAINING THE LONG-TERM VIABILITY OF THE UTILITIES

507. The Innovation Fund is needed to pursue innovation and the adoption of new technologies to help mitigate policy-driven demand risks and proactively manage rate impacts, while supporting GHG emissions reductions and helping customers meet their energy and emissions goals.⁸²⁶ The needs driving the Innovation Fund are discussed in detail below.

1. INNOVATION IS NEEDED TO MEET CLIMATE OBJECTIVES

508. The Innovation Fund is needed to advance innovation to meet the climate objectives set by all levels of government. There is abundant evidence of these policy goals:

- Canada has committed to reducing GHG emissions by 30 percent from 2005 levels by 2030. In addition to this short-term objective, the federal government has also set a longer-term target of reducing emissions by 80 percent by 2050.⁸²⁷
- Similarly, BC renewed its GHG emission reduction targets in 2018 by legislating a 40 percent reduction by 2030, 60 percent reduction by 2040 and 80 percent reduction by 2050.⁸²⁸
- Municipal governments and regions throughout Canada and British Columbia are equally taking immediate action towards meeting climate objectives and have declared climate emergencies.⁸²⁹ The City of Vancouver's ("CoV") Climate Emergency Response report and final motion, approved unanimously by Council,

⁸²⁶ Exhibit B-10, BCUC IR 1.1.1.

⁸²⁷ Exhibit B-1, p. C-130.

⁸²⁸ Exhibit B-1, p. C-130.

⁸²⁹ Exhibit B-9, MoveUp IRs 1.1.3 and 1.3.5 to 1.3.7.

is a recent example that supports the claim that governments are taking significant, immediate action on climate policy.⁸³⁰

509. Both the federal and provincial governments are relying on innovation to meet their climate objectives. For example, at the federal level, over a quarter of the GHG reductions (79 Mt) required to achieve Canada's 2030 targets must be achieved with some combination of innovation and additional provincial policies.⁸³¹

510. At the provincial level, policies announced in the CleanBC Plan are forecast to achieve only 75 percent (18.9 Mt) of the GHG reductions required (25 Mt) by 2030.⁸³² Notably for FortisBC, the CleanBC Plan's target of 15 percent renewable gas is forecast to achieve the majority, 75 percent or 1.5 Mt, of the total emission reductions sought in the buildings sector.⁸³³ This target makes FortisBC's renewable gas supply and the associated generation and delivery infrastructure central components of the provincial strategy to reduce GHG emissions.⁸³⁴ However, at recent average throughput in FortisBC's gas system, 15 percent renewable gas would require approximately 30 petajoules (PJ) of renewable supply.⁸³⁵ Although FortisBC's Renewable Natural Gas program is world leading in many respects, current renewable supply in FortisBC's system is currently 0.3 PJ, necessitating a 100-times scaling of renewable gas supply in the next 11 years.⁸³⁶ Achieving the Province's target requires FortisBC to quickly advance innovation and develop new sources of renewable gas under supportive regulatory and policy constructs developed by the BCUC and the Province.⁸³⁷

511. Recognizing the need for innovation funding to spur the energy innovation necessary to achieve these goals, organizations, including the Pembina Institute, the University of Victoria, Fort Capital Partners and Foresight, have expressed strong support for FortisBC's Innovation

⁸³⁰ Exhibit B-9, MoveUp IR 1.1.3.

⁸³¹ Exhibit B-1, pp. C-130-131.

⁸³² Exhibit B-1, p. C-131.

⁸³³ Exhibit B-1, p. C-132.

⁸³⁴ Exhibit B-1, p. C-132.

⁸³⁵ Exhibit B-1, p. C-132.

⁸³⁶ Exhibit B-1, p. C-132.

⁸³⁷ Exhibit B-1, p. C-132.

Fund.⁸³⁸ The evidence is clear that innovation is needed to meet climate policies at all levels of government.

2. OTHER JURISDICTIONS HAVE RECOGNIZED THE NEED FOR, AND BENEFITS OF, INNOVATION

512. Experience from other jurisdictions establishes that similar innovation funding provides direct benefits to customers. To highlight this, FortisBC provided examples of customer benefits achieved in other jurisdictions in Section C6.3 and Appendix C6 of the Application.

513. For example, recognizing that the regulatory frameworks must evolve to serve customers while driving the shift to a sustainable energy sector, Ofgem, the regulator of energy network companies in the UK, has implemented ratemaking mechanisms that allow for ratepayer-funded innovation programs.⁸³⁹ Ofgem commissioned an independent evaluation of one such initiative, the Low Carbon Networks Fund (“LCFN”). This evaluation found that the LCNF “encouraged [utilities] to include innovation as core business” with “current benefits estimated to be approximately one third of the total funding cost” and “the future net benefit... is significant and is estimated to range from 4.5 to 6.5 times the cost of funding the scheme.”⁸⁴⁰ [Emphasis added.]

514. In their Decision on the Review of Innovation Funding, Ofgem stated:⁸⁴¹

Innovations by network companies are making their way into day-to-day use and are delivering financial and carbon benefits. The future consumer benefit, which is expected to comfortably exceed the scheme costs, provides a strong case for continuing innovation funding to drive beneficial innovations by the network companies that would not happen in its absence.

515. FortisBC provided additional examples of customer benefits that were achieved in other jurisdictions, including:⁸⁴²

⁸³⁸ Exhibits E-2, E-3, E-4 and E-5.

⁸³⁹ Exhibit B-1, p. C-135.

⁸⁴⁰ Exhibit B-1, p. C-135.

⁸⁴¹ Exhibit B-1, p. C-135, citing Ofgem, (2017). The Network Innovation Review: Our Policy Decision, p. 26 https://www.ofgem.gov.uk/system/files/docs/2017/03/the_network_innovation_review_our_policy_decision.pdf.

- **The Gas Research Institute:** “Gas consumer benefits over the same period were estimated at more than four times RD&D costs. The resulting benefits for shale gas RD&D and high-efficiency furnaces, water heater, boilers, and other end-use equipment continue today.”⁸⁴³
- **The Low Carbon Initiative Fund:** “Customer benefits included abatement which can reduce customers’ carbon and energy costs, as well as increasing customer choice for affordable energy options.”⁸⁴⁴

516. In IRs, FortisBC provided detailed descriptions of how its Innovation Fund and operating environment compared against initiatives and frameworks in other jurisdictions.⁸⁴⁵ FortisBC expects that the Innovation Fund will achieve benefits similar to those experienced by ratepayer-funded innovation funds in other jurisdictions, not based on the similarity of projects, but rather on the similarity of the funding and governance models and the universal need for innovation.⁸⁴⁶

3. ADVANCING CLEAN GROWTH INNOVATION IS A RESPONSIBILITY SHARED BETWEEN GOVERNMENTS, REGULATORS AND UTILITIES

517. The Innovation Fund is needed in recognition that regulators and utilities, in addition to governments, have a responsibility to advance clean growth. Over the past decade, the regulatory trend is toward increased customer funding for new innovative technologies in the natural gas and electricity industries. This trend is summarized in the report titled “Regulator Rationale for Ratepayer Funded Electricity and Natural Gas Innovation” prepared by Concentric Energy Advisors.⁸⁴⁷ The report outlines some of the key reasons for the trend in utility led, ratepayer funded innovation, including:

⁸⁴² As summarized in Exhibit B-10, BCUC IR 1.81.1.

⁸⁴³ Exhibit B-1, p. C-133, lines 21-23.

⁸⁴⁴ Exhibit B-1, p. C-136, lines 31-33.

⁸⁴⁵ Exhibit B-10, BCUC IR 1.77 series.

⁸⁴⁶ Exhibit B-12, BCUC IR 2.207.11.

⁸⁴⁷ Exhibit B-1-1, Appendix C6-1.

... the emergence of new natural gas end use technologies, and a recognition by governments that utilities can play a central role in the achievement of energy and environmental public policy goals that require innovative solutions.⁸⁴⁸

518. The report notes the benefits of innovative technology programs for both customers and companies, including:

These programs de-risk investments for both customers and shareholders and help establish the business case for full-scale technology development and market adoption. Utility led technology deployment and demonstration activities will have time lapsed, but important direct benefits for customers by improving the way their customers use energy, control their energy use and derive benefit from it.⁸⁴⁹

519. The report concludes that the factors driving the interest in funding innovation have taken hold among global economic regulators, and that the responsibility for innovation is shared by the utilities, regulators and other policy makers:

Regulators in Canada should take note that these factors have taken hold among global economic regulators and this report concludes that the trend is spreading beyond some of the early movers: the United Kingdom, California, New York and British Columbia. Responsibility for ensuring that innovation prepares the energy industry to realize the potential for reliable, affordable, and clean energy with greater customer choices among products and services is shared by the utilities, regulators and other policy makers.⁸⁵⁰

520. Since the first Provincial climate plan was introduced in 2007, FortisBC has been at the forefront of making the transition to a low-carbon economy by introducing innovative products and services like DSM, renewable natural gas, and compressed and liquid natural gas for on-road and marine markets. FortisBC has optimized the use of certain assets such as the Tilbury LNG facility to enable this transition. The Companies intend to continue these activities and significantly accelerate their rate of adoption wherever possible.⁸⁵¹

⁸⁴⁸ Exhibit B-1-1, Appendix C6-1, p. 3.

⁸⁴⁹ Exhibit B-1-1, Appendix C6-1, p. 3.

⁸⁵⁰ Exhibit B-1-1, Appendix C6-1, p. 3.

⁸⁵¹ Exhibit B-9, MoveUp IR 1.1.3.

521. FortisBC's advancement of innovative products and services is in the public interest. For example, the Province would suffer economically if it fails to adjust effectively, as it relies on employment, royalties and tax revenue associated with the natural gas industry, in addition to relying on natural gas as a source of affordable energy for its residents and the economy.⁸⁵² Further, if the Province did not advance renewable gas, it would not meet its climate targets.⁸⁵³ The BCUC also has a role in supporting and facilitating the transition to a lower carbon economy through its consideration of how regulated utilities align with policy direction.⁸⁵⁴ The Innovation Fund aligns with policy direction from government and, in FortisBC's submission, should be approved.

4. THE INNOVATION FUND WILL PROVIDE CUSTOMER BENEFITS

522. The proposed Innovation Fund is expected to result in the type of benefits cited in above, including a return on investment and improved energy choices. Benefits achieved in other jurisdictions establish that investments in innovation are warranted and have yielded benefits to customers that exceed funding levels.⁸⁵⁵

523. As described on p. C-128 of the Application, the goals of the Innovation Fund are to "accelerate the pace of clean energy innovation, to achieve performance breakthroughs and cost reductions, and to provide cost effective, safe and reliable solutions for our customers". With the Innovation Fund, FortisBC also intends to positively impact cost, safety and reliability by pursuing initiatives that will:⁸⁵⁶

- Improve and reduce the cost of pipeline inspections;
- address gas supply disruptions using demand response measures in addition to supply side measures; and
- improve electric system reliability using storage and distribution generation technologies.

⁸⁵² Exhibit B-9, MoveUp IR 1.1.3.

⁸⁵³ Exhibit B-9, MoveUp IR 1.1.3.

⁸⁵⁴ Exhibit B-9, MoveUp IR 1.1.3.

⁸⁵⁵ Exhibit B-1, p. C-135.

⁸⁵⁶ Exhibit B-10, BCUC IR 1.81.1.

524. These goals directly benefit FortisBC customers and British Columbians in general. They do not directly benefit the utility shareholder.⁸⁵⁷ It is in the best interest of customers, the Utilities and society for the Utilities to pursue projects which address strategic and emerging issues, serve customer needs, and maintain the long term health of the Utilities. In this regard, FortisBC's interests are aligned with its customers. Customers, who consume the Companies' energy products and services on a daily basis, receive the direct benefits of innovation. Shareholders will benefit indirectly, over the long term, as the Utilities remain viable and continue to thrive, allowing shareholders the opportunity to earn a fair return on their investment.⁸⁵⁸

5. GAPS IN CURRENT FUNDING FOR INNOVATION NEED TO BE FILLED

525. The Innovation Fund is also needed to complement, and address crucial gaps in, FortisBC's existing innovation related activities, FortisBC's current innovation-related activities include FortisBC's DSM Innovative Technologies, Natural Gas for Transportation, and Renewable Natural Gas programs.⁸⁵⁹ The gaps to be addressed by the Innovation Fund are depicted at page C-139 of the Application as follows:⁸⁶⁰

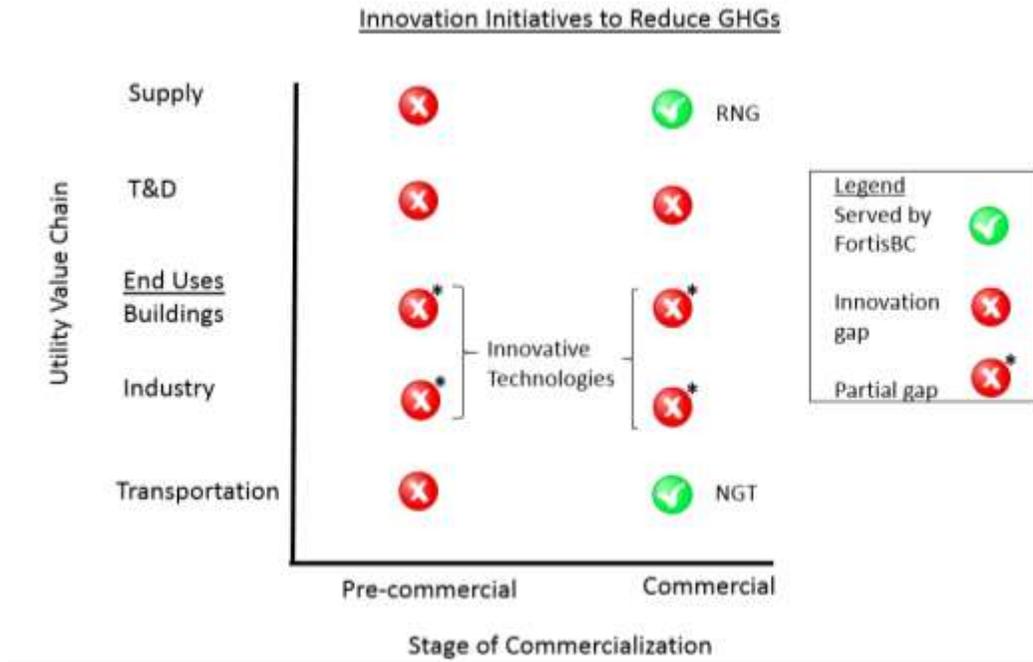
⁸⁵⁷ Exhibit B-5, BCOAPO IR 1.85.2.

⁸⁵⁸ Exhibit B-12, BCUC IR 2.207.1.

⁸⁵⁹ Exhibit B-1, pp. C-137-138; Exhibit B-10, BCUC IR 1.73.9.1.

⁸⁶⁰ Exhibit B-1, p. C-139.

Figure C6-4: Innovation Gaps to be Addressed by the Fund



526. Currently, the DSM Innovative Technologies program is restricted from allocating funds for initiatives designed to reduce GHG emissions, and investment is limited to the building and industry sectors.⁸⁶¹ By contrast, the Innovation Fund will focus on activities that cover the entire utility value chain, are outside of demand side management, and relate to pre-commercial and commercial activities.⁸⁶² The Innovation Fund builds on the success of the Innovative Technologies program by using similar management methodologies and by adding funding to existing initiatives where there may be benefits that meet the criteria for both funds.⁸⁶³

527. To capture efficiencies in managing both funds, FortisBC has established a governance committee structure, described below and shown in Figure C6-8 of the Application,⁸⁶⁴ which covers both the Innovation Fund and the DSM Innovative Technologies funding.⁸⁶⁵

⁸⁶¹ Exhibit B-10, BCUC IR 1.73.9.1.

⁸⁶² Exhibit B-10, BCUC IR 1.73.9.1.

⁸⁶³ Exhibit B-10, BCUC IR 1.73.9.1.

⁸⁶⁴ Exhibit B-1, p. C-145.

⁸⁶⁵ Exhibit B-10, BCUC IR 1.73.10.

528. Similarly, the Innovation Fund will supplement initiatives under the Greenhouse Gas Reduction Regulation framework, which provides investment opportunities into commercial products and services that reduce GHGs. In comparison, the Innovation Fund allows for both pre-commercial and commercial investments in innovative initiatives that are expected to accelerate the development of new, cleaner products and services.⁸⁶⁶

529. In summary, to address gaps in FortisBC's existing innovation related activities, the Innovation Fund will focus on GHG reduction activities that:⁸⁶⁷

- cover the entire energy utility value chain;
- are outside of DSM;
- relate to pre-commercial and commercial activities; and
- are supported by predictable funding levels.

C. RATEPAYER FUNDED INNOVATION IS REASONABLE AND APPROPRIATE

530. The Main Innovation Activities⁸⁶⁸ that will be supported using the Innovation Fund are appropriately funded by utility customers and align with Concentric's recommendations. Concentric states that "[u]tility customer funding is most appropriate where the benefits largely accrue to the utility customers and where they are in a unique position to test new technologies and business models."⁸⁶⁹

531. Aligned with these recommendations, the Innovation Fund will support initiatives that fall within the range of "Research to Prove Feasibility" to "System Test, Launch and Operations" Technology Readiness Levels ("TRLs"), but will not support basic technology research.⁸⁷⁰ Basic technology research is outside the Innovation Fund's commercialization focus. It is more

⁸⁶⁶ Exhibit B-10, BCUC IR 1.73.12.

⁸⁶⁷ Exhibit B-1, p. C-139; see also Exhibit B-10, BCUC IR 1.70.1 for a breakdown of planned expenditure levels for each segment for 2020 and Exhibit B-1-1, Appendix C6-4 for the Main Innovation Activities to be supported by the Innovation Fund.

⁸⁶⁸ As described in Exhibit B-1-1, Appendix C6-4.

⁸⁶⁹ Appendix C6-1, Concentric: Regulator Rationale for Ratepayer-funded Electricity and Natural Gas Innovation, p. 8.

⁸⁷⁰ Exhibit B-10, BCUC IR 1.75.3.

appropriate for industry participants such as academic institutions to advance these types of activities. The Utilities will add value to the commercialization process once technologies are ready for feasibility research.

532. By focusing on the proposed range of TRLs, the Innovation Fund will focus support towards initiatives which, on average, will realize benefits sooner than those with lower values.⁸⁷¹ By contrast, funding of research at lower TRL levels, with inherently more uncertain benefit timelines, is likely to occur only with government co-funding.⁸⁷²

533. While FortisBC recognizes that the timeline on which benefits from the Innovation Fund are realized will vary from project to project, FortisBC expects that customers will directly benefit from Innovation Fund supported initiatives. For example, commercial innovations, such as the increased use of natural gas for transportation and electric fleet vehicles, have the immediate potential to reduce overall emissions.⁸⁷³ FortisBC customers will directly benefit from innovations in these areas.

D. A ROBUST GOVERNANCE STRUCTURE WILL MAINTAIN PRUDENT DISTRIBUTION OF THE FUND

534. FortisBC has proposed a robust governance structure for the Innovation Fund to ensure that funds are prudently distributed to pursue innovations with strong customer benefit. FortisBC has provided a detailed description of the process and roles of each governance body of the Innovation Fund.⁸⁷⁴ As depicted in Figure C 6-8,⁸⁷⁵ FortisBC will establish the following bodies with oversight of the Innovation Fund:

- The Innovation Working Group Composed of FortisBC employees.⁸⁷⁶

⁸⁷¹ Exhibit B-10, BCUC IR 1.70.6.

⁸⁷² Exhibit B-12, BCUC IR 2.229.1.

⁸⁷³ Exhibit B-10, BCUC IR 1.70.6.

⁸⁷⁴ Exhibit B-10, BCUC IR 1.78.2-6.

⁸⁷⁵ Exhibit B-1, p. C-145.

⁸⁷⁶ Exhibit B-10, BCUC IR 1.78.1.

- Responsible for the identification, evaluation, selection, and execution of projects.⁸⁷⁷
- Funding selections will be reviewed with the External Advisory Council, described below.⁸⁷⁸
- Responsible for financial tracking of funds received and spent, progress reporting and target achievement evaluation.⁸⁷⁹
- The Executive Steering Committee Composed of senior FortisBC employees.⁸⁸⁰
- Responsible for providing strategic direction of the Innovation Fund.⁸⁸¹
- The External Advisory Council Composed of external stakeholders that will provide insight and feedback on Innovation Fund projects. FortisBC intends to canvass intervener groups for representation in the External Advisory Council.⁸⁸²
- Responsible for providing recommendations to the Working Group before making investment decisions.⁸⁸³

535. The selection criteria for innovation projects, as well as the stage-gate process that FortisBC proposes for evaluating innovation project proposals and determining project funding is described in detail in the response to BCUC IR 2.218.3. In short, proposals will be evaluated and funding will be allocated following a three-stage process:⁸⁸⁴

- **Stage 1 - Project Identification:** FortisBC will become aware of potential funding opportunities both proactively through a Call for Proposal, and reactively based on projects it becomes aware of in the regular course of business, including through discussions with the External Advisory Committee.
- **Stage 2 - Project Selection:** FortisBC will follow a further stage-gate process for project selection. The Working Group will review detailed grant proposals and gather feedback from the External Advisory Committee before making final

⁸⁷⁷ Exhibit B-1, p. C-144.

⁸⁷⁸ Exhibit B-10, BCUC IR 1.78.2.

⁸⁷⁹ Exhibit B-10, BCUC IR 1.78.2.

⁸⁸⁰ Exhibit B-10, BCUC IR 1.78.1.

⁸⁸¹ Exhibit B-1, p. C-145.

⁸⁸² Exhibit B-10, BCUC IR 1.78.4.1.

⁸⁸³ Exhibit B-10, BCUC IR 1.78.4.

⁸⁸⁴ Exhibit B-12, BCUC IR 2.218.3.

funding recommendations to the Executive Steering Committee for ultimate approval.

- **Stage 2 - Execution:** The Working Group will meet on a regular basis to review the progress and approve fund releases for all approved and active Innovation Fund projects.

536. FortisBC will use the following five selection criteria when selecting innovative proposals for funding from the Clean Growth Innovation Fund:⁸⁸⁵

- Amount of co-funding secured (from applicant and third parties)
- Estimated CO₂e reduction in British Columbia
- Estimated non-CO₂e emission reduction (NO_x, SO_x) in British Columbia
- Estimation of energy cost reductions for customers
- Relevant experience of the applicant project team

537. FortisBC expects to incur minimal incremental expenses to operate the governance bodies.⁸⁸⁶

538. This governance model aligns with approaches taken by other successful funds, including innovation funds administered by Ofgem and the Gas Research Institute.⁸⁸⁷ FortisBC is recommending elements such as an open call for proposals, evaluation of proposals based on an open set of criteria, an External Advisory Council to provide feedback on proposals, and an ongoing evaluation framework and regular reporting on project developments through an annual report.⁸⁸⁸ These elements align with the approach used by Ofgem, but also account for the more centralized nature of FortisBC's energy infrastructure as compared to the UK.⁸⁸⁹

⁸⁸⁵ Exhibit B-12, BCUC IR 2.218.3.

⁸⁸⁶ Exhibit B-10, BCUC IR 1.78.3.

⁸⁸⁷ Exhibit B-12, BCUC IR 2.207.11.

⁸⁸⁸ Exhibit B-12, BCUC IR 2.207.11.

⁸⁸⁹ Exhibit B-12, BCUC IR 2.207.11.

539. Because of similarities in the way they are governed and funded, and because of similarities in the objective criteria, FortisBC expects it will achieve benefits similar to those generated by the program administered by Ofgem.⁸⁹⁰

E. FORTISBC WILL REPORT REGULARLY ON THE INNOVATION FUND

540. FortisBC will provide annual updates regarding Innovation Fund project progress.⁸⁹¹ FortisBC proposes to report at the Annual Review on all approved and active Innovation Fund projects on the following elements:⁸⁹²

- project description and key innovation(s);
- main innovation activity category (as described in Appendix C6-4);
- funding portfolio in which the project was approved;
- co-funding obtained and expected;
- estimated benefits; and
- quality, schedule and cost progress toward pre-funding conditions, milestones and completion.

541. FortisBC will establish clear progress milestones for each initiative it supports using the Innovation Fund. Using information presented in the annual reports, the BCUC and ratepayers will be able to evaluate the success of an initiative by looking at whether projects are completed on time, on budget, and within scope, as well as by assessing the criteria specific to each initiative. However, universal criteria for assessing a project's success cannot be established on a broad basis in advance due to the varied nature of the initiatives that will be supported by the Innovation Fund.⁸⁹³ That said, individual project budgets, pre-funding conditions, timelines and fund release milestones will be set and reviewed by the Innovation Working Group, and fund releases will be based on project proponents meeting those

⁸⁹⁰ Exhibit B-12, BCUC IR 2.207.11.

⁸⁹¹ Exhibit B-5, BCOAPO IR 1.5.2.

⁸⁹² Exhibit B-12, BCUC IRs 2.218.3 and 2.231.1.

⁸⁹³ Exhibit B-10, BCUC IR 1.80.1.

conditions and milestone events.⁸⁹⁴ Progress towards those conditions and milestone events will be reported on at the Annual Review, as described above.⁸⁹⁵

F. THE RATE RIDER IS A REASONABLE FUNDING MECHANISM

1. A BASIC CHARGE RATE RIDER IS THE PREFERRED APPROACH

542. FortisBC has proposed to fund the Innovation Fund through a basic charge rate rider that would apply equally to customers across the gas network (\$0.40/month) and the FBC electric service territory (\$0.30/month).⁸⁹⁶ This approach follows cost causation principles and is fair and reasonable, as Innovation Fund spending will span the entire utility value chain and will provide cost-effective energy solutions to all customers.⁸⁹⁷ FortisBC reasonably expects that all customers will benefit from the work funded by the Innovation Fund.⁸⁹⁸ Consequently, the mechanism by which FortisBC proposes to fund the Innovation Fun is fair and reasonable.⁸⁹⁹

543. Embedding the Innovation Fund Rate Rider within the basic charge is consistent with how other rate riders are presented on the bills of customers. The details of the rate rider will be clearly identifiable in each Rate Schedule, and bill messages or other forms of communication may be used to call attention to the rider if necessary.⁹⁰⁰ This approach provides for clear and transparent communication without incurring the added costs associated with providing a separate line item on the bill and causing unnecessary confusion for customers.⁹⁰¹

⁸⁹⁴ Exhibit B-12, BCUC IR 2.218.3.

⁸⁹⁵ Exhibit B-12, BCUC IR 2.218.3.

⁸⁹⁶ Exhibit B-1, p. C-129.

⁸⁹⁷ Exhibit B-10, BCUC IR 1.79.3.

⁸⁹⁸ Exhibit B-10, BCUC IR 1.79.3.

⁸⁹⁹ Exhibit B-10, BCUC IR 1.79.3.

⁹⁰⁰ Exhibit B-12, BCUC IR 2.214.5.

⁹⁰¹ Exhibit B-12, BCUC IR 2.214.3.

544. While FortisBC proposes a basic charge rate rider, a volumetric rate was also considered as described in IRs.⁹⁰² FortisBC is amenable to a volumetric rate alternative, but overall considers its rate rider proposal to be the most reasonable mechanism. A fixed per-customer rate is preferred as the costs for Innovation Fund activities are largely fixed and do not vary by volume and the reduction of GHG emissions resulting from successful research and development will benefit all customer types, not just higher volume customers.⁹⁰³

545. The fixed rate rider also represents a small impact to all customers.⁹⁰⁴ The one-time incremental percentage rate impacts of the Innovation Fund rate riders are approximately 0.5 percent for FEI and 0.25 percent for FBC.⁹⁰⁵ By contrast, under a volumetric rate rider, industrial and wholesale customers will experience a much higher annual impact. For example, under a volumetric approach, FEI's highest volume customer would see an annual increase of \$58,540 compared to a \$4.80 annual increase under a fixed rate rider.⁹⁰⁶

2. AN ANNUAL APPROVAL MECHANISM IS NOT FEASIBLE

546. FortisBC is not amenable to seeking annual approval of its Innovation Fund projects, as this approach could suppress the overall aim of the Innovation Fund. Requiring annual approval will lead to a lag time of up to a year before a final funding decision is made on an initiative and ultimately limit the number of initiatives that can be pursued.⁹⁰⁷ Further, FortisBC would not have the flexibility to increase funding to successful initiatives or add a new initiative during the year.⁹⁰⁸ As a result, a once-a-year approval process is likely to result in underspending and missed opportunities.

⁹⁰² Exhibit B-12, BCUC IRs 2.214.6 to 2.214.12.

⁹⁰³ Exhibit B-12, BCUC IR 2.214.7.

⁹⁰⁴ Exhibit B-12, BCUC IR 2.214.8.

⁹⁰⁵ Exhibit B-10, BCUC IR 1.70.3.

⁹⁰⁶ Exhibit B-12, BCUC IR 2.214.8.

⁹⁰⁷ Exhibit B-12, BCUC IR 2.214.13.

⁹⁰⁸ Exhibit B-12, BCUC IR 2.214.13.

547. However, the BCUC will have the ability to review innovation projects that have received funding from the Innovation Fund, including the overview, expected benefits, the amount of co-funding secured, and project milestones, at the Annual Review, as discussed above.⁹⁰⁹

G. THE INNOVATION FUND SATISFIES REQUIREMENT UNDER SECTION 59 AND 60 OF THE UCA

548. Unlike past rate riders that the BCUC has refused,⁹¹⁰ FortisBC's proposed Innovation Fund satisfies the requirements of sections 59 and 60 of the *UCA* for the following reasons:⁹¹¹

- Per section 59(1)(a) and 59(5) of *UCA*, the Innovation Fund and rate rider are just and a reasonable:
 - The Innovation Fund will provide a direct benefit to customers by improving how they use and benefit from FortisBC's energy products and accelerating the pace of clean energy innovation. Prioritizing the role of innovation as part of FortisBC's core business also has the potential to increase the future net benefits derived from these investments beyond the original investment capital. Investments of this kind are aimed at increasing the overall cost effectiveness, safety and reliability of the solutions FortisBC offers its customers.
 - The Innovation Fund provides a means of demonstrating to customers the viability of new technologies, with a mind to providing cleaner and more affordable energy sources for the future.
 - The Innovation Fund mitigates the risk of future rate increases.
 - The proposed rate rider is a fair and reasonable charge for the nature and quality of the service provided by the utility as it only recovers the cost of the investment. The investments will be made in accordance with sound principles, the central management of funds and a robust governance model, which has been designed to prioritize collaboration and strategic investment. Any funds collected through the rate rider which are not used during the MRP term period will be returned to customers.

⁹⁰⁹ Exhibit B-12, BCUC IR 2.231.3.

⁹¹⁰ Corix's Carbon Emissions Rider and Creative Energy's Carbon Reduction Fund, as discussed in Exhibit B-10, BCUC IRs 1.79.4 to 1.79.8.

⁹¹¹ Exhibit B-10, BCUC IR 1.79.7.

- Per section 59(1)(b) and 59(4)(b), the Innovation Fund and rate rider are not unduly discriminatory or unduly preferential. Under the proposal, each customer pays the same contribution to the Innovation Fund as all customers will benefit from the results of the Innovation Fund. The rate rider proposed by FortisBC has been calculated so as to avoid disadvantaging customers by remaining stable and predictable throughout the proposed MRP term.
- Per section 60(b)(1)(iii), FortisBC's proposed Innovation Fund and rate rider encourages FortisBC to increase efficiency, reduce costs and enhance performance, by allowing FortisBC to invest in research and development opportunities that will increase efficiency, reduce costs and enhance performance for the benefit of FortisBC's customers.
- Per section 60(1)(b.1), "the commission may use any mechanism, formula or other method of setting the rate that it considers advisable". Therefore, FortisBC's proposed rate rider is an acceptable type of rate to recover the costs of the proposed Innovation Fund.

H. CONCLUSION

549. FortisBC respectfully requests approval of the Innovation Fund for the following key reasons:

- Seeking funding now, rather than later in the MRP horizon, is prudent as it allows FortisBC to promptly and proactively begin to confront challenges to its operating environments.
- The CleanBC Plan demonstrates that the government's GHG reduction objectives are consistent with, and in fact rely upon, this proposal.
- Urgency is required in planning and implementing carbon reduction initiatives for FortisBC customers and all British Columbians. The Innovation Fund is required to address the urgent and essential need to invest to accelerate innovation and adoption of new technologies to meet current policy objectives. Policy makers, regulators and the utilities share in the responsibility of achieving these objectives.
- Customers will directly benefit from utility-led innovation.

PART NINE: TARGETED INCENTIVES

550. This part is organized in two sections as follows:

- (a) Targeted Incentives (excluding the Power Supply Incentive); and
- (b) Power Supply Incentive.

A. TARGETED INCENTIVES (EXCLUDING THE POWER SUPPLY INCENTIVE)

1. OVERVIEW

551. FortisBC seeks approval of the Targeted Incentives set out in Section C8.3, Table C8-1, of the Application to increase the focus of the Companies on challenges and opportunities in emerging and strategic areas. The Targeted Incentives are an innovative regulatory mechanism that has been employed in other jurisdictions, and which are appropriate in response to the significant changes in the operating environment of the Utilities. As observed by Synapse Energy Economics Inc., given the significant changes affecting the industry, utility regulators are increasingly turning their attention to new aspects of utility performance, such as customer engagement (including tools to empower customers to better manage their bills), environmental impacts, and clean energy policy goals.⁹¹² The Targeted Incentives will provide an incentive for the Utilities to achieve these important goals that will benefit customers and are in the public interest.

552. The Targeted Incentives complement traditional PBR incentive mechanisms that focus on achieving cost efficiencies and reducing regulatory burden. FortisBC's Proposed MRPs continue to include traditional PBR incentives, as they include an ESM whereby the Utilities and customers share 50/50 in cost efficiencies achieved on indexed-based O&M and capital, as well as on the five-year capital forecast.⁹¹³ The addition of targeted incentives will expand the focus beyond a mere cost reduction perspective to promoting innovation and preparing the utilities

⁹¹² Exhibit B-1-1, Appendix C8, Utility Performance Incentive Mechanisms, A Handbook for Regulators, March 9, 2015.

⁹¹³ Exhibit B-1, p. C-157.

for the “Utility of the Future”.⁹¹⁴ FortisBC’s proposed suite of targeted incentives brings focus on areas where success will benefit customers by advancing the adoption of cleaner, lower emissions energy solutions, contribute to the realization of energy and emissions goals, enhance customer engagement, and manage rate increases through growth in system throughput.⁹¹⁵

553. This Part is organized around the following key points:

- FortisBC has proposed a suite of Targeted Incentives to maximize utility outputs.
- The Targeted Incentives will help achieve beneficial outcomes in the public interest.
- Targeted Incentives are stretch goals that will require significant effort to achieve.
- Achievement of the Targeted Incentives will require investment.
- The Targeted Incentive reward is balanced and reasonable.
- The Targeted Incentives are designed for simplicity, include appropriate safeguards and align with guidelines from other jurisdictions.

2. FORTISBC HAS PROPOSED A SUITE OF TARGETED INCENTIVES TO MAXIMIZE UTILITY OUTPUTS

554. The Proposed MRPs, including the Targeted Incentives, are a form of performance or incentive ratemaking designed to provide incentives to the utilities to achieve certain objectives.⁹¹⁶ Unlike traditional PBR incentives which seek to minimize inputs into the utility,

⁹¹⁴ Exhibit B-1, p. C-155.

⁹¹⁵ Exhibit B-1, p. A-16.

⁹¹⁶ Exhibit B-10, BCUC IR 1.96.1.

Targeted Incentives seek to maximize the outputs of the utility,⁹¹⁷ thereby continuing to build on the productivity and efficiency focus at FortisBC and aligned with the productivity focus of “doing more with the same”.⁹¹⁸ The BCUC has jurisdiction to approve Targeted Incentives. Subsection 60(1) of the UCA states that the BCUC must have due regard to setting a rate that “encourages public utilities to increase efficiency reduce costs and enhance performance” and “may use any mechanism, formula or other method of setting the rate that it considers advisable”.

555. The concept of Targeted Incentives represents an evolution of the regulatory incentive framework beyond a mere cost-cutting perspective. As explained by Dr. Makholm in his report in Appendix C4-1 of the Application, the concept of “incentive regulation” is actually very broad:

Fortunately, incentive regulation is a much bigger subject than RPI minus X. North American regulators have never been able to compel investors to provide the capital to render public services without a proper profit incentive. In this respect, all regulation is incentive regulation. Conflating incentive regulation with RPI minus X simply reflects an excessively narrow perspective ...

The public policy imperatives of green, customer-responsive, and load-leveled power delivery require more than simply incentivizing competitive cost-reducing behavior (that drives the theory supporting RPI minus X). Those new policy imperatives reflect as a desire to change what modern electric utilities do. Two types of incentive regulation are widely apparent for electricity distributors today: (1) capitalizing expenses (or earning returns on expenses); and (2) earning returns on targeted outcomes.⁹¹⁹

556. FortisBC has proposed a suite of Targeted Incentives that seek to broaden the Utilities’ focus on addressing the emerging challenges and opportunities in FortisBC’s operating

⁹¹⁷ With the exception of the Power Supply Incentive which is targeted towards reducing power purchase costs and is addressed below.

⁹¹⁸ Exhibit B-1, p. C-16.

⁹¹⁹ Exhibit B-1-1, Appendix C4-1, pp. 42-43.

environment, which align the incentives in the MRPs with the public interest.⁹²⁰ These are set out in Table C8-1 as reproduced below:⁹²¹

| Targeted Incentives | | | |
|---|---------------|---|--|
| Item | Applicable to | Opportunity | Proposed Incentive (equivalent basis points) |
| Growth in Renewable Gas | FEI | Incentive to exceed forecast renewable gas volumes | 10 BPS |
| Growth in NGT | FEI | Incentive to exceed load growth forecast for transportation customers | 10 BPS |
| GHG Emissions Reduction (Customer) | FEI | Incentive to exceed forecast natural gas conversion activity | 5 BPS |
| GHG Emissions Reduction (Internal) | FEI | Incentive to reduce internal GHG emissions below targeted levels | 5 BPS |
| Customer Engagement | FEI / FBC | Incentive to increase the adoption of digital service channels | 5 BPS each |
| Growth in Electric Vehicle Transportation | FBC | Incentive to support the deployment of EV Charging infrastructure (subject to EV Inquiry) | 5 BPS |

557. As indicated in the table above, FBC’s proposed incentive for growth in electric vehicle transportation was subject to the results of the EV Inquiry. Given that legislation is now expected in this area, FBC is now proposing to bring forward a target related to growth of EV transportation in an annual review, following the issuance of any new regulation pertaining to EV charging services.⁹²² As such, FBC is not seeking approval of a targeted incentive in this area in this Application.

⁹²⁰ Exhibit B-10, BCUC IR 1.96.5.

⁹²¹ Exhibit B-1, p. C-159.

⁹²² Exhibit B-12, BCUC IR 2.240.1.

3. TARGETED INCENTIVES WILL HELP ACHIEVE BENEFICIAL OUTCOMES IN THE PUBLIC INTEREST

558. The suite of Targeted Incentives in Table C8-1 above is focused on areas where success will benefit customers by advancing the adoption of cleaner, lower emission energy solutions and contribute to the realization of energy and emissions goals, increase customer engagement and manage rate increases through growth in system throughput.⁹²³ While increased customer engagement and rate management have been recognized as being in the public interest, emissions reduction is an emerging public concern that is now consistently reflected in policy direction at all levels and signals that addressing emissions is a key public interest.⁹²⁴

559. FortisBC’s achievement of the proposed targets will result in qualitative and quantitative benefits⁹²⁵ to end-users, ratepayers and society⁹²⁶ that well exceed the cost of achieving them. The benefits and net impact to customers of each proposed incentive is summarized in the table below:

| FEI | | | |
|----------------------------|--|--|---|
| Opportunity | Benefits (End User, Ratepayer, and Societal) (BCUC IR 1.96.7) | Net Impact to Customers Benefits/(Costs) (BCUC IR 1.96.7) | Why Would FEI/FBC Pursue the Target? (BCUC IR 1.96.3) |
| Growth in Renewable Gas | <ul style="list-style-type: none"> ✓ Reduced emissions ✓ Avoidance of higher cost decarbonization alternatives (electrification) | \$120.3 million | Aligned with climate policy, beneficial for customers and the utility, and is in the public interest. |

⁹²³ Exhibit B-1, p. C-157.

⁹²⁴ Exhibit B-10, BCUC IR 1.1.1.

⁹²⁵ Net of incentive rewards.

⁹²⁶ Exhibit B-10, BCUC IRs 1.96.3 and 1.96.7.

| FEI | | | |
|--------------------------------------|--|--|---|
| Opportunity | Benefits (End User, Ratepayer, and Societal) (BCUC IR 1.96.7) | Net Impact to Customers Benefits/(Costs) (BCUC IR 1.96.7) | Why Would FEI/FBC Pursue the Target? (BCUC IR 1.96.3) |
| Growth in Natural Gas Transportation | <ul style="list-style-type: none"> ✓ Reduced emissions ✓ Positive impact on rates (via delivery margin) ✓ Reduced operating costs | \$409.2 million | |
| GHG Emissions Reduction (Customer) | <ul style="list-style-type: none"> ✓ Reduced emissions ✓ Positive impact on rates (via delivery margin) ✓ Reduced operating costs | \$247.8 million | |
| GHG Emissions Reduction (Internal) | <ul style="list-style-type: none"> ✓ Reduced emissions | \$4.6 million | Aligned with climate policy, beneficial for customers, and is in the public interest. |
| Enhance Customer Engagement | <ul style="list-style-type: none"> ✓ Increased customer engagement and convenience | N/A | Beneficial for customers. |

| FBC | | | |
|-----------------------------|---|--|---|
| Opportunity | Benefits (End User, Ratepayer, and Societal) (BCUC IR 1.96.7) | Net Impact to Customers Benefits/(Costs) (BCUC IR 1.96.7) | Why Would FEI/FBC Pursue the Target? (BCUC IR 1.96.3) |
| Enhance Customer Engagement | <ul style="list-style-type: none"> ✓ Increased customer engagement and convenience | N/A | Beneficial for customers. |

| FBC | | | |
|---|---|--|---|
| Opportunity | Benefits (End User, Ratepayer, and Societal) (BCUC IR 1.96.7) | Net Impact to Customers Benefits/(Costs) (BCUC IR 1.96.7) | Why Would FEI/FBC Pursue the Target? (BCUC IR 1.96.3) |
| Growth in Electric Vehicle Transportation | <ul style="list-style-type: none"> ✓ Reduced emissions ✓ Support Zero Emissions Vehicle Mandate | N/A | Aligned with climate policy, beneficial for customers and the utility, and is in the public interest. |
| Power Supply Incentive | <ul style="list-style-type: none"> ✓ Further optimization of power supply costs | \$31.7 million (low case) to \$84.1 million (high case) | Beneficial for customers and is aligned with a focus on cost efficiency. |

560. As the table demonstrates, the achievement of the Targeted Incentives provides positive benefits to customers well above the cost of the incentive and are in the public interest. Moreover, many of these benefits will continue to provide positive value to customers well beyond the MRP term.⁹²⁷

561. Not only are the proposed Targeted Incentives designed to provide benefits to customers, but they are also designed to prepare the Utilities for future challenges and will incent improvements in dynamic efficiencies through investments in innovative solutions that can reduce the long-run average cost (unit cost) of the Companies over time.⁹²⁸ The following addresses these separately for FEI and FBC:

- FEI is impacted to a much greater degree by policy direction and mandates at all levels of government towards decarbonization. The addition of targeted incentives helps place focus on addressing emissions and supporting the transition to a lower carbon economy while serving FEI’s customer needs. As a result, four out of five targeted incentives address emissions-related challenges and opportunities while the fifth addresses changing customer expectations to engage with FEI conveniently through digital communications channels.

⁹²⁷ Exhibit B-10, BCUC IR 1.96.7. As demonstrated by the analysis period for the targeted incentives.

⁹²⁸ Exhibit B-10, BCUC IR 1.13.3.

Expanding the focus to address these emerging areas of utility performance is not only in the public interest, but it will ultimately benefit FEI’s customers.⁹²⁹

- FBC is impacted to a lesser degree by policy direction, so its suite of targeted incentives focuses on a wider array of performance areas including increasing customer engagement, supporting BC’s zero emissions vehicle mandate, and optimizing power purchase costs. The Power Supply Incentive adds an additional focus on cost efficiency by creating greater incentive to optimize FBC’s single largest cost.⁹³⁰

562. Accordingly, the targets expand the focus on cost efficiency to include important areas such as emissions reductions and customer engagement that are beneficial for customers and the public.

3.1 The Targets are Stretch Goals that Will Require Significant Effort to Achieve

563. FortisBC’s proposed targets will require a level of performance above and beyond conventional service, and have been designed to create outcomes above what is normally expected in the regular course of business. It is just and reasonable for the BCUC to approve a ratemaking plan that includes such incentives as they encourage FEI and FBC to enhance their performance to benefit customers, in alignment with the public interest.⁹³¹

564. FortisBC’s proposed targets are reproduced in the combined table below:⁹³²

| FEI | | | | | | |
|--|-------|-------|-------|-------|-------|------------|
| Incentive | 2020 | 2021 | 2022 | 2023 | 2024 | MRP Target |
| RG Target (PJs) | 1.0 | 1.5 | 2.0 | 4.0 | 6.0 | 14.5 |
| NGT Target (PJs) | 3.0 | 4.0 | 5.0 | 6.0 | 7.0 | 25.0 |
| Conversion Target (#) | 2,700 | 2,700 | 2,700 | 2,700 | 2,700 | 13,500 |
| Emissions Intensity Reduction Target (tCO ₂ e/PJ) | 10 | 20 | 30 | 40 | 50 | <30 avg. |
| Digital Channel Use Target (%) | 40% | 44% | 48% | 52% | 56% | >48% avg. |

⁹²⁹ Exhibit B-10, BCUC IR 1.13.3.

⁹³⁰ Exhibit B-10, BCUC IR 1.13.3.

⁹³¹ Exhibit B-10, BCUC IR 1.96.1.

⁹³² Exhibit B-1, Tables C8-2, C8-3, C8-5, C8-7, C8-9, and C8-10.

| FEI | | | | | | |
|--------------------------------|--------------------|------|------|------|------|------------|
| Incentive | 2020 | 2021 | 2022 | 2023 | 2024 | MRP Target |
| FBC | | | | | | |
| Incentive | 2020 | 2021 | 2022 | 2023 | 2024 | MRP Target |
| Digital Channel Use Target (%) | 27% | 28% | 29% | 30% | 31% | >29% avg. |
| EV Charging | TBD ⁹³³ | | | | | |

565. FortisBC has summarized below the difficulty in achieving the targets⁹³⁴:

| FEI | |
|--------------------------------------|--|
| Opportunity | Difficulty in Achieving Targets |
| Growth in Renewable Gas | Target represents an approximate 20-fold increase in contracted renewable gas volumes (~0.3 PJ in 2018 to 6.0 PJ in 2024) |
| Growth in Natural Gas Transportation | Target represents a 3.5-fold increase in NGT consumption (~2.0 PJ in 2018 to 7.0 PJ in 2024). |
| GHG Emissions Reduction (Customer) | Targets represent a 1.03 fold increase in conversions within a period of expected declines in housing construction (average of 2,612 conversions per year for 2014-2018 to 2,700 for 2020-2024). |
| GHG Emissions Reduction (Internal) | Targets represent a decrease in internal emissions of approximately 8% (2017-2019 ⁹³⁵ average to be reduced by 50 tCO ₂ e/PJ by 2024). |
| Enhance Customer Engagement | Target represents a 1.93-fold increase in customer adoption of digital communication channels (29% for 2016-2018 to 56% in 2024). |
| FBC | |
| Opportunity | Difficulty in Achieving Targets |
| Enhance Customer Engagement | Target represents a 1.41-fold increase in customer adoption of digital communication channels (22% for 2016-2018 to 31% in 2024). |
| Growth in Electric Vehicle | Targets are to be developed pending the outcome of the EV |

⁹³³ As indicated above, FBC proposed to bring forward a targeted incentive in for EV charging following passage of legislation in this area.

⁹³⁴ Exhibit B-10, BCUC IR 1.96.7.

⁹³⁵ For the purposes of this calculation, a starting point of 645 tCO₂e/PJ was used as the 2017-2019 average is not yet known.

| | |
|----------------|-------------------|
| Transportation | Charging Inquiry. |
|----------------|-------------------|

566. The following section addresses each target individually in more detail.

3.2 Renewable Gas

567. FEI developed the target for renewable gas supply in consideration of the following factors:

- The current level of contracted renewable natural gas supply for 2018;
- The potential volume of renewable natural gas projects currently under development;
- The volume of renewable natural gas identified in FEI's 2018 request for expressions of interest ("RFEOI") for renewable natural gas supply; and
- The CleanBC Plan renewable gas content target of 15% by 2030.⁹³⁶

568. As noted above, achievement of the 2024 target will require a 20-fold expansion in contracted renewable gas volumes. Achievement of this target will require a significant amount of work as FEI must identify new sources of renewable gas supply, execute agreements with third party suppliers⁹³⁷ and in some cases, construct necessary infrastructure. Therefore, the incentive is based on a stretch target that will be difficult to achieve within the Proposed MRP period.

3.3 Natural Gas for Transportation

569. FEI developed the targets for NGT in consideration of the following factors:

- The current NGT volume of 2.0 PJs in 2018;
- The contracts currently under development for NGT;
- The prevailing market for NGT in comparison to alternative fuels; and

⁹³⁶ Exhibit B-10, BCUC IR 1.97.2.

⁹³⁷ Exhibit B-10, BCUC IR 1.47.3.

- The completion of the Tilbury Expansion Facility, which serves transportation end uses amongst other uses.⁹³⁸

570. As discussed above, the target requires a 3.5-fold increase in NGT demand over the MRP period⁹³⁹ and will be difficult to achieve. As noted by FEI, growing NGT volumes involves convincing customers to switch from diesel, an energy source they have experience with, to natural gas as their transportation fuel for their fleets. This requires the customer to gain enough confidence to move from the petroleum fuel that they have always used, in some cases for decades, to a different, gaseous fuel. Accordingly, change management requirements for an NGT customer to make the switch are significant, and the sales cycles are long.⁹⁴⁰

571. To achieve the NGT target, FEI will need to develop new and enhanced strategies to grow demand beyond current rates in order to achieve the targets. This will include ramping up market development efforts such as engaging with new customers by communicating the financial and environmental benefits of and opting for natural gas as a transport fuel and developing demand in new market segments by targeting new customers. This will be done using direct sales efforts, responding to Requests for Proposals for fleets considering adopting natural gas, and working with industry partners on developing compelling business cases for NGT for new and prospective customers.⁹⁴¹

3.4 Emissions Reduction (Customer Conversions)

572. The target for the Emission Reduction (Customer) reflects a 3% increase in the five-year average annual number of conversions to natural gas, which can reduce emissions compared to other sources of energy like propane and oil.⁹⁴² This represents a significant increase in conversions as the five-year average includes a period with record levels of Gross Customer Additions and conversion activity, which is expected to ease in 2019 and through the Proposed

⁹³⁸ Exhibit B-10, BCUC IR 1.98.1.

⁹³⁹ Exhibit B-10, BCUC IR 1.96.7.

⁹⁴⁰ Exhibit B-6, BCSEA IR 1.12.1.

⁹⁴¹ Exhibit B-12, BCUC IR 2.236.8.

⁹⁴² Exhibit B-1, p. C-161.

MRP Period.⁹⁴³ Given that the high growth levels in 2017 and 2018 are not expected to persist, the use of a five-year average is appropriate to normalize these growth levels to an extent.⁹⁴⁴ The difficulty of the target is underscored by the operating environment which continues to become more complex with multiple factors making the adoption of natural gas increasingly challenging.⁹⁴⁵ Thus, the annual natural gas conversion target of 2,700 customers will be a stretch to achieve during the MRP term.

3.5 Emissions Reduction (Internal)

573. FEI developed the target for Emissions Reductions (Internal) of 10 tCo2e/PJ per year, representing a reduction of approximately 8 percent over the Proposed MRP period, considering the following factors:

- FEI's experience, including a 15 percent reduction in emissions between 2009 and 2017;
- FEI reduced the emissions Intensity by approximately 16.5 tCO2e/PJ per year between 2013 through 2017, which includes the impact of quantitation improvements,⁹⁴⁶
- The remaining non-quantitation reductions were mainly accomplished by addressing the easiest emissions reduction opportunities first (i.e., high reduction per unit cost);⁹⁴⁷ and
- Policy direction and legislative requirements regarding GHG emissions.⁹⁴⁸

574. While FEI's emissions have decreased by 15 percent between 2009 and 2017, a portion of this amount was due to improvements in quantitation (i.e. more accurate quantification of the emissions) and no further improvements in the quantification of emissions are expected.⁹⁴⁹ Further, FEI has already targeted the easiest emissions reduction opportunities to achieve the

⁹⁴³ Exhibit B-1, p. C-162.

⁹⁴⁴ Exhibit B-12, BCUC IR 2.237.2. If a shorter, three-year average were to be used, it should include 2019 to reflect the most recent experience.

⁹⁴⁵ Exhibit B-10, BCUC IR 1.1.1; Exhibit B-6, BCSEA IR 1.13.1.

⁹⁴⁶ Exhibit B-6, BCSEA IR 1.14.1. As noted in the response, the improvements in quantitation are complete and are not expected to further impact emissions reductions.

⁹⁴⁷ Exhibit B-6, BCSEA IR 1.14.1.

⁹⁴⁸ Exhibit B-6, BCSEA IR 1.14.10.

⁹⁴⁹ Exhibit B-6, BCSEA IRs 1.14.1 and 1.14.10.

reductions to date. Considering the absence of quantitation impacts and the fact that fewer and more difficult emissions reduction opportunities exist, FEI's targeted reduction of approximately 8 percent over the Proposed MRP period is a stretch target that will be challenging to achieve.⁹⁵⁰

3.6 Customer Engagement (Digital Channel Adoption)

575. FortisBC based its 4% and 1% annual growth targets for Customer Engagement for FEI and FBC, respectively, on the use of FortisBC's digital channels.⁹⁵¹ The targets are based on sustaining the average annual growth in digital channel adoption, requiring an increase of 1.4 and 1.9 fold for FBC and FEI, respectively.⁹⁵² FortisBC used the average annual growth rate over 2014-2018 to normalize for variability caused by external influences, such as electrical outages.⁹⁵³ These targets are in the public interest as providing convenient access to services and information that better meets our customers' expectations to engage with FortisBC on their own terms.⁹⁵⁴

576. The annual digital channel use targets will be challenging. Meeting these targets each year will require FortisBC to adopt innovative approaches to promote use of these channels, improvements to enhance their ease of use and a seamless integration of all channels such that customers have the ability to choose the most effective and convenient channel for their needs.⁹⁵⁵ Accordingly, FortisBC will need to identify new and enhanced strategies, tactics and initiatives to increase customer adoption of existing and new channels above current rates in order to achieve the target. FortisBC will conduct analysis of existing and potential channels, customer and industry research, and industry best practices.⁹⁵⁶

⁹⁵⁰ Exhibit B-6, BCSEA IR 1.14.4.

⁹⁵¹ Exhibit B-1, p. C-164.

⁹⁵² Exhibit B-12, BCUC IR 2.239.1.

⁹⁵³ Exhibit B-1, p. C-164; Exhibit B-10, BCUC IR 1.101.1.

⁹⁵⁴ Exhibit B-5, BCOAPO IR 1.21.1.

⁹⁵⁵ Exhibit B-6, BCSEA IR 1.15.1.

⁹⁵⁶ Exhibit B-12, BCUC IR 2.239.1.

3.7 EV Charging

577. As noted in the Introduction to this Final Submission, FBC proposes to bring forward a target for EV charging in an annual review during the Proposed MRP term. FBC is currently awaiting the B.C. Government's response to the BCUC's recommendations contained in its Phase Two Report of the Inquiry into the Regulation of Electric Vehicle Charging Service. FBC understands that the B.C. Government may be contemplating new regulation relating to EV charging services based on the recommendations contained in the Phase 2 Report. As such, FBC is no longer seeking approval of a targeted incentive in this area in this proceeding, but will propose a target related to growth of EV transportation following the issuance of any new regulation pertaining to EV charging services.⁹⁵⁷

4. ACHIEVEMENT OF THE TARGETED INCENTIVES WILL REQUIRE INVESTMENT

578. The achievement of the Targeted Incentive objectives will require effort on behalf of the utilities along with necessary investments in O&M and capital. As an example, the expansion of RNG supply requires FEI to invest time and effort identifying and developing new RNG projects, which will eventually require O&M and, in some cases, capital funding as they are constructed and put into service. The benefits of achieving these targets outweigh their costs.⁹⁵⁸

579. The O&M and capital requirements will vary by incentive and project. As an example, an RNG supply project may, or may not, require an investment in capital. Where pursuit of targets will be funded out of indexed-O&M or FEI's Growth capital, the Companies will have an incentive to manage their overall costs to within inflation. Where the pursuit of targets are funded out of costs that are forecast, the BCUC will have an opportunity to review any proposed spending.⁹⁵⁹

580. The required O&M and capital to pursue Targeted Incentives does not overlap with FortisBC's incremental O&M funding requests. Specifically:

⁹⁵⁷ Exhibit B-12, BCUC IR 2.240.1.

⁹⁵⁸ Exhibit B-10, BCUC IR 1.96.10.

⁹⁵⁹ Exhibit B-10, BCUC IR 1.96.9.

- The Customer Engagement incentive relates to increasing customer adoption of digital service channels, including the use of email, mobile applications, and on-line account services.⁹⁶⁰ In contrast, the incremental funding requests for Customer Expectations and Engagement are specific to communications channels, such as FortisBC's website and social media accounts that are not measured by the Customer Engagement incentive. The interactions that are measured as part of the Customer Engagement incentive are managed by FortisBC's Customer Service team, while the incremental funding for Customer Expectations and Engagement supports broader communication with the general public on various topics and is managed by FortisBC's Corporate Communications and External Relations teams.⁹⁶¹
- The targeted incentive for GHG Emissions Reductions (Customer) is focused on natural gas conversions alone, whereas the funding requested for the Connect to Gas program is broader in scope and promotes increased customer attachments as well as retention across all customer types. While the purpose of the incremental funding for the Connect to Gas program was not to assist FEI in achieving the proposed targeted incentive, the two are complementary as the Connect to Gas program may assist in the achievement of the targeted incentive.⁹⁶²

581. FortisBC's incremental O&M requests should also not be viewed as a "reward" that in any way duplicates the Targeted Incentives. FortisBC's incremental O&M requirements reflect the costs required by FortisBC to provide utility service to its customers in particular areas, as explained in detail in Part Four. The achievement of the proposed targets will be challenging and FortisBC will have to rely on available funding to achieve them. Whether FortisBC relies on indexed-O&M or costs that are forecast each year in the Annual Review, the benefits of achieving the targets will outweigh the costs and therefore customers will be better off as a result.

⁹⁶⁰ Exhibit B-1, Section C8.3.5, p. C-163.

⁹⁶¹ Exhibit B-10, BCUC IR 1.29.2.

⁹⁶² Exhibit B-10, BCUC IR 1.99.2; Exhibit B-12, BCUC IR 2.237.4.

5. THE TARGETED INCENTIVE REWARD IS BALANCED AND REASONABLE

582. The proposed rewards for achieving the targets are sufficient to provide a meaningful incentive while being balanced and reasonable. To determine the appropriate incentive for each Targeted Incentive, FortisBC considered a combination of three factors including:

- The benefits flowing to end users, ratepayers, and society;
- The difficulty in achieving the target; and
- A minimum threshold required to make pursuit of the incentive material.

583. FortisBC assigned 10 BPS to the renewable gas and NGT Targeted Incentives based on their level of benefit to end users, ratepayers and society and their associated level of difficulty. FortisBC considered 5 BPS as the minimum threshold required to make pursuit of the incentives material. Using the 2019 approved rate base and equity thickness for each utility, the equivalent reward for 5 BPS is approximately:

- FEI: \$4,497 million x 38.5% x 5 BPS = \$0.865 million
- FBC: \$1,342 million x 40.0% x 5 BPS = \$0.268 million

584. As demonstrated above, the incentive reward for customer engagement of 5 BPS is the same for FEI and FBC; however, the reward in dollar terms is scaled relative to the size of each utility's equity portion of rate base.⁹⁶³

585. FortisBC has proposed a reward for achievement of the targeted incentives based on the use of an ROE adder. The proposed ROE adder methodology for Targeted Incentives is transparent, simple, and provides a reward that is relative to the size of the utility.⁹⁶⁴ While expressed as an ROE adder, it is not related to FortisBC's allowed ROE. FortisBC could have expressed the ROE adder incentives in dollar amounts or proposed other forms of incentives (such as increased capitalization of related expenses) that could have had the same effect on the Companies' earnings.⁹⁶⁵ The point is to reward FortisBC for achieving particular outcomes.

⁹⁶³ Exhibit B-10, BCUC IR 1.96.7.

⁹⁶⁴ Exhibit B-10, BCUC IR 1.96.7.

⁹⁶⁵ Exhibit B-10, BCUC IR 1.29.3.

6. THE TARGETED INCENTIVES ARE DESIGNED FOR SIMPLICITY, INCLUDE APPROPRIATE SAFEGUARDS AND ALIGN WITH GUIDELINES FROM OTHER JURISDICTIONS

586. This section discusses how the Targeted Incentives are transparent and simple, include the appropriate safeguards, and align with guidelines established in other jurisdictions with similar programs.

6.1 *The Trigger Point Incentive Structure is Transparent and Simple*

587. FortisBC designed the Targeted Incentive structure based on a binary outcome or “trigger point”. This design is reasonable and appropriate for the following reasons:

- The proposed “trigger point” incentive structure is transparent and simple. An incentive structure in which the reward gradually increases with positive value added is more complex and therefore less transparent.
- The proposed “trigger point” incentive structure incents FortisBC to strive to reach a stretch target that is above and beyond what would otherwise be expected, and that will provide material benefits to customers. This structure should mitigate any perception that FEI or FBC were being rewarded for undertaking ordinary course business.
- Under the proposed “trigger point” incentive structure, end users, ratepayers and society receive the benefits of FEI’s and FBC’s efforts even if the target is not achieved.
- The proposed “trigger point” incentive structure can include a reward that is material enough to align interests of the Companies with the interests of customers and society.⁹⁶⁶

6.2 *Targeted Incentive Rewards are Based on the Achievement of Positive Value*

588. Targeted Incentives are designed to positively incent the Utilities to achieve the targets that are beneficial to customers and in the public interest. The reward-only incentive design encourages FortisBC to expend effort towards achieving the targets within its O&M and capital funding constraints⁹⁶⁷ and ensures that FortisBC is only rewarded where it creates positive

⁹⁶⁶ Exhibit B-10, BCUC IR 1.96.8.

⁹⁶⁷ Exhibit B-1, p. C-158.

incremental value for customers and that it is not penalized where it is unable to do so.⁹⁶⁸ However, even if FortisBC does not achieve the incentive, any progress that it makes towards the target will still be to the benefit of customers.⁹⁶⁹

589. The reward-only design feature aligns with the New York Public Services Commission (“NYPSC”) Earnings Adjustment Mechanism (“EAM”) program guidelines⁹⁷⁰ which is consistent with their finding that “reward-only incentives tend to encourages utilities to be more innovative, and may result in more collaborative and less adversarial processes.”⁹⁷¹

590. The reward-only design is also complementary to SQIs, which are penalty-only.⁹⁷² The SQIs provides the base line service levels that FortisBC is required to maintain, to ensure that FortisBC does not compromise service quality to achieve efficiencies. Thus, in the context of SQIs, a penalty-only regime is reasonable and appropriate. The Targeted Incentives complement the SQIs by providing outcomes representative of superior performance that FortisBC should be incented to achieve. In this context, a reward-only incentives is the only option that makes sense. Because the targets represent outcomes that are above and beyond service levels that FortisBC should be expected to achieve in the ordinary course, it would therefore be inappropriate to penalize FortisBC if it fails to achieve them.

591. Further, a rewards-only approach is appropriate as it is aligned with the AUC’s principle that a “PBR plan should, to the greatest extent possible, create the same efficiency incentives as those experienced in a competitive market while maintaining service quality.” In competitive markets, superior performance is rewarded with superior returns. Under the proposed Targeted Incentive mechanism, if the Utilities can achieve superior performance as

⁹⁶⁸ Exhibit B-8, ICG IR 1.7.6.

⁹⁶⁹ Exhibit B-10, BCUC IR 1.29.3.

⁹⁷⁰ Exhibit B-10, BCUC IR 1.18.6.

⁹⁷¹ Exhibit B-1-1, Appendix C8, Utility Performance Incentive Mechanisms, A Handbook for Regulators, March 9, 2015, page 42.

⁹⁷² Transcript Volume 1, pp. 83 to 84.

measured by achieving the demanding targets proposed by the Utilities, they would be rewarded with superior returns in the form of the proposed ROE Adders.⁹⁷³

592. Together, the SQIs and Targeted Incentives provide a balance of penalties and rewards that incent FortisBC to maintain service levels and achieve particular outcomes to benefit customers and that are in the public interest.

6.3 The MRP Target Recognizes Overall Achievement

593. FortisBC has proposed annual targets, but also an MRP Target. The MRP Target is designed to recognize the achievement of the annual targets in aggregate at the end of the Proposed MRP term, even if an annual target was not achieved in a particular year. Accordingly, if the targets were missed in certain years, but the targets were achieved in aggregate, the Companies would earn the full incentive.

594. For example, if FEI experienced slow upfront growth of renewable gas, but introduced a large new renewable gas supply towards the end of the Proposed MRP, FEI may have missed annual targets at the beginning of the Proposed MRP period even though the overall supply target was achieved in the end. To ensure sustained progress towards achieving the target, achievement of the MRP Total for each incentive will trigger the successful completion overall and any annual targets missed will be added to the final total incentive.⁹⁷⁴

6.4 The Proposed MRPs Include Appropriate Safeguards

595. FortisBC's Proposed MRPs include a balanced and diverse set of penalties, incentives and safeguards that mitigate against any risk that FEI or FBC would shift attention away from performance areas that do not have incentives:

- A broad range of service quality indicators are included in the MRPs to ensure that an appropriate level of service is maintained by FBC and FEI. Failure to meet the benchmark thresholds could represent a degradation in service quality and

⁹⁷³ Exhibit B-28, BCOAPO IR 4.1.1.

⁹⁷⁴ Exhibit B-1, pp. C-158-159.

may result in a penalty. Both FEI and FBC have established a strong record of maintaining service quality to customers.

- Traditional incentives are included in the MRPs to promote a continuous focus on cost efficiency. Specifically, FEI and FBC will have an incentive to contain annual index-based O&M to a level at or below that calculated under the gross O&M per customer amount, and contain Regular capital spending at the approved level or, in the case of FEI's Growth capital, at or below the amount set through the index-based unit cost.
- Targeted incentives have been added to broaden the Utilities' focus on addressing the emerging challenges and opportunities in FortisBC's operating environment, which align the incentives in the MRPs with the public interest.
- FortisBC has proposed to continue with the robust Annual Review process designed by the BCUC for FEI's and FBC's Current PBR Plans, which provides an opportunity for ongoing evaluation of FEI's and FBC's performance under the MRPs. If FEI or FBC were shifting focus away from certain areas of its business, there would be an annual opportunity for corrective measures to be taken by the BCUC over the term of the MRPs.

596. Accordingly, FortisBC will maintain its focus on all performance areas under the proposed MRPs.⁹⁷⁵

6.5 Targeted Incentives Adhere to Design Principles from Other Jurisdictions

597. While FortisBC identified a lack of targeted incentive programs in other Canadian jurisdictions, the absence should not be viewed as undermining the merits of FortisBC's proposal. First, other Canadian utilities may very well propose such mechanisms in their future applications. Second, BC is at the forefront of the transition to a lower carbon economy and therefore, it is not a surprise that a company like FEI, which has been an industry leader in developing NGT and RNG programs, is also the first Canadian utility to request additional regulatory support in the form of targeted incentives to address rapid industry transition. Third, the BCUC has a long history of providing leadership by approving innovative regulatory

⁹⁷⁵ Exhibit B-10, BCUC IR 1.96.5.

mechanisms. This is evidenced by the fact that BCUC was the first regulator to approve PBR-type plans in Canada, setting the trend for other Canadian jurisdictions.⁹⁷⁶

598. FortisBC's research on similar incentive frameworks in other jurisdictions is a relevant basis for comparison and is addressed in Section B2 of the Application. One such relevant jurisdictional comparator is New York where each New York utility has to propose individual Earning Adjustment Mechanisms ("EAMs") that are tailored to their specific needs and circumstances. The EAMs provided in Section 6.1.2.4 of Appendix C4-2 are the major categories of EAMs identified by the NYPSC and not the exact EAMs approved for each utility. The major categories identified by the NYPSC are as follows: system efficiency, energy efficiency, interconnection, GHG reduction, customer engagement and affordability. FortisBC's proposed targeted incentives generally align with the GHG reductions, customer engagement and affordability EAMs.⁹⁷⁷

599. FortisBC compared its proposed Targeted Incentives to the NYPSC EAM program guidelines as follows:

- **The EAMs should ordinarily be outcome-based not program-based:** FortisBC's proposed targeted incentives are all outcome-based. FortisBC is not asking for approval of specific programs to achieve the targets, but rather is asking for approval of the targets and incentives for achieving those targets. FortisBC will be challenged to find innovative solutions to achieve the proposed targets.
- **EAM incentives shall be designed in a manner that would avoid counterfactuals:** FortisBC's proposed targets and incentives are fixed and pre-determined and are not subject to counterfactuals.
- **EAM incentives shall ordinarily be positive only:** FortisBC's proposed targets are positive only in nature. This is because the proposed Targeted Incentives are established for activities with positive only values; therefore, the more they are rewarded, the more customers benefit.
- **The maximum amount of earnings for the initial EAM incentives should not be more than 100 basis points:** The maximum amount of incentives for each of FEI and FBC is less than the maximum threshold set in NYPSC's guidelines.

⁹⁷⁶ Exhibit B-10, BCUC IR 1.17.9.1.

⁹⁷⁷ Exhibit B-10, BCUC IR 1.18.5.

- **Each proposed EAM should be in place for a number of years:** FortisBC's Targeted Incentives are in place for the entire five-year MRP term.⁹⁷⁸

600. Further, FortisBC's targeted incentive design was informed by the report in Appendix C8 of the Application, Utility Performance Incentive Mechanisms, A Handbook for Regulators, which includes detailed case studies of the U.K., California and New York experiences, to support the development of its Targeted Incentives. The report describes how regulators are turning to targeted incentive mechanisms to better align utility regulatory and financial incentives with the public interest, stating (at page 6):

This report describes how regulators can guide utility performance through the use of performance incentive mechanisms (sometimes referred to as PIMs). Regulators have used these mechanisms for many years to address traditional performance areas such as reliability, safety and energy efficiency. In recent years, these mechanisms have also received increased attention due to regulatory concerns over resilience, utilities' ability to respond to technological change, and the expanding opportunities for distributed energy resources. The ultimate objective of performance metrics and incentives is to better align utility regulatory and financial incentives with the public interest.

601. Given the policy environment in B.C., looking to jurisdictions such as the U.K., California and New York is appropriate. FortisBC submits that B.C. utilities and the BCUC should be leaders in using targeted initiatives to better align the incentives under utility ratemaking plans with the public interest.⁹⁷⁹

602. In summary, the Targeted Incentives are a form of performance or incentive ratemaking designed to provide incentives to utilities to achieve certain objectives and have been designed to align with similar mechanisms approved by regulators in the U.K., California and New York. They are designed to create outcomes which are in the public interest and help expand the Companies' focus to address the challenges and opportunities in their external operating environments. The targets have been designed to be stretch goals that are difficult to achieve and the incentive rewards is balanced and proportionate to the benefits. The Proposed MRPs include appropriate safeguards against unintended outcomes. The Targeted Incentives align

⁹⁷⁸ Exhibit B-10, BCUC IR 1.18.6.

⁹⁷⁹ Exhibit B-10, BCUC IR 1.96.4.

with and will promote a focus on utility outputs, building on FortisBC's efficiency culture of "doing more with the same". Therefore, the BCUC should approve the Targeted Incentives.

B. POWER SUPPLY INCENTIVE

1. OVERVIEW

603. FortisBC seeks approval of the Power Supply Incentive ("PSI") described in detail in Appendix C7 of the Application. The PSI is a form of performance or incentive ratemaking,⁹⁸⁰ which will provide additional focus on cost efficiency by creating greater incentive for FBC to optimize FBC's single largest cost,⁹⁸¹ which requires significant effort and focus to manage. Under FBC's proposed PSI, the Eligible Mitigation Benefit is the reduction in FBC's power purchase expense achieved by FBC's optimization activities. The proposed Benefit Sharing Mechanism is that the first \$7.5 million in Eligible Mitigation Benefit be allocated 100 percent to customers, with the remainder being allocated 90 percent to customers and 10 percent to FBC. In this way, the PSI ensures that the customer will continue to receive the majority of the benefits of any optimization activities, and FBC will only share in benefits above what is reasonably expected in the normal course of business.⁹⁸² The PSI will create positive outcomes that are beneficial for customers and in the public interest, and should therefore be approved.

604. This Part is organized around the following key points:

- The BCUC has Approved Power Supply Incentives in 15 of the Last 24 Years;
- Achievement of Savings Requires Significant Effort and Focus;
- The PSI Design Reflects Simplicity, Alignment of Interests, and Fair and Reasonable Incentive Without Compromising Security of Supply;
- The PSI Design is Reasonable and Appropriate, Incorporating FBC's Past Experience with Power Supply Incentives; and
- The PSI and Proposed MRP includes Appropriate Safeguards.

⁹⁸⁰ Exhibit B-10, BCUC IR 1.102.17.

⁹⁸¹ Exhibit B-10, BCUC IR 1.13.3.

⁹⁸² Exhibit B-10, BCUC IR 1.102.17.

2. THE BCUC HAS APPROVED POWER SUPPLY INCENTIVES IN 15 OF THE LAST 24 YEARS

605. FBC has had a BCUC-approved power supply incentive in 15 of the 24 years between 1996 and 2019, indicating historical support and acceptance of power supply incentives. The proposed PSI represents an evolution of FBC's long history with power purchase incentives, and creates a reasonable and transparent incentive that will work well under varying and dynamic market conditions.⁹⁸³ FBC's proposed PSI is more transparent and robust as compared to previous incentives, while also providing a fair and reasonable incentive to FBC.⁹⁸⁴

3. ACHIEVEMENT OF SAVINGS IN REQUIRES SIGNIFICANT EFFORT AND FOCUS

606. As in past years, the BCUC should approve the PSI to provide an incentive for FBC to undertake the significant efforts and focus required to minimize its power purchase expense, which is the single largest item impacting customer rates.

607. The electricity market has typically been in a low price environment for the past few years, which has helped FBC achieve mitigation benefits. FBC's ability to create savings is impacted by market prices, system and load conditions, and the ability to take advantage of market opportunities at the optimal time. Challenges of optimizing power purchase expense include the timing of entering into deals, the volume to purchase, coordination of generation and transmission maintenance outages, and optimizing the use of resources to maximize the value of surplus sales, all while ensuring compliance with all contracts and industry standards.

608. To achieve the best results, FBC needs to put in a significant effort, and the results can have a significant impact to customer rates. Despite being in a relatively low cost environment the past few years, there are signs that the electric market is beginning to change. For example, following the rupture of the Enbridge pipeline in October 2018, volatility in the power markets was high, including extended periods of higher prices. FBC creates mitigation benefits by reducing the cost of energy supplied and also through selling surplus capacity. A higher

⁹⁸³ Exhibit B-1, p. C-167.

⁹⁸⁴ Exhibit B-10, BCUC IRs 1.102.12 and 1.102.21.

priced market environment would likely mean that FBC is trying to increase available surplus sales, while ensuring sufficient energy is supplied at the lowest reasonable cost. To maximize value for customers in both low and high priced market environments, FBC must maintain constant vigilance and apply appropriate strategies and policies in a dynamic fashion.

609. FBC has proposed the PSI to further align the interests of the customer and the Company with respect to FBC's optimization activities, to ensure that the best results are achieved for the customer. The power supply portfolio is the single largest item impacting customer rates, representing 43 percent of the 2019 revenue requirements.⁹⁸⁵ The PSI will help to ensure FBC continues to allocate appropriate resources to the power supply function, and that it is continuing to seek out new ways to create value for the customer in both low and high priced market environments.⁹⁸⁶

610. FBC is actively pursuing all opportunities presented in its most recent Annual Electric Contracting Plan ("AECP"). The optimization of the power supply portfolio continues to be a complex operation in an evolving market.⁹⁸⁷ For example, in real time, 24 hours a day, FBC staff tracks actual loads compared to forecast, and reforecasts load and resources for the remainder of the day and the next day. They also monitor planned and unplanned generation and transmission outages, energy purchase and sales, and all other system inputs in the load and resource balance, and make adjustments as needed to ensure sufficient resources to meet domestic load at the lowest reasonable cost, while ensuring compliance with all contractual agreements and applicable industry standards.⁹⁸⁸

611. While the AECP outlines the annual plan, the PSI is needed to further align the interest of the Company and the customer by ensuring FBC is taking advantage of all the opportunities presented in the AECP in a timely manner, and spending sufficient resources to maximize performance in the area of power supply. This includes incentive to find new opportunities and

⁹⁸⁵ FBC Compliance Filing for 2019, Section 11, Schedule 16. Power Supply cost of \$160.765 million divided by total Revenue of \$370.534 million = 43.4 percent.

⁹⁸⁶ Exhibit B-8, ICG IR 1.7.5.

⁹⁸⁷ Exhibit B-12, BCUC IR 2.241.7.

⁹⁸⁸ Exhibit B-10, BCUC IR 1.102.8.

strategies to create value for the customer, which FBC will include in the AECF for BCUC acceptance, as they become known and prior to implementation.⁹⁸⁹

612. In short, making effective economic decisions on a real-time operational basis requires substantial effort, knowledge and diligence in assessing both existing resources, short-term market conditions and operational constraints.⁹⁹⁰ Therefore, a PSI is a reasonable and appropriate incentive mechanism to align the interest of FBC and its customers.

4. THE PSI DESIGN REFLECTS SIMPLICITY, ALIGNMENT OF INTERESTS, AND FAIR AND REASONABLE INCENTIVE WITHOUT COMPROMISING SECURITY OF SUPPLY

613. The PSI was designed to meet four objectives: alignment of interests, supply security, a fair and reasonable incentive, and simplicity.⁹⁹¹ The PSI achieves these objectives as follows:

- **Alignment of Interests:** The plan encourages FBC to optimize its portfolio, and creates significant benefits to the customer in doing so. The plan will ensure FBC continues to dedicate appropriate resources to the management of the power supply portfolio, while continuing to look for overall productivity gains in FBC.
- **Supply security:** The plan discourages any activity that might adversely affect the security of supply or total power purchase expense (or “PPE”).
- **Fair and Reasonable Incentives:** The plan is structured to encourage optimization activities and to reward new substantial exertions by FBC. The PSI results in a reasonable benefit to FBC while obtaining the desired customer benefit.
- **Simplicity:** The plan is structured in such a way that it minimizes administrative effort, including allowing the BCUC and interveners to give more attention to whether the desired outcomes are achieved, and spend less time evaluating the means to obtain those outcomes.⁹⁹²

614. The PSI also satisfied the guiding principles set by the BCUC in Order G-26-11 for FEI’s gas supply mitigation incentive, as shown in Table C7-1 in Appendix C7 of the Application:

⁹⁸⁹ Exhibit B-10, BCUC IR 1.102.14.

⁹⁹⁰ Exhibit B-10, BCUC IR 1.102.1.1.

⁹⁹¹ Exhibit B-10, BCUC IR 1.102.17.

⁹⁹² Exhibit B-1, p. C-167.

Table C7-1: BCUC Guiding Principles in Relation to FBC’s PSI

| Order G-26-11 Guiding Principles | FBC PSI |
|--|--|
| 1. The incentive program must demonstratively deliver value to ratepayers and reward ongoing innovation and true value added over and above what is reasonably expected in the normal stewardship of TGI’s business. | FBC’s optimization activities deliver significant value to FBC customers. The PSI will incent FBC to increase value over and above what is otherwise expected by providing sharing of benefits above the first \$7.5 million of any reduction in PPE. |
| 2. Execution of the incentive program must not put the prudently planned gas supply portfolio at risk nor promote a departure from prudent gas supply management for core customer’s requirements. | The PSI does not encourage activities that would increase power supply risks. FBC will continue to file an Annual Electric Contracting Plan to meet customer demand and optimize its portfolio in the short-term as discussed in Section 3.4. |
| 3. The incentive plan should fairly and appropriately align ratepayer and shareholder interests. | The Benefit Sharing Mechanism under the PSI ensures that the ratepayer and shareholder interests are aligned, as the Company and the customer will share in the value added by FBC above the first \$7.5 million of any reduction in PPE. |
| 4. There should not be an upper limit on TGI’s potential to earn an incentive but there must be a test of reasonableness and the amount earned must be justified. | The PSI does not have an upper limit. The proposed Company share of 10 percent above the first \$7.5 million of any reduction in PPE is reasonable and justified given the significant value added to ratepayers. |
| 5. The incentive program should apply to all mitigation activities that use commodity supply resources that represent a cost and risk to ratepayers (i.e. gas supply, storage, transportation). | The PSI fully encompasses all FBC’s power supply resources that represent a cost and risk to FBC’s customers as discussed in Section 2. |
| 6. The incentive plan should reward TGI for its innovation rather than for opportunities that arise from events that impact the industry in general (e.g. hurricanes). | Under the PSI, FBC is incented to seek innovation and increase PPE mitigation beyond general industry events, as there is no sharing on the first \$7.5 million of any reduction in PPE. |
| 7. Any incremental administrative costs must be considered and charged against the benefits of the plan. | FBC will deduct any incremental administration costs from the plan as discussed in Section 3.1. |
| 8. The incentive payment should be the smallest amount required to obtain the desired core customer benefit. | The sharing under the proposed PSI is 10 percent of savings above the first \$7.5 million of any reduction in PPE. FBC considers this to be the minimal amount required to provide an incentive to the Company to achieve value over and above what would otherwise be expected. |

5. THE PSI DESIGN IS REASONABLE AND APPROPRIATE, INCORPORATING FBC’S PAST EXPERIENCE WITH POWER SUPPLY INCENTIVES

615. The design of the PSI is based on two key concepts: the “Eligible Mitigation Benefit” and the “Benefit Sharing Mechanism”. As described in Appendix C7, the Eligible Mitigation Benefit represents the value of FBC’s optimization activities in a given year, while the Benefit Sharing

Mechanism specifies how this benefit is allocated between FBC and customers. The following section demonstrates that the design of the PSI is reasonable and appropriate and incorporates FBC's previous experience with Power Supply Incentives.

5.1 *Passive Strategy Provides a Transparent Method for Measuring FBC's Performance*

616. The calculation of the Eligible Mitigation Benefit each year will provide a transparent method for measuring FBC's performance⁹⁹³ by comparing FBC's actual cost of supply to FBC's cost of supply based on a calculated "passive strategy". The passive strategy is a calculation of total power purchase expense that would have occurred if FBC did not engage in any optimization activities, and relied strictly on its long-term resources to meet load in every hour.⁹⁹⁴ The calculated power purchase expense under a passive strategy is a floor against which actual power purchase expense can be measured.⁹⁹⁵ Therefore, the calculation of the passive strategy and the Eligible Mitigation Benefit under the Proposed PSI creates a baseline by which Eligible Mitigation Benefits are transparent and can be easily measured and verified.⁹⁹⁶

5.2 *Eligible Mitigation Benefit Based on Identified Mitigation Strategies*

617. Although mitigation activities are complex, the Eligible Mitigation Benefits must be generated from identified mitigation strategies, making it transparent. All market contracts and surplus sales that are less than five years in term will be included in the calculation of the Eligible Mitigation Benefit.⁹⁹⁷ These benefits will be generated from the following power supply optimization / mitigation activities:

- FBC can displace BC Hydro Power Purchase Agreement ("PPA") energy purchases with lower priced energy ("PPA Energy Displacements");

⁹⁹³ Exhibit B-1-1, Appendix C7, p. 8.

⁹⁹⁴ Exhibit B-4, BCMEU IR 1.14.1.

⁹⁹⁵ Exhibit B-10, BCUC IR 1.102.2.

⁹⁹⁶ Exhibit B-12, BCUC IR 2.241.1.

⁹⁹⁷ Exhibit B-1-1, Appendix C7, p. 8.

- FBC can displace capacity under the BC Hydro PPA with lower priced capacity (“PPA Capacity Displacements”); and
- FBC can release surplus Waneta Expansion capacity on a day-ahead basis (Surplus Sales).

618. In addition, FBC may bring forward other optimization activities for inclusion in the PSI calculation during future Annual Review proceedings.⁹⁹⁸ This ensures that FBC has flexibility to find new mitigation strategies, but also that they are reviewed by the BCUC.

5.3 Eligible Mitigation Benefit will be Net of Incremental Costs

619. The Eligible Mitigation Benefit takes into account that FBC may incur incremental costs to achieve savings. Any such costs will netted from the savings in the calculation of the Eligible Mitigation Benefit.⁹⁹⁹

5.4 The PSI is Based on Actual Results

620. A benefit of the PSI is that it is not dependent on any forecast of PPE, rather it is a calculation done on actual data which incorporates all the value added by FBC. FBC will report on the PSI within 60 days of the end of each year, and the final Benefit Sharing Mechanism amount will be trued up each year.¹⁰⁰⁰

621. FBC will continue to forecast PPE using the best available data at the time, with the objective of minimizing variances between forecast and actual.¹⁰⁰¹ This forecast does not impact the PSI. Variances between actual and forecast (net of the PSI) will continue to be captured in the Flow-through deferral account and recovered from or returned to customers.¹⁰⁰²

⁹⁹⁸ Exhibit B-1, p. C-166. Optimization strategies will also require acceptance as part of the AECF review process.

⁹⁹⁹ Exhibit B-1-1, Appendix C7, pp. 8-9.

¹⁰⁰⁰ Exhibit B-1-1, Appendix C7, pp. 9-10.

¹⁰⁰¹ Exhibit B-10, BCUC IR 1.102.1.1.

¹⁰⁰² Exhibit B-1, p. C-168.

5.5 The Benefit Sharing Mechanism Provides a Benefit to FBC that is Minimum Required to Achieve Benefits

622. The proposed Benefit Sharing Mechanism is that the first \$7.5 million in Eligible Mitigation Benefits will be allocated 100 percent to customers, while any benefits above this amount will be allocated 90 percent to the customer and 10 percent to FBC.¹⁰⁰³ FBC considers this to be the minimal amount required to provide an incentive to the Company to achieve value over and above what would otherwise be expected.¹⁰⁰⁴

5.6 The Benefit Sharing Mechanism Provides a Benefit that is Proportionate to the Mitigation Benefits Achieved for Customers

623. As demonstrated in the table reproduced below which compares the PSI to past incentive mechanisms under various scenarios,¹⁰⁰⁵ the PSI provides a reward that is proportionate to the mitigation benefits achieved for the customer. Thus, the PSI improves on the balance of incentive benefits and rewards as compared to the other previously approved mechanisms.¹⁰⁰⁶

| (\$million) | Scenario #1 | Scenario #2 | Scenario #3 |
|---------------------------------|-------------|-------------|--------------------|
| Approved PPE | \$ 120 | \$ 120 | \$ 120 |
| Actual PPE | \$ 80 | \$ 90 | \$ 140 |
| Actual EMB | \$ 40 | \$ 15 | \$ 8 |
| PPE Variance | \$ (40) | \$ (30) | \$ 20 |
| FBC Incentive (\$M) | | | |
| 1999 MIM | \$ 0.50 | \$ 0.50 | \$ 0.50 |
| 1999 MIM (no cap) | \$ 10.30 | \$ 4.05 | \$ 2.30 |
| 2000 to 2005 MIM | \$ 10.10 | \$ 3.85 | \$ 2.10 |
| 2007 to 2011 PBR | \$ 20.00 | \$ 15.00 | \$ (10.00) |
| Proposed PSI | \$ 3.25 | \$ 0.75 | \$ 0.05 |
| FBC Incentive (% of EMB) | | | |
| 1999 MIM | 1% | 3% | 6% |
| 1999 MIM (no cap) | 26% | 27% | 29% |
| 2000 to 2005 MIM | 25% | 26% | 26% |
| 2007 to 2011 PBR | 50% | 100% | N/A ¹⁴¹ |
| Proposed PSI | 8% | 5% | 1% |

¹⁰⁰³ Exhibit B-1, pp. C-166-167.

¹⁰⁰⁴ Exhibit B-1-1, Appendix C7, p. 4.

¹⁰⁰⁵ Exhibit B-10, BCUC IR 1.102.12.

¹⁰⁰⁶ Exhibit B-10, BCUC IR 1.102.12.

5.7 The PSI Provides Customers with A Reasonable Level of Benefit Before Sharing Occurs Based on Historical Results

624. Under the Benefit Sharing Mechanism, the sharing of benefits begins after \$7.5 million of benefits have already been achieved, with 90 percent of the benefit beyond this amount flowing to customers and 10 percent to FBC. The objective of the \$7.5 million threshold is to:

- Provide a base level of savings to the customer before any sharing begins, which ensures there is no reward unless customers first receive a base level of savings; and
- Align the interests of FBC and the customer in reducing power supply costs by providing a continuous cost reduction incentive above the threshold.

625. The proposed PSI meets these objectives and represents a fair and reasonable incentive for reducing power supply costs on behalf of customers.¹⁰⁰⁷

626. The \$7.5 million threshold for the Benefit Sharing Mechanism was determined by looking at historical results, and selecting a threshold and sharing mechanism that would generally meet the guiding principles detailed by the BCUC in Order G-26-11 and shown in Table C7-1 as reproduced above.¹⁰⁰⁸

627. The proposed PSI calculation strikes a balance between:

- ensuring the customer receives the benefit associated with what is reasonably expected in the normal course of business;
- providing an incentive that is sufficient to align the interest of the customer and Company; and
- ensuring the incentive is limited to the minimum necessary to obtain the desired benefit.

628. This is demonstrated in the response to BCUC IR 1.102.3¹⁰⁰⁹ where FBC calculated Customer Rate mitigation back to 2014, as follows:

¹⁰⁰⁷ Exhibit B-10, BCUC IR 1.102.10.

¹⁰⁰⁸ Exhibit B-10, BCUC IR 1.102.18.

¹⁰⁰⁹ Exhibit B-10, BCUC IR 1.102.3.

| Description | Reference | 2014 Actual | 2015 Actual | 2016 Actual | 2017 Actual | 2018 Actual | 2019 Projected |
|---|--|----------------|----------------|----------------|----------------|----------------|-------------------|
| Total Eligible Mitigation Benefit (\$000) | BCUC IR 1.102.1.1 | \$ 7,482 | \$ 8,254 | \$ 11,258 | \$ 16,919 | \$ 23,142 | \$ 13,561 |
| Customer Share (\$000) | Section 3.2 of the Application | \$ 7,482 | \$ 8,179 | \$ 10,883 | \$ 15,977 | \$ 21,578 | \$ 12,955 |
| Customer Share (%) | Line 2/Line 1 | 100.0% | 99.1% | 96.7% | 94.4% | 93.2% | 95.5% |
| FBC Share (\$000) | Line 1 - Line 2 | \$ - | \$ 75 | \$ 376 | \$ 942 | \$ 1,564 | \$ 606 |
| FBC Share (%) | Line 4/Line 1 | 0.0% | 0.9% | 3.3% | 5.6% | 6.8% | 4.5% |
| Approved Rate Base (\$ millions) | 2014-2018 Annual Reports to BCUC 2019 - Annual Review for 2019 Rates Compliance Filing | 1205 | 1251 | 1282 | 1291 | 1322 | 1342 |
| FBC Equity Ratio | | 40% | 40% | 40% | 40% | 40% | 40% |
| ROE Impact (BPS) | [Line 4/(Line 6 x Line 7) x 10] | 0.0 | 1.5 | 7.3 | 18.2 | 29.6 | 11.3 |
| Revenue at Prior Year Rates (\$000) | 2014-2018 Annual Reports to BCUC 2019 - Annual Review for 2019 Rates Compliance Filing | \$ 293,720 | \$ 334,531 | \$ 340,511 | \$ 352,389 | \$ 356,340 | \$ 370,534 |
| Customer Rate Mitigation (%) | Line 2/Line 9 | -2.5% | -2.4% | -3.2% | -4.5% | -6.1% | -3.5% |

629. This table demonstrates that:

- The baseline of \$7.5 million in savings that is first allocated to customers ensures that sharing under the proposed PSI only materializes when the customer is already receiving significant rate mitigation as a result of FBC’s efforts.
- Beyond the initial \$7.5 million, the majority of benefits, more than 90 percent, accrue to customers due to FBC’s mitigation efforts. Thus, FBC will only share in the benefits once savings above what is reasonably expected in the normal course of business is achieved;¹⁰¹⁰ and
- The historical figures show that customers would achieve between 93 to 100 percent of the benefits of mitigation (\$7.482 million to \$21.578 million) while FBC would achieve between 0 to 7 percent (\$0 million to \$1.564 million).

630. Therefore, the PSI serves to further align interests in the area of power supply and increases the likelihood of additional savings to customers by providing a continuous cost reduction incentive above the \$7.5 million threshold.¹⁰¹¹

6. THE PSI AND PROPOSED MRP INCLUDES APPROPRIATE SAFEGUARDS

631. The PSI and the Proposed MRP have been designed with safeguards to ensure that power supply and reliability risks are not impacted by the proposed PSI. These include:

¹⁰¹⁰ Exhibit B-10, BCUC IR 1.102.17.

¹⁰¹¹ Exhibit B-10, BCUC IR 1.102.10.

632. FBC's current optimization activities are completed in the short-term, with no long-term impacts to available resources. The optimization activities do not involve FBC relying on the market for meeting peak demand over the long term. The underlying resources (such as the BC Hydro PPA and WAX capacity) remain in place and are available to be utilized on a day-ahead planning basis if they are required. Therefore, the optimization activities do not increase any power supply or reliability risks, including the Planning Reserve Margin test.

633. FBC's Annual Electric Contracting Plan is accepted by the BCUC including any new optimization activities that may be included in the PSI, prior to their implementation. A key objective of the PSI is to ensure security of supply. Therefore, it is very unlikely that any new activity would have any impact to the reliability of FBC's power supply.

634. The incentive proposed provides the majority of the optimization benefits to customers and provides a direct link between the benefits and reward for optimization activities. This design ensures that the PSI is less susceptible to produce unintended consequences and is largely free of external influences.

635. A broad range of service quality indicators are included in the MRP to ensure that an appropriate level of service is maintained by FBC, including reliability metrics (SAIDI and SAIFI). Failure to meet the benchmark thresholds could represent a degradation in service quality and may result in a penalty. FBC has established a strong record of maintaining service quality to customers.¹⁰¹²

636. In summary, the PSI is simple and aligns the interests of FBC and its customers by providing a fair and reasonable incentive without compromising the security of supply. The PSI ensures that the customer will continue to receive the vast majority of the benefits of any optimization activities, and FBC will only share in benefits above what is reasonably expected in the normal course of business. The PSI represents an evolution of FBC's long history with power purchase incentives, and creates a reasonable and transparent incentive that will work well under varying and dynamic market conditions. It is just and reasonable for the BCUC to

¹⁰¹² Exhibit B-10, BCUC IR 1.102.25.

approve a ratemaking plan that includes such incentives as they encourage FBC to enhance its performance and will benefit customers.

**PART TEN: SUPPORTING STUDIES TO IMPROVE CALCULATION OF REVENUE
REQUIREMENT**

A. OVERVIEW

637. The Application seeks approval of five updated studies that will result in a more representative calculation of FEI's and FBC's revenue requirements for the term of the Proposed MRPs. The studies update FortisBC's depreciation rates, cash working capital, shared and corporate services and capitalized overheads. FortisBC has provided a discussion of each study in Section D of the Application while the studies themselves are attached in Appendix D of the Application. FortisBC has responded to numerous IRs on each study in the first two rounds of IRs, demonstrating that the reasoning and conclusions in the studies are sound and consistent with accepted industry practice. FortisBC submits that the record in this proceeding supports the approval of these studies which will improve the calculation of FEI's and FBC's revenue requirements for the term of the Proposed MRPs.

638. Each study is addressed in the sections below.

**B. DEPRECIATION STUDIES PROPERLY REFLECT USEFUL LIVES OF ASSETS AND
FAIR ALLOCATION AND RECOVERY OF DEPRECIATION EXPENSE**

639. FortisBC's updated depreciation rates should be approved as they properly reflect the useful lives of its assets and a fair allocation and recovery of depreciation expense between current and future ratepayers. The proposed depreciation rates are calculated by an independent expert, Larry Kennedy of Concentric. Concentric's depreciation studies for FEI and FBC are included in Appendices D2-1 and D2-2 of the Application, respectively (the "2017 Depreciation Studies").

1. THE METHODOLOGY AND RESULTS OF THE 2017 DEPRECIATION STUDIES ARE REASONABLE AND APPROPRIATE

640. Concentric's method of calculating FortisBC's depreciation rates is consistent with FortisBC's 2014 Depreciation Studies and industry practice. In summary, Concentric estimated the depreciation rates using the straight-line method and the Average Life Group procedure applied on a remaining life basis for each depreciable group of assets. The life and net salvage rates were developed using various statistical methods such as lowa-type survivor curves and "goodness of fit" criterion, a review of actual retirement activity, operational interviews with FEI and FBC staff and informed judgement based on their experience in the gas and electricity industries. The process followed by Concentric involves the determination of an estimated average service life for each asset class and whether certain assets have depreciation surpluses or deficits, both of which drive the recommended depreciation rates. Straight-line depreciation is developed for the assets in a particular class beginning with the original cost, the estimated average and remaining service life characteristics, and accounting for the accumulated depreciation already booked in that class.¹⁰¹³

641. For certain FBC General Plant accounts, Concentric recommended and used amortization accounting to develop the depreciation rates, representing a change from the current approach of tracking and retiring individual assets. The use of amortization accounting for these asset classes is consistent with FEI's practice and used widely by electrical and gas utilities. As part of the transition to the amortization accounting approach for these assets, the costs for assets older than the recommended amortization period were retired along with their accumulated depreciation balances. The result was changes in the allocation of costs from the original costs to accumulated depreciation to recognize the retirements but with no change in the net rate base amounts for these assets.¹⁰¹⁴

642. For FEI, implementation of the rates from the FEI 2017 Depreciation Study results in a net increase of aggregate depreciation and net salvage expense of approximately \$3.5 million

¹⁰¹³ Exhibit B-1, p. D-2.

¹⁰¹⁴ Exhibit B-1, Section D2.3.1.2.

per year, a 0.08 percent overall increase to the composite depreciation rate compared to the current approved rates. The resulting increase to the delivery rate is less than one percent.¹⁰¹⁵

643. For FBC, implementation of the rates from the FBC 2017 Depreciation Study results in a net increase of aggregate depreciation and net salvage expense of approximately \$2.2 million per year, an approximate 0.12 percent overall increase to the composite depreciation rate compared to the current approved rates. The resulting increase to rates is less than one percent.¹⁰¹⁶

644. FortisBC and Concentric responded to numerous detailed information requests, providing documentary, analytic and logical support for the various determinations made in the 2017 Depreciation Studies. For example:

- FortisBC described how it tracks CIAC at the Distribution/Transmission level consistent with its accounting records for CIACs, consistent with previous depreciation studies approved by the BCUC, and consistent with the group method of depreciation for utilities. FortisBC's approach to calculating CIAC is also consistent with the practice of other utilities in Canada, including ATCO Electric, New Brunswick Power, Manitoba Hydro and Enbridge Gas Distribution.¹⁰¹⁷
- Concentric explained that it applies a theory of gradualism when selecting lowa curves to ensure that recent trends are indicative of long-term retirement patterns. Concentric explained that the "use of gradualism and moderation in the development of depreciation parameters has a long history of use to avoid over-reacting to short-term trends witnessed in the analysis of historical data. ...For example, if the most recent five years of actuarial data indicates that an average service life estimate should be shortened significantly, the conventional theory is that the recent trend should be recognized but not to the full extent until at least one additional depreciation study confirms that the trend is indicative of the long terms expectations of the account."¹⁰¹⁸

¹⁰¹⁵ Exhibit B-1, p. D-3.

¹⁰¹⁶ Exhibit B-1, pp. D-23 to D-24.

¹⁰¹⁷ Exhibit B-10, BCUC IR 1.103 series.

¹⁰¹⁸ Exhibit B-12, BCUC IR 2.244.1.

- FortisBC explained that distinguishing costs incurred for asset removal activities is important to mitigate intergenerational inequity amongst customers, to extinguish the net salvage liability that has already been collected in rates, and to ensure compliance with US GAAP.¹⁰¹⁹
- Concentric explained that no specific calculation was performed for recommended net salvage changes because there is no specific calculation that can accurately weigh the historical indications, peer comparisons, opinions of management staff, professional judgement, and previous commission rulings. Concentric confirmed that there is no specific calculation currently available in the depreciation literature, none of the depreciation studies that Concentric has performed throughout North America utilizes a calculation to weigh the various factors that are considered when making an estimate, and that Concentric is not aware of any depreciation consultants in North America who utilize such a calculation. Instead, Concentric explained that it applied its experience in the utility industry and professional judgement as a means in determining these changes, consistent with the guidance from authoritative texts in the industry.¹⁰²⁰
- Concentric explained how it allocated net salvage costs during the life of the related plant through the use of the Traditional Method, which is an appropriate and equitable method, is in accordance with authoritative texts and most Uniform Systems of Accounts, and is the most widely accepted method within North America. The Traditional Method uses a six-step process, five of which use mathematical methods and one of which uses professional judgment to ensure that the historical data is properly interpreted, and trends are adjusted for accuracy.¹⁰²¹

645. The 2017 Depreciation Studies are completed by an independent expert consultant, are consistent with past BCUC-approved studies for FortisBC and use methods widely accepted in the industry. FortisBC and Concentric were able to provide substantive and complete responses to all questions raised in this proceeding, demonstrating the soundness of the conclusions reached in the 2017 Depreciation Studies. FortisBC therefore recommends adoption of the depreciation rates as outlined in the 2017 Depreciation Studies as necessary to

¹⁰¹⁹ Exhibit B-12, BCUC IR 2.246.1.1.

¹⁰²⁰ Exhibit B-12, BCUC IR 2.247.1.

¹⁰²¹ Exhibit B-12, BCUC IR 2.247.4.

properly reflect the assets' useful lives and a fair allocation and recovery of depreciation expense between current and future ratepayers.

2. CONTINUATION OF ALG DEPRECIATION METHOD IS REASONABLE AND APPROPRIATE

646. FEI also responded in the Application to the directive in Order G-119-16 to evaluate the costs and benefits of converting from the Average Service Life group ("ALG") depreciation method to the Equal Life Group ("ELG") depreciation method. FEI provides in Section D of the Application a detailed analysis of the options, the pros and cons of each option, and a survey of the group depreciation methods used by the other natural gas utilities in Canada. Approximately 6 of the 11 large Canadian natural gas distribution utilities use the ALG method, while the remaining utilities have adopted ELG as the ELG method better satisfies the requirements under IFRS for external reporting purposes.¹⁰²² FEI sets its rates using US GAAP as an accounting framework. FEI estimates that the initial implementation of the change to the ELG method would result in a delivery rate increase of approximately four percent.¹⁰²³ The results of the analysis show that it is reasonable and appropriate to continue with the ALG depreciation method.

647. In summary, FEI proposes to continue with the use of the ALG depreciation method for the following reasons:¹⁰²⁴

- ALG is a practical method and continues to remain a widely accepted and utilized depreciation method by utilities in Canada.
- ALG is an acceptable depreciation method under US GAAP which FEI is using as its accounting framework for financial reporting.
- Both the ALG and ELG methods result in the full recovery of the costs of the assets over the lives of the asset accounts. The ELG method is intended to reflect the expected physical retirement of the assets in each year while the ALG

¹⁰²² In addition to the 10 utilities listed in the Application, Table D2-7, FEI noted in response to BCOAPO IR 1.112.7 that ATCO Gas has used the ELG method since the 1980's as most recently approved by the AUC in Decision 2011-450.

¹⁰²³ Exhibit B-1, p. D-21.

¹⁰²⁴ Exhibit B-1, pp. D-22 to D-23.

method will, by design, result in an under depreciation for those assets in earlier years with a corresponding over depreciation during the latter years of the assets' lives.

- Continuing with the use of the ALG method compared to the ELG method avoids the increase in the depreciation rate and expense and higher customer rates that immediately result from converting to the ELG method.
- Since FEI performs ALG-based depreciation studies on a relatively frequent basis, such as every three to five years, any gains and losses accumulated in the short-term will be passed through customer rates in a timely basis. Performing ALG method depreciation studies on a relatively regular basis negates the theoretically increased accuracy that may be achieved through the ELG method, thus ensuring that customers bear the appropriate cost of service.

648. The ALG method is FEI's long-standing practice as approved by the BCUC and is widely accepted and used in the industry. Converting to the ELG method would result in a rate increase of approximately 4 percent¹⁰²⁵ for no meaningful benefit. Therefore, continuing with the ALG method is reasonable, appropriate and in the interest of customers.

C. LEAD/LAG STUDIES

649. FortisBC's requested updated lead-lag days as determined in the 2018 Lead-Lag Studies in Appendix D3-1 for FEI and Appendix D3-2 for FBC (the "2018 Lead-Lag Studies") should be approved. The 2018 Lead-Lag Studies are needed to provide a representative calculation of FEI's and FBC's cash working capital requirements for the term of the Proposed MRPs. The 2018 Lead-Lag Studies analyze the timing differences between when FEI and FBC provide a service and when they receive payment on that service (revenue lag), and the time between when they receive a service and subsequently make payment on that service (expense lead). The difference between the total revenue lag and total expense lead is the net lag. The net lag, or updated lead-lag days, is then used to calculate the cash working capital requirements of the Utilities.

¹⁰²⁵ Exhibit B-1, p. D-21.

650. FEI's and FBC's lead-lag days need to be updated since the last studies were conducted in 2009 and 2005 for FEI and FBC, respectively. FortisBC has followed the method previously reviewed and approved by KPMG and the BCUC in FEI's 2009 study, which also generally reflects the approach used by utilities in other jurisdictions. Once approved, FEI and FBC will use the updated lead-lag days to calculate their cash working capital requirements in their respective compliance filing following the BCUC's Decision in this proceeding.

1. 2018 LEAD-LAG STUDY FOR FEI

651. The 2018 Lead-Lag Study for FEI used the most recent full year of actual data (2017) to perform the analysis. The study is similar in scope and methodology to FEI's previous study performed in 2009, which was reviewed and approved by the BCUC.¹⁰²⁶

652. The 2018 Lead-Lag Study results in a reduction in the net lag, and thus a reduction in the cash working capital requirements, for FEI compared to FEI's last study in 2009. The results are summarized as follows:¹⁰²⁷

- When applied to 2019 approved data, the 2018 Lead-Lag Study results in a net lag of 5.8 days, which is a reduction of 0.4 days compared to the net lag of 6.2 days using the 2009 lead-lag day study results.
- This difference of 0.4 days is the result of a 1.4 day increase in expenditure lead days, partially offset by a 1.0 day increase in revenue lag days. The increase in expenditure lead days is primarily attributable to a longer service lead for O&M expenditures and provincial sales tax, partially offset by a shorter service lead for operating fees.

653. To illustrate the impact to cash working capital when applied to the forecasted revenues and operating expenses for 2019, this change in net days would have resulted in a decrease of approximately \$1.1 million in cash working capital (\$3.9 million decrease from expenses partially offset by a \$2.8 million increase from revenues). FortisBC estimates that this will result in an \$84 thousand reduction in FEI's revenue requirement in 2020.¹⁰²⁸

¹⁰²⁶ Exhibit B-1, p. D-33.

¹⁰²⁷ Exhibit B-1, p. D-33, as amended by Exhibit B-1-3.

¹⁰²⁸ Exhibit B-12, BCUC IR 2.249.4.

2. 2018 LEAD-LAG STUDY FOR FBC

654. The 2018 Lead-Lag Study for FBC also used 2017 actual data to perform the analysis, which was the most recent full year of actual available data. The study is similar in scope and methodology to the FEI Lead-Lag study, as FortisBC has sought to align FBC's various cash working capital items with FEI's approach where possible. For example, FBC included goods and services tax (GST) in the cash working capital calculations in this study to align with the approved FEI presentation and calculated the expense lead more accurately than the previous use of monthly average balance. FBC has also excluded interest expense in this study to further align with FEI's methodology and to be consistent with the traditional approach used by other utilities in Canada.¹⁰²⁹

655. The 2018 Lead-Lag Study results in an increase in the net lag, and therefore cash working capital requirements, for FBC. A summary of the results for FBC is as follows:¹⁰³⁰

- When applied to 2019 data, the 2018 Lead-Lag Study results in a net lag of 9.5 days, which is a 2.8 day increase compared to the net lag of 6.7 days using the previous lead-lag day study results.
- This difference of 2.8 days is the result of a 3.4 day increase in revenue lag days, partially offset by a 0.6 day increase in expenditure lead days. The increase in revenue lag days is primarily due to an increase in lag days for sales revenue customers and increased lag days in Apparatus and facilities rental revenue. This was partially offset by an increase in expenditure lead days primarily due to a longer payment lead for power purchases.

656. To illustrate the impacts on cash working capital, when applied to the forecasted revenues and operating expenses for 2019, the change in net days would have resulted in an increase of approximately \$1.3 million in cash working capital (\$1.6 million increase from revenues partially offset by a \$0.3 million decrease from expenses).¹⁰³¹ FortisBC estimates that this will result in a \$105 thousand increase in FBC's revenue requirement in 2020.¹⁰³²

¹⁰²⁹ Exhibit B-1, p. D-34.

¹⁰³⁰ Exhibit B-1, p. D-35.

¹⁰³¹ Exhibit B-1, p. D-35.

¹⁰³² Exhibit B-12, BCUC IR 2.250.1.

3. FORTISBC RESPONDED TO DETAILED INFORMATION REQUESTS SUBSTANTIATING THE STUDIES

657. FortisBC responded to numerous detailed information requests, providing substantive support for the various determinations made in the 2018 Lead Lag Studies. For example:

- FortisBC explained that it was good business practice to update the studies considering that the last lead-lag studies were completed in 2009 and 2005 for FEI and FBC, respectively, underscoring the need for refreshed studies.¹⁰³³
- FEI and FBC used the same methodology as FEI's 2009 study, which was reviewed independently by KPMG and approved by the BCUC.¹⁰³⁴ FortisBC explained the steps taken by management to review the study, but emphasized that the results of the 2018 Lead-Lag Studies were primarily determined by financial transactions that have actually occurred within the SAP system.¹⁰³⁵ As the study was not proposing any changes in methodology, it essentially only required updating the model with more recent financial data and transactions. The cost of an external review was therefore not necessary for the 2018 Lead Lag Studies.¹⁰³⁶
- FortisBC's methodology, including the use of one year of actual data, is consistent with FEI's past studies, and is generally similar to that used by other regulatory utilities, as demonstrated by KPMG's comments on FEI's 2009 study noting the approach is consistent with FERC guidance and in principle with what utilities prepare for regulators in other jurisdictions.¹⁰³⁷
- FEI explained that the increase in its Residential collection lag is due to the increased use of online banking which allows for payment closer to the invoice due date, while its Industrial collection lag is due to increased use of electronic payments which takes additional lag days for funds to clear the bank.¹⁰³⁸
- FEI provided supporting calculations for the collection lag for late payment charges, explaining that removing the assumption that Late Payment charges are

¹⁰³³ Exhibit B-10, BCUC IR 1.132.1.

¹⁰³⁴ Exhibit B-10, BCUC IR 1.132.3; Exhibit B-12, BCUC IR 2.248.3.

¹⁰³⁵ Exhibit B-12, BCUC IR 2.248.2.

¹⁰³⁶ Exhibit B-10, BCUC IR 1.132.3.

¹⁰³⁷ Exhibit B-10, BCUC IRs 1.132.4 and 1.132.5.

¹⁰³⁸ Exhibit B-10, BCUC IR 1.133.1.

collected 22 days after the next invoice date has no impact on cash working capital requirements due to the low weighting of Late Payment Charges.¹⁰³⁹

- FEI explained that the Payroll and Benefits expense lead increased by 11.2 days primarily due to recognizing the service lead for incentive pay, that expense lead decreased for Insurance (which is paid in advance) as Insurance was not included in the previous study, that the increase in the PST lead days is primarily due to the change in timing of PST remittances under the BC PST legislation enacted in 2013,¹⁰⁴⁰ and that the update to the lead-lag days for Bypass and Special Rates was due to isolating the billing data for these particular customers.¹⁰⁴¹
- FBC explained that its lead days for GST are longer than FEI's primarily due to the use of electricity for cooling in the spring and summer.¹⁰⁴²
- FBC explained that the weighted Sales Revenues lag increased by 2.6 days as a result of updating for the actual split between monthly and bimonthly billing (monthly billings have a lower service lag than bimonthly billings).¹⁰⁴³
- FBC explained that the changes in lead-lag days for Power Purchases and Wheeling is due to using the 2017 actual data, whereas FBC's 2005 study used high level assumptions.¹⁰⁴⁴ The changes to Payroll & Benefits, Insurance, and O&M were similarly explained.¹⁰⁴⁵

4. FORTISBC RECOMMENDS APPROVAL OF THE STUDIES

658. The 2018 Lead-Lag Studies are consistent with past BCUC-approved studies for FortisBC and use methods widely accepted in the industry. FortisBC was able to provide substantive and complete responses to all questions raised in this proceeding, demonstrating the soundness of the conclusions reached in the studies. FortisBC therefore recommends adoption of the Lead-Lag Studies to more appropriately calculate FEI's and FBC's cash working capital requirements.

¹⁰³⁹ Exhibit B-10, BCUC IRs 1.133.2 and 1.133.2.1; Exhibit B-12, BCUC IR 2.249.2.

¹⁰⁴⁰ Exhibit B-10, BCUC IRs 1.133.4 and 1.133.5.

¹⁰⁴¹ Exhibit B-12, BCUC IR 2.249.1.

¹⁰⁴² Exhibit B-10, BCUC IR 1.134.1.1.

¹⁰⁴³ Exhibit B-10, BCUC IR 1.134.3.

¹⁰⁴⁴ Exhibit B-10, BCUC IRs 1.134.2 and 1.134.6.

¹⁰⁴⁵ Exhibit B-10, BCUC IR 1.134.7.

D. SHARED SERVICES STUDY

659. FortisBC's proposal to allocate costs of O&M shared services between FEI and FBC based on cost drivers ("Cost Driver Approach"), as opposed to the current approach of charging time between the Companies based on timesheets ("Timesheet Approach"), should be approved. In Section D4 of the Application, FortisBC provided background information on the sharing of O&M resources between FEI and FBC, described the existing Timesheet Approach and a Cost Driver Approach to allocating shared services costs between FEI and FBC, and explained how the Cost Driver Approach is simpler to understand, easier to administer and more efficient, and more stable over time. The Shared Services Study itself is included in Appendix D4 of the Application and provides further detailed information.

660. In summary, FEI and FBC began sharing services in 2010 and have been increasing their level of integration since that time, such that today all departments have integrated management. FEI and FBC currently allocate Executive time using the Massachusetts Formula, as approved by the BCUC, and propose to continue this approach. The cost of shared services in all other departments is allocated using time sheets. FortisBC proposes to begin allocating O&M shared services in these departments using a cost driver approach, whereby the cost driver for each shared service is identified (e.g. number of customers) and then used to allocate the cost of the shared services between FEI and FBC.

661. As shown in Table D4-3 of the Application, the change in approach would have a minimal impact on FEI's and FBC's O&M costs. To transition to a Cost Driver Approach, FEI's Base O&M and FBC's Base O&M are adjusted to recognize the difference in the overall allocation from the current Timesheet Approach to the Cost Driver Approach. Based on the 2018 actual O&M expenditures, the adjustment required would be an increase to FBC's Base O&M of \$0.338 million with an equivalent offsetting reduction to FEI's Base O&M of \$0.338

million.¹⁰⁴⁶ The approximate rate impact of the change in shared services is minimal, at a - 0.04% delivery rate decrease for FEI and a 0.09% rate increase for FBC.¹⁰⁴⁷

662. FortisBC responded in full to the limited number of IRs on the Shared Services Study, including:

- FortisBC explained that the cost driver approach will result in representative cost allocations and is consistent with the shared services approach previously used and approved for shared services amongst FEI and FortisBC Energy (Vancouver Island) Inc. and FortisBC Energy (Whistler) Inc.¹⁰⁴⁸
- FortisBC explained that moving to a cost driver approach is now reasonable and appropriate, as FortisBC has been pursuing integration opportunities for a number of years and all departments now have integrated management and shared services are more stable. This is reflected in the reduction in annual variations between 2013 to 2017 and the narrowing of the difference between the time sheet and cost driver approach over this time period. Using the cost driver approach, while the overall level of shared service costs may change, the relative allocation of shared services between FEI and FBC is expected to remain stable.¹⁰⁴⁹
- FortisBC explained that the cost driver approach requires annual updating of the cost driver information (e.g., the number of customers), and, on a longer-term basis, periodic broader review of FEI's and FBC's departments/functions to confirm the shared resources and allocation drivers, with any changes requiring BCUC approval.¹⁰⁵⁰
- FortisBC confirmed that the forecast 2019 Base O&M includes the forecasted effect of implementing the new Corporate Services and Shared Services Studies and will be utilized to set index-based O&M, and revenue requirements for 2020 through 2024.¹⁰⁵¹

663. FortisBC's proposed Cost Driver Approach is simpler to understand, easier to administer and more efficient, and more stable over time, requiring only annual updating with a broader

¹⁰⁴⁶ Exhibit B-1, p. D-40.

¹⁰⁴⁷ Exhibit B-12, BCUC IR 2.254.1.

¹⁰⁴⁸ Exhibit B-10, BCUC IRs 1.135.1 and 1.135.3.

¹⁰⁴⁹ Exhibit B-12, BCUC IRs 2.253.1 to 2.253.6.

¹⁰⁵⁰ Exhibit B-12, BCUC IRs 2.251.1 and 2.251.2.

¹⁰⁵¹ Exhibit B-5, BCOAPO IR 1.104.1.

review of the shared services model undertaken on a periodic basis. The Cost Driver approach is consistent with past shared services approaches approved by the BCUC and is reasonable and appropriate for FortisBC given that integration between the two companies has now stabilized. FortisBC therefore recommends approval of the proposed approach to shared services.

E. CORPORATE SERVICE STUDIES

664. FortisBC's requested approval of the methodologies of allocating common corporate service costs from Fortis Inc. ("FI") and FortisBC Holdings Inc. ("FHI") to FEI and FBC should be approved. The recommended methodologies are endorsed by KPMG who was engaged to review the nature and allocation of FI and FHI corporate services to FEI, FBC and Aitken Creek Gas Storage ULC ("ACGS"), to be implemented beginning 2020. KPMG's report is included in Appendix D5. In Section D5 of the Application, FortisBC has provided a detailed account of the changes in the 2018 Corporate Services Study compared to the 2013 Corporate Services Study, and a description of the corporate services provided by FI and FHI and how the costs of the corporate services are aggregated and allocated to FEI, FBC and ACGS.

665. In summary, the corporate services function consists of certain specialized functions that reside in FI and FHI. FI provides corporate service functions for FHI and then FHI passes along a majority of these activities to FEI, FBC and ACGS, along with FHI corporate services. As a result, both FI and FHI provide expertise and corporate services to FEI, FBC and ACGS, resulting in economies of scale to those three companies. The allocation methodologies include a formula that is based on total assets, excluding goodwill, and controllable operating expenses for FI corporate services, and the use of a Massachusetts Formula for FHI corporate service allocations. Both methodologies and the nature of the FI and FHI corporate service costs, including the addition of FBC to the sharing methodology, has been reviewed and endorsed by KPMG in the 2018 Corporate Services Study. In Section 7.4 of the 2018 Corporate Services, KPMG states:¹⁰⁵²

¹⁰⁵² Exhibit B-1-1, Appendix D5, p. 3.

KPMG is of the view that the corporate services cost pools and the cost allocators proposed for use in the FI and FHI corporate services cost allocation models form a reasonable and objective basis of the corporate services cost allocation. KPMG arrived at this conclusion as a result of performing the procedures contained in this report, and applying the internal management guiding principle criteria detailed in Section 4.

666. FortisBC is seeking approval of the allocation methodology, rather than the forecast of corporate service costs. This is because actual costs and allocation percentages will vary each year of the Proposed MRPs depending on the size of the eligible corporate cost pool at FI and FHI, as well as the relative size of the FI and FHI allocators.¹⁰⁵³ FortisBC estimates that the rate impact of implementing the new methodologies will be minimal: a 0.02% decrease in FEI's delivery rates and a 0.10% increase in FBC's rates.¹⁰⁵⁴

667. FortisBC responded in full to IRs on the 2018 Corporate Services Study, including:

- There have been three main changes since the 2013 Corporate Services Study which gave rise to the need for the 2018 Corporate Services Study: the amalgamation of FEVI and FEW into FEI, the acquisition of ACGS as an operating subsidiary of FHI, and the further integration of FEI's and FBC's departmental functions.¹⁰⁵⁵
- FortisBC estimates that adding the corporate services costs charged to FBC to the pool of FI corporate costs will have minimal impact - an expected \$24 thousand increase to FEI's allocated costs and \$4 thousand increase to ACGS's allocated costs and a \$28 thousand decrease to FBC's allocated costs.¹⁰⁵⁶
- FortisBC explained that the main driver to allocate corporate services continues to be asset value, but controllable costs of each subsidiary was introduced as a refinement, to recognize that each subsidiary operates in a substantially autonomous manner and that the level of O&M costs at each subsidiary is an indicator of the level of FI corporate services provided to each subsidiary. Using these two factors considers both balance sheet and income statement elements for the FI subsidiaries, and is consistent with the multiple factor approach used by other utilities. KPMG endorsed this approach as a balanced methodology that

¹⁰⁵³ Exhibit B-1, p. D-52.

¹⁰⁵⁴ Exhibit B-12, BCUC IR 2.255.2.

¹⁰⁵⁵ Exhibit B-10, BCUC IRs 1.138.1 and 1.138.1.1.

¹⁰⁵⁶ Exhibit B-10, BCUC IR 1.139.1.1.

mitigates the risk of using only one allocator and represents a strong proxy for activity levels at the subsidiaries that are supported by the parent company.¹⁰⁵⁷

- FortisBC explained that the decrease in the percentage of FI corporate services allocated to the FortisBC subsidiaries compared to the 2013 Corporate Services Study is primarily due to the FortisBC Subsidiaries representing a smaller proportion of the total FI group of companies' assets. This is due to FI's acquisitions and investment growth in FI's other utility subsidiaries. FEI and FBC customers are therefore realizing the benefits of economies of scale, as FI corporate service costs are allocated across a much larger consolidated FI group.¹⁰⁵⁸
- Because the purpose of setting the Base O&M is to set FortisBC's costs beginning in 2020, the new methodology should be incorporated into 2019 Base O&M by taking the 2020 forecast FI/FHI corporate services management fee and discounting it back to 2019.¹⁰⁵⁹

668. The proposed methodology for allocating corporate service costs has been reviewed and endorsed by KPMG and will provide a more representative estimate of FEI's and FBC's corporate services costs, taking into account the changes to the corporate structure, including the amalgamation of the FortisBC gas utilities, the acquisition of ACGS and the integration of FEI and FBC. FortisBC recommends approval of the methodology of aggregating its common corporate service costs from FI and FHI and allocating them to FEI and FBC using the Massachusetts formula as described in detail in the 2018 Corporate Services Study.

F. CAPITALIZED OVERHEAD STUDIES

669. FortisBC's proposal to apply capitalized overhead rates of 16 percent and 15 percent for FEI and FBC, respectively, of gross O&M to regular capital expenditures for the term of the Proposed MRPs should be approved. The proposed capitalized overhead rates were developed by KPMG, and reviewed and corroborated by FortisBC management. KPMG's 2018 capitalized overhead studies for FEI and FBC are found in Appendices D6-1 and D6-2 ("2018 Capitalized

¹⁰⁵⁷ Exhibit B-10, BCUC IRs 1.140.1 to 1.140.4.

¹⁰⁵⁸ Exhibit B-10, BCUC IR 1.141.3.

¹⁰⁵⁹ Exhibit B-10, BCUC IR 1.146.1.1.

Overhead Studies”). The methodology employed is consistent with prior years’ studies and filings, and corroborated with established rate-regulated utility practice, the BC’s Uniform System of Accounts and US Generally Accepted Accounting Principles. In Section D6 of the Application, FortisBC discusses the basis for allocating overhead costs to capital projects, FortisBC’s methodology for capitalized overhead studies, and the results of the most recent capitalized overhead studies for FEI and FBC.¹⁰⁶⁰

1. OVERVIEW OF STUDY RESULTS FOR FEI AND FBC

670. For FEI’s overhead capitalization rate, KPMG summarizes its conclusions as follows:¹⁰⁶¹

In order to provide an objective and reasonable basis of determining overhead capitalization, FEI undertook a capital cost allocation study using a Survey-based Model. The Study utilized FEI’s BCUC approved 2018 FEI O&M (the “2018 O&M”) figures. The O&M costs which are allocated to capital through the overhead capitalization rate are net of costs directly charged to capital projects.

KPMG finds the FEI Survey-based capital cost allocation methodology, as detailed in Section 6 of this report, to be a reasonable basis for capitalization of costs related to capital activities that have not been directly charged to capital projects (i.e. overhead capitalization). This methodology is consistent with internally generated evaluation criteria and practice established by the external guidance (referred to in this report), in particular the requirements of U.S. GAAP under ASC 980 Regulated Operations.

Based on the Survey-based methodology applied by FEI, and using the 2018 O&M figures, the costs related to capital activities that have not been directly charged to capital projects, as a percentage of total 2018 O&M cost, is estimated to be approximately 16 percent. This result is observed to be in line with FEI’s increased level of capital activities since the last study was completed in 2013 (12%).

In the absence of future significant regulatory, capital, accounting and organizational changes, the application of this rate in future periods is expected to continue to be appropriate.

671. The 16 percent capitalized overheads rate for FEI is addressed further below.

¹⁰⁶⁰ Exhibit B-1, p. D-53.

¹⁰⁶¹ Exhibit B-1-1, Appendix D6-1, pp. 1-2.

672. For FBC's overheads capitalization rate, KPMG summarized its conclusions as follows:¹⁰⁶²

In order to provide an objective and reasonable basis of determining overhead capitalization rate, FBC undertook a capital cost allocation study using a Survey-based Model. The Study utilized the FBC's BCUC approved 2018 FBC O&M (the "2018 O&M") costs. The O&M costs which are allocated to capital through the overhead capitalization rate are net of costs directly charged to capital projects.

KPMG finds the FBC Survey-based capital cost allocation methodology, as detailed in Section 7 of this report, to be a reasonable basis for capitalization of costs related to capital activities that have not been directly charged to capital projects (i.e. overhead capitalization). These methodologies are consistent with internally generated evaluation criteria and practice established by the external guidance (referred to in this report), in particular the requirements of U.S. GAAP under ASC 980 Regulated Operations.

Based on the Survey-based methodology applied by FBC, and using the 2018 O&M costs, the costs related to capital activities that have not been directly charged to capital projects, as a percentage of O&M costs, is estimated to be approximately 15 percent. This result is in line with the overhead capitalization rate derived in the 2013 study (15%).

In the absence of future significant regulatory, capital, accounting and organizational changes, the application of this overhead capitalization rate in future periods is expected to continue to be appropriate.

673. As indicated above, the estimated capitalized overhead rate of 15 percent is in line with FBC's existing rate and, therefore, no change is required.

2. FEI'S CAPITALIZED OVERHEAD RATE OF 16 PERCENT IS REASONABLE

674. Based on the 2018 Capitalized Overhead Study conducted by KPGM as explained above, FEI's capitalized overhead rate should be updated to 16 percent. The increase is primarily due to the increase in growth and sustainment capital activities that FEI has experienced since 2014 and that is expected to continue over the Proposed MRP term. This increase in capital activity involves work done not only by employees that direct charge to capital projects, but also through the support and activities of various departments whose costs reside in O&M. There is an increase to the capitalized overhead rate as there is a greater requirement from business

¹⁰⁶² Exhibit B-1-1, Appendix D6-2, p. 2.

areas, such as engineering, external relations, procurement, information systems, regulatory, legal, human resources and finance, to enable the capital expenditures.¹⁰⁶³

675. There are a number of indicators that the resulting 16 percent capitalized overhead rate for 2020 for FEI is reasonable. First, it results in a level of net O&M (gross O&M less capitalized overhead) that is comparable to prior years, taking into account inflationary pressures. Second, it results in a relatively consistent capitalization rate¹⁰⁶⁴ in 2020 as compared to the rate over the term of the Current PBR Plan. Third, the recommended 16 percent capitalized overhead rate is also comparable to the 14 percent capitalized overhead rate approved in both the 2010-2011 FEI (then Terasen Gas Inc.) Negotiated Settlement Agreement (Order G-141-09) and the 2012-2013 FEI Revenue Requirements Application (G-44-12).¹⁰⁶⁵

676. FEI estimates that increasing the capitalized overhead rate from 12 percent to 16 percent decreases customer delivery rates by approximately 0.4 percent in the year of implementation.¹⁰⁶⁶

3. RESPONSES TO INFORMATION REQUEST SUPPORT RESULTS OF THE STUDIES

677. FortisBC and KPMG responded in full to IRs on the 2018 Capitalized Overhead Studies. FortisBC and KPMG's provided further information as follows:

- FortisBC explained that it used a survey-based approach consistent with past practice, is endorsed by KPMG as reasonable and has been previously approved for use by the BCUC. FortisBC used a mathematical approach one time in its 2013 study to corroborate the results of the survey-based approach, but it was the survey-based approach that was used to set the capitalized overhead rates. This mathematical approach is simple, quick and easy, as it does not involve interviews with departmental staff and instead only considers budgeted O&M. It therefore does not include information on individual activities or complexities based on communication and feedback from individual departments. The

¹⁰⁶³ Exhibit B-1, pp. D-54 and D-55.

¹⁰⁶⁴ The capitalization rate is the proportion of capitalized overhead to the annual capital expenditures.

¹⁰⁶⁵ Exhibit B-1, pp. D-54 and D-55.

¹⁰⁶⁶ Exhibit B-1, pp. D-58 and D-60.

mathematical approach is also is not widely used in the industry. The survey-based approach is preferable and is consistent with past practice.¹⁰⁶⁷

- FortisBC explained that nine survey questions were used to gather a broad range of information related to capital activities and explained how each of the individual questions were used in the study.¹⁰⁶⁸
- To ensure an appropriate level of diligence in responses, KMPG was engaged to review the methodology and prepare the study and make objective challenges to survey responses, results of the survey were compared to the last study and inquiries made where required, and comparison to trends, capital expenditure profiles and quantitative data were used to corroborate the responses.¹⁰⁶⁹
- FortisBC provided the capitalized overhead rates from a number of other utilities, which ranged from lower than 2 percent to 18.5 percent. Capitalized overhead rates from other utilities cannot be used as indicators of the correct overhead capitalized rate for FEI or FBC due to varying capitalized overhead methodologies. Instead, the capitalized overhead rates for FortisBC have necessarily been based solely on the historical and projected capital expenditures, business department activities, operating environment and accounting practices specific to FEI and FBC.¹⁰⁷⁰
- FortisBC explained that some of the key drivers of increased capital-related costs were: (1) increased engineering costs for upfront planning activities prior to construction of capital projects which are directly charged to capital; (2) increased requirements for upfront communication and public hearings to comply with requirements of municipalities and other levels of government; and (3) increased costs for employee services activities associated with a higher level of capital expenditures, including increased focus on employee and customer health and safety.¹⁰⁷¹
- FortisBC provided detailed explanation of variances in the capitalization rate in each department compared to the 2013 studies. The comparison demonstrates that the proposed rates reasonably reflect the shift in business activities in FEI and FBC. However, ultimately, the focus must be on appropriately reflecting the

¹⁰⁶⁷ Exhibit B-10, BCUC IRs 1.149.1 to 1.149.2; Exhibit B-12, BCUC IR 2.256.1.

¹⁰⁶⁸ Exhibit B-10, BCUC IR 1.150.1.

¹⁰⁶⁹ Exhibit B-12, BCUC IR 2.256.1.

¹⁰⁷⁰ Exhibit B-12, BCUC IRs 2.257.1 and 2.257.1.1.

¹⁰⁷¹ Exhibit B-10, BCUC IR 1.150.3.1.

activities that are required to support FortisBC's activities over the term of the Proposed MRP.¹⁰⁷²

678. The responses to IRS confirm that the results of the studies were reasonable.

4. CAPITALIZED OVERHEAD RATES ARE RECOMMENDED FOR APPROVAL

679. As detailed above, the 2018 Capitalized Overhead Studies supporting the proposed rates have been prepared by KMPG and reviewed by FortisBC management. The methodology employed is consistent with the methodology from prior years' studies and filings, and corroborated with established rate-regulated utility practice, the BC's Uniform System of Accounts and US Generally Accepted Accounting Principles. In short, the FortisBC capitalized overhead rates reflect a reasonable basis for capitalization of costs related to the increased capital activities that have not been directly charged to capital projects. Therefore, FortisBC recommends approval of the updated capitalized overhead rates for FEI and FBC.

¹⁰⁷² Exhibit B-12, BCUC IR 2.259 series and 2.260 series.

PART ELEVEN: CONCLUSION

680. FortisBC submits that the evidence in this proceeding demonstrates that the Proposed MRPs represent a fair and reasonable balance for both customers and the Companies and the approvals sought are just and reasonable and in the public interest. FortisBC respectfully requests that the BCUC grant the approvals sought as set out in Section A2 of the Application, as amended in the attached Draft Final Order.

ALL OF WHICH IS RESPECTFULLY SUBMITTED

| | | |
|--------|------------------|--|
| Dated: | January 10, 2020 | <i>[original signed by Chris Bystrom]</i> |
| | <hr/> | <hr/> |
| | | Chris Bystrom Counsel for FortisBC Energy Inc. and FortisBC Inc. |

| | | |
|--------|------------------|---|
| Dated: | January 10, 2020 | <i>[original signed by Niall Rand]</i> |
| | <hr/> | <hr/> |
| | | Niall Rand Counsel for FortisBC Energy Inc. and FortisBC Inc. |

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|--------|------------------|--|
| Dated: | January 10, 2020 | <i>[original signed by Madison Grist]</i> |
| | <hr/> | <hr/> |
| | | Madison Grist Counsel for FortisBC Energy Inc. and FortisBC Inc. |

Appendix A

REVISED DRAFT FINAL ORDER

ORDER NUMBER

G-xx-xx

IN THE MATTER OF

the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

FortisBC Energy Inc. and FortisBC Inc.

Application for Approval of a Multi-Year Rate Plan for 2020 through 2024

BEFORE:

[Panel Chair]
Commissioner
Commissioner

on **Date**

ORDER

WHEREAS:

- A. On March 11, 2019, FortisBC Energy Inc. (FEI) and FortisBC Inc. (FBC) (collectively, FortisBC or the Companies) applied to the British Columbia Utilities Commission (BCUC) for approval of a Multi-year Rate Plan (Proposed MRP) for each of FEI and FBC for the years 2020 through 2024, pursuant to sections 59 to 61 of the *Utilities Commission Act* (UCA) (Application);
- B. The Application seeks approval of a framework for each of FEI and FBC for how rate setting will occur over the upcoming five years, including incentive mechanisms, an innovation fund, a forecast of capital expenditures, and service quality indicators;
- C. The Application also seeks approval of the deferral accounts associated with the proposed framework, and updated depreciation rates, capitalization rates and other supporting studies; and
- D. The BCUC has completed its review of the Application, other evidence filed in the proceeding, and the submission of the parties, and finds that approval is warranted.

NOW THEREFORE pursuant to sections 59-61 of the *Utilities Commission Act*, the BCUC orders as follows:

1. For FEI, the BCUC approves the following:
 - a. The rate setting mechanisms set out in Section C1 and in Table C1-1 of the Application for setting delivery rates for the years 2020 through 2024, including:
 - i. A five-year term 2020 to 2024 as described in Section C1.2;
 - ii. Use of an index-based approach to Base O&M and Growth capital, incorporating:

1. A 2019 Base O&M per customer of \$250, as described in Section C2.4, subject to being updated in FEI' compliance filing for the 2019 actual average number of customers;
 2. A 2019 Growth Capital per customer of \$3,811, as described in Section C3.3.1, Table C3-3, subject to being corrected in FEI's compliance filing for the error described in Exhibit B-12, BCUC IR 1.187.2;
 3. An inflation factor as set out in Section C1.3;
 4. A forecast of customer growth as set out in Section C1.4;
 5. A true up of the spending envelope in the following year(s) as set out in Section C1.4;
- iii. The level of forecast Sustainment and Other capital to be incorporated in rates over the term of the Proposed MRP as set out in Section C3.3.2, Table C3-7;
 - iv. Flow through treatment for the items described in Section C4 and Table C4-1;
 - v. Exogenous factor treatment as described in Section C4.10;
 - vi. The 13 Service Quality Indicators (nine SQIs with a target benchmark and four informational measures) listed in Section C7.2, Table C7-1;
 - vii. Half of ROE variances before targeted incentives to be shared with customers as set out in Section C8.2;
 - viii. Targeted incentives as set out in Section C8.3, Table C8-1;
 - ix. An efficiency carryover mechanism as described in Section C1.5;
 - x. Off ramps as described in Section C1.6; and
 - xi. Annual review process as described in Section C1.7.
- b. The creation and modification of deferral accounts as set out in Section C5 of the Application and summarized in Table A2-1, effective January 1, 2020.
 - c. The changes to the following supporting studies to be used in the determination of rates for FEI effective January 1, 2020:
 - i. Modification to the approved Lead Lag days as set out in Table D3-1, Section D3.2 as amended in the Errata filed in Exhibit B-1-3;
 - ii. Depreciation rates in the amounts set out in Table D2-3 in Section D2;
 - iii. Net salvage rates in the amounts set out in Table D2-4 in Section D2; and
 - iv. The capitalized overhead rate of 16 percent as set out in Section D6.4.
 - d. The allocation methodology of costs for corporate services between FortisBC Holdings Inc. (FHI) and FEI and for Shared Services as between FEI and FBC, as reflected in the Corporate Services

- Agreement and Shared Service Agreements as described in Sections D4 and D5 of the Application.
- e. The Innovation Fund basic charge rate rider of \$0.40 as described in Section C6.6, Table C6-3.
 - f. The recording of the interconnection costs for FEI's seven interconnection facilities identified in the 2010 Biomethane Application in the Biomethane Variance Account (BVA) as described in Section C4.4.2.3 and Appendix B9.
 - g. The Certificate of Public Convenience and Necessity (CPCN) criteria during the five-year term 2020 to 2024 will continue to be based solely on the dollar threshold set by Order G-120-15, and will be maintained at \$15 million. However, the BCUC may require a CPCN review for projects below this threshold if it finds that pursuant to section 45 of the *Utilities Commission Act* it is in the public interest to do so.
2. For FBC, the BCUC approves the following:
- a. The rate setting mechanisms set out in Section C1 and in Table C1-1 of the Application for setting rates for the years 2020 through 2024, including:
 - i. A five-year term 2020 to 2024 (Section C1.2);
 - ii. Use of an index-based approach to Base O&M, incorporating:
 1. A 2019 Base O&M per customer of \$416, as described in Section C2.5 , subject to being updated in FBC's compliance filing for the 2019 actual average number of customers;
 2. An inflation factor as set out in Section C1.3;
 3. A forecast of customer growth as set out in Section C1.4;
 4. A true up of the spending envelope in the following year(s) as set out in Section C1.4;
 - iii. The level of forecast capital to be incorporated in rates over the term of the Proposed MRP as set out in Table C3-21 in Section C3.4.1, subject to being updated in FBC's compliance filing for the removal of the duplication of costs described in Exhibit B-12, BCUC IR 2.202.4;
 - iv. Flow through treatment for the items described in Section C4 and Table C4-1;
 - v. Exogenous factor treatment as described in Section C4.10;
 - vi. The 12 Service Quality Indicators (8 SQIs with a target benchmark and 4 informational measures) listed in Section C7.3, Table C7-5, subject to FBC filing for approval of the threshold and benchmark for the SAIDI and SAIFI SQIs in FBC's compliance filing;
 - vii. Half of ROE variances before targeted incentives to be shared with customers as set out in Section C8.2;

- viii. The targeted incentive for Customer Engagement and the Power Supply Incentive as set out in Section C8.3, Table C8-1;
 - ix. Efficiency carryover mechanism as described in Section C1.5;
 - x. Off ramps as described in Section C1.6; and
 - xi. Annual review process as described in Section C1.7.
- b. The creation and modification of deferral accounts as set out in Section C5 and summarized in Table A2-2, effective January 1, 2020.
- c. The changes to the following supporting studies to be used in the determination of rates for FBC effective January 1, 2020:
- i. Modification to the approved Lead Lag days as set out in Table D3-2, Section D3.3;
 - ii. Depreciation rates in the amounts set out in Table D2-10 in Section D2;
 - iii. Net salvage rates in the amounts set out in Table D2-12 in Section D2; and
 - iv. The capitalized overhead rate of 15 percent as set out in Section D6.5.
- d. The allocation methodology of costs for corporate services between FortisBC Holdings Inc. (FHI) and FBC and for Shared Services as between FEI and FBC, as reflected in the Corporate Services Agreement and Shared Service Agreements as described in Sections D4 and D5 of the Application.
- e. The Innovation Fund basic charge rate rider of \$0.30 as described in Section C6.6, Table C6-3.
- f. The Power Supply Incentive (PSI) as described in Section C8.3.7 and Appendix C7.
- g. The Certificate of Public Convenience and Necessity (CPCN) criteria during the five-year term 2020 to 2024 will continue to be based solely on the dollar threshold set by Order G-120-15, and will be maintained at \$20 million. However, the BCUC may require a CPCN review for projects below this threshold if it finds that pursuant to section 45 of the *Utilities Commission Act* it is in the public interest to do so.

DATED at the City of Vancouver, in the Province of British Columbia, this (XX) day of (Month Year).

BY ORDER

(X. X. last name)
Commissioner