

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

604 631 3131 Telephone
604 631 3232 Facsimile
1 866 635 3131 Toll free



Matthew Ghikas
Direct +1 604 631 3191
Facsimile +1 604 632 3191
mghikas@fasken.com

November 27, 2015
File No.: 240148.00774/14797

BY ELECTRONIC FILING

British Columbia Utilities Commission
6th floor, 900 Howe Street
Vancouver, BC V6Z 2N3

Attention: Erica Hamilton
Director and Commission Secretary

Dear Sirs/Mesdames:

Re: FortisBC Energy Inc. - 2015 System Extension Application

We enclose FortisBC Energy Inc.'s Final Submission in respect of the above mentioned matter.

Hardcopies of the enclosed will follow by courier.

Yours truly,

FASKEN MARTINEAU DuMOULIN LLP

[Original signed by Matthew Ghikas]

Matthew Ghikas

MG/tm
Enc.

BRITISH COLUMBIA UTILITIES COMMISSION
IN THE MATTER OF THE UTILITIES COMMISSION ACT (THE “ACT”)
R.S.B.C. 1996, CHAPTER 473
and
FORTISBC ENERGY INC.
2015 SYSTEM EXTENSION APPLICATION

Submission of FortisBC Energy Inc.

November 27, 2015

TABLE OF CONTENTS

PART ONE: INTRODUCTION1

PART TWO: APPLICABLE LEGAL FRAMEWORK4

PART THREE: MX TEST CONTINUES TO SERVE ITS INTENDED PURPOSE.....5

 A. SOUND THEORETICAL BASIS CONSISTENT WITH INDUSTRY PRACTICE5

 B. CUSTOMERS HAVE BENEFITTED FROM PAST EXTENSIONS7

 (a) Commission’s Concern about “Undue Cost Burden” Unwarranted8

 (b) Rate Impact Analysis Demonstrates that Existing Customers Are Benefitting.....14

PART FOUR: PROPOSALS ARE APPROPRIATE AND JUST AND REASONABLE17

 A. THERE IS A SOUND RATIONALE FOR FEI’S PROPOSALS.....17

 (a) The DCF Term Should Be Extended to 40-years17

 (b) Customer Addition Horizon Should Be 10 Years in Some Circumstances20

 (c) Implementation of a Sliding Overhead Scale.....22

 (d) Energy Efficiency Credits Should Be Discontinued.....23

 (e) Service Line Cost Allowance (SLCA) Should Be Updated24

 (f) System Extension Fund is Appropriate and Just and Reasonable.....25

 B. EXISTING CUSTOMERS STILL EXPECTED TO BENEFIT FROM EXTENSIONS28

 C. MX TEST IS CONSISTENT WITH COMMISSION GUIDELINES29

 (a) Consistency with Other Utilities.....31

 (b) Social Discount Rate and Externalities32

 D. CONSISTENT WITH STAKEHOLDER GUIDING PRINCIPLES33

 E. SUMMARY35

PART FIVE: REPORTING PROPOSAL ALLOWS FOR APPROPRIATE OVERSIGHT.....36

 A. CORE REVIEW EMPHASIZED USEFUL AND NECESSARY REPORTING.....36

 B. CURRENT REPORTING IS ONEROUS AND DISPROPORTIONATE.....37

 C. CURRENT REPORTING NOT A RELIABLE MEANS OF ASSESSING FORECASTING
 ACCURACY, PERFORMANCE OF MAINS OR CUSTOMER IMPACT.....39

 D. FEI’S PROPOSED REPORTING FRAMEWORK IS MORE REASONABLE AND EFFICIENT40

 (a) FEI’s Proposed Reporting Is Useful40

 (b) Proposed MX Reporting More Proportional.....41

 (c) Proposed Reporting Consistent with Commission’s MX Guidelines.....42

 E. SUMMARY REGARDING REPORTING.....44

PART SIX: FEI HAS ADDRESSED COMMISSION CONCERNS46

- A. SUCCESSFUL STAKEHOLDER CONSULTATION46
- B. RATEPAYERS NOT EXPOSED TO “UNDUE COST BURDEN”47
- C. REASONABLE FORECASTING47
 - (a) Accurate Cost Estimates.....47
 - (b) Forecasting Attachments48
 - (c) FEI’s Consumption Inputs Are Reasonable50
- D. APPLICATION OF ENERGY EFFICIENCY CREDITS53
- E. SUFFICIENCY OF SECURITY AND CIAC53

PART SEVEN: CONCLUSION AND ORDER SOUGHT.....55

PART ONE: INTRODUCTION

1. The purpose of system extension policies is to promote the fair and equitable treatment of new and existing customers *via* a before-the-fact examination of expected costs and benefits associated with extensions.¹ FortisBC Energy Inc.'s ("FEI") main extension test ("MX Test") - which is based on a Discounted Cash Flow ("DCF") methodology and a Profitability Index ("PI") of 0.8 individually and 1.1 in aggregate - has proven itself to be a practical and fair means for the utility to assess, before-the-fact, whether a customer contribution ("CIAC") is required to avoid an unfair burden on existing customers. This Application is about refining a proven concept with the benefit of further experience and stakeholder input, rather than "reinventing the wheel". The specific approvals sought are set out on pages 2 and 3 of the Application.²

2. FEI's main extensions have benefitted existing customers. EES Consulting determined, based on comprehensive analysis of actual costs and revenues, that customer growth since 2008 has reduced customer rates by over \$10 per year (equivalent to \$0.058/GJ) from what they otherwise would have been.³ This equates to an actual PI of 1.25.⁴ The Ratepayer Impact Analysis should put to rest the Commission's preliminary concerns about existing customers potentially having been harmed by FEI's main extension activity. The Commission's concerns reflected a methodology and assumptions that understate the benefits of extensions (i.e., present downward bias).

3. FEI has proposed refinements to the MX Test and related Customer Connection Policy: a DCF term that better reflects the service life of mains; a 10-year horizon for customer

¹ On page 19 of the decision for the 2007 *System Extension and Customer Connection Policies Review*, the Panel stated: "the primary purpose of extension and connection policies is to promote fair and equitable treatment of customers and, more specifically, to ensure that existing customers are not adversely affected by the addition of a new customer or customers."

http://www.bcuc.com/Documents/Guidelines/2007/DOC_15386_1996_Utility_System_Extension_Test_Guidelines.pdf

² FEI has also filed proposed Tariff changes, submitted as Appendix E of the Application and attachment 10.4.1 in response to BCUC IR 1.10.4.1.

³ Exhibit B-1, Appendix A, EES Report, p.2; Application, p.47 and p.48.

⁴ BCUC IR 2.2.1.

attachments in circumstances where a horizon longer than five years better reflects the expected customer attachments; an adjustment to the way overhead is calculated to better reflect the incremental overhead cost incurred; discontinuance of energy efficiency credits; and, an updated Service Line Cost Allowance (“SLCA”). FEI has also proposed a \$1.0 million System Extension Fund to help defray the higher CIAC’s associated with extensions in less densely populated areas. The proposals strike a better balance between avoiding unduly burdening new customers with attachment costs and protecting existing customers from being exposed to undue costs from the attachment of new customers. They are in the public interest and are just and reasonable. They should be approved.

4. A second, and equally important, aspect of the Application is FEI’s request to change the nature of reporting on the MX Test (“MX Reporting”) so that it focuses on the right things, yields meaningful results, and is proportional to the potential ratepayer impact associated with main extensions. The MX Reporting today is much more detailed than originally required by Order G-152-07. It has taken on the flavour of a prudence review of certain extensions early in the service life of these mains - well before the profitability of a main can reasonably be ascertained. FEI is required to present data using a methodology that is not fit for the Commission’s intended purpose and can yield misleading results by virtue of the assumptions that the Commission requires FEI to use. The effort and cost involved in reporting is out of proportion to the amount of capital and the associated rate impact.⁵ Each report takes hundreds of hours to complete at a cost of approximately \$100,000 annually. Yet, 97% of all main extensions completed from 2008 – 2014 cost less than \$50,000 each, and the average cost per main extension over the same period was only \$11,600. The total capital forecast to be spent on mains in each of the next three years is only \$5.6 million⁶ and capital expenditures for mains are part of the formula-driven growth capital approved by the Commission under the current PBR.⁷ There are no other instances where the Commission has required so much reporting for a similar capital spend. No other surveyed jurisdictions require this type of

⁵ CEC IR 1.32.1 and BCUC IR 1.32.2.

⁶ Reflects the forecast from the 2014-2018 PBR Application.

⁷ BCUC IR 1.42.3.

reporting. FEI's MX Reporting proposals are consistent with the spirit of the Core Review and adopting them is in the best interests of FEI's customers and stakeholders.

PART TWO: APPLICABLE LEGAL FRAMEWORK

5. System extension policies are governed by sections 29, 30 and 59 to 61 of the UCA.

6. Sections 29 and 30 deal specifically with extensions. Section 30 expressly contemplates a public interest test. Both sections contemplate the Commission being able to impose terms on extensions, which “may include payment of all or part of the cost” by the new customer (i.e., a CIAC). The MX Test, including any resulting CIAC, represents “terms the commission directs” with respect to extensions.

7. The rate sections of the UCA (ss. 59 to 61) apply because “rate” is broadly defined under the UCA. It includes “a rule, practice, measurement, classification or contract of a public utility or corporation relating to a rate.” This definition is broad enough to capture all of FEI’s proposals.⁸

8. The public interest analysis and the rate (i.e., “just and reasonable”/undue discrimination) analysis both require consideration of existing and potential customers. The purpose of the MX Test has been, and continues to be, to promote a fair balance between the interests of new customers and the interests of existing customers.⁹ That is, new customers should not be unduly burdened with attachment costs and existing customers should not be exposed to undue costs from the attachment of the new customers.¹⁰ The proposals in this Application are aimed at re-balancing the interests of existing and new customers within the long-established MX Test construct. Rebalancing the MX Test in this manner promotes just and reasonable treatment of two distinct ratepayer groups, while achieving public interest objectives that are reflected in the principles developed in stakeholder consultation.

⁸ BCUC IR 1.15.1.

⁹ 2007 *System Extension and Customer Connection Policies Review* Decision, p.19.

¹⁰ As FEI explained in the response to BCUC IR 2.20.1, the purpose of the MX Test is NOT to avoid the regulatory burden of having to apply for CPCNs for routine low cost extensions. That is the role of a CPCN threshold. There are many types of capital investments that are below the CPCN threshold that are not main extensions. The regulatory efficiency rationale for not requiring a CPCN applies equally to all of these expenditures, including those mains that are subject to the MX Test.

PART THREE: MX TEST CONTINUES TO SERVE ITS INTENDED PURPOSE

9. FEI's MX Test, which is based on a DCF analysis and a PI of 0.8 individually and 1.1 in aggregate, has proven to be a practical and fair means for the utility to assess whether a main extension properly balances the interests of new and existing customers, or whether a CIAC is required. In this Part, FEI makes the following points:

- First, the DCF methodology and the PI's approved by the Commission in 2007 are based on a sound rationale, and are consistent with mechanisms employed throughout North America.
- Second, existing customers have benefitted as a result of past extensions, which suggests that certain parameters of the MX Test can be adjusted to strike a better balance between existing and new customers.

A. SOUND THEORETICAL BASIS CONSISTENT WITH INDUSTRY PRACTICE

10. The DCF methodology and the PI's approved by the Commission in 2007 are based on a sound rationale, and are consistent with mechanisms employed throughout North America.

11. FEI's DCF methodology is consistent with Commission Guideline 1, which provides:

The Commission recommends that evaluation of system extensions be based on a discounted cash flow evaluation method that includes, to the extent feasible, all incremental costs and benefits associated with a particular system extension over a time period long enough to consider the full impact of the extension. The Commission also recommends that, as a general principle, the costs of system extensions be allocated to those customers who cause them. [Emphasis added.]

12. EES Consulting confirmed the appropriateness of a DCF methodology. It observed:

- Generally speaking, all surveyed system extension tests, including FEI's, compare the cost and benefits of proposed system extensions.¹¹
- The incremental pricing approach inherent in the MX Test is the standard method used for determining the need for CIAC payments for system extensions.¹²
- DCF analysis is widely used in utility extension tests, and is the most common approach across Canada.¹³

13. EES Consulting added that alternatives to DCF do not offer any distinct advantages, and concluded: "There is no reason for FEI to change its overall cost-benefit approach at this time as the current approach provides a reasonable assessment of incremental cost analysis."¹⁴

14. The existing PI thresholds (0.8 for individual main extensions and 1.1 for the portfolio in aggregate) have been in place since 2007, when the Commission approved FEI's (Terasen Gas') proposed change from using 1.0 for all main extensions.¹⁵ The Commission stated:

The Commission Panel notes that one of Terasen's stated objectives for system extensions tests and policies is to promote fair and equitable treatment of customers and avoid undue discrimination, and notes that Terasen is effectively broadening the scope of the policy to ensure that the addition of a full year's cohort of customers does not adversely affect the customers in existence at the beginning of that year. The Commission Panel finds such a proposal to be in the public interest and to conform with its Guidelines and approves the proposal to establish a new threshold PI of 0.80 for individual main extensions, and to

¹¹ Exhibit B-1, Appendix A, EES Consulting Report, P.16

¹² Exhibit B-1, Appendix A, EES Consulting Report, p.9.

¹³ Exhibit B-1, Appendix A, EES Consulting Report, p.12.

¹⁴ Application, Appendix A, EES Consulting Report, p.12.

¹⁵ CEC IR 1.14.1.

establish an aggregate PI of 1.10 as the threshold for all main extensions completed on an annual basis.¹⁶

15. These comments remain applicable today.

16. EES Consulting has characterized FEI's continued use of the current PI thresholds as appropriate and consistent with the practices of other utilities:

FEI's use of a 0.8 target for the PI on an individual basis, along with a 1.1 overall target, is consistent with the practices of other utilities surveyed. While there are differences among the utilities, FEI is well within the range of options used.... FEI's practice of using a lower individual target and a higher aggregated target allows for recognition of the potential benefits in the future associated with new customers that are below 1.0 on their own, as well as the uncertainty in actual costs and benefits. Further, projects with a PI above 1.1 offset the added costs of those projects below 1.0, leading to an aggregated outcome that does result in holding existing customers harmless from the growth in customers.¹⁷

17. In short, industry practice and Commission's Guidelines provide a sound rationale to retain the DCF approach and the current PI parameters. The actual experience with the MX Test since 2008, discussed next, only reinforces the reasonableness of focussing on refinements while retaining these fundamental elements of the current Test.

B. CUSTOMERS HAVE BENEFITTED FROM PAST EXTENSIONS

18. In Letter L-34-14 the Commission expressed concerns that ratepayers "might be exposed to an undue cost burden as a result of the expansion of the distribution system to attach these new customers...". FEI submits that the Commission's inference was the product of an assessment methodology that is downward-biased on PI and the particular assumptions employed in forecasts used in that analysis. EES Consulting's Rate Impact Analysis confirmed that, when the actual costs incurred on customer attachments between 2008 and 2014 are compared to actual revenues over the same period, existing customers have benefited.

¹⁶ Order G-152-07.

¹⁷ Application, Appendix A, EES Report, p.15.

(a) Commission’s Concern about “Undue Cost Burden” Unwarranted

19. The Commission’s comment in Letter L-34-14 was based on the outcome of the Commission’s current evaluation approach, which is reflected in annual reporting requirements. For the reasons discussed below, the method by which the Commission undertakes its assessment does not provide an appropriate basis to draw conclusions about whether or not customers will be exposed to an “undue cost burden” or the appropriateness of FEI’s internal processes.¹⁸

The Re-Run MX Test Does Not Yield an “Actual PI”

20. The Commission’s assessment methodology, reflected in MX Reporting requirements, requires FEI to re-run the MX Test for installed mains and compare the results to the original (before-the-fact) MX Test results.¹⁹ The re-run MX Test uses some actual values for costs, consumption and customer attachments that have been realized at the time the reporting is conducted. For future years (i.e., after the date the MX Test is being re-run), FEI is required to include forecasts for consumption and attachments that are based on assumptions dictated by the Commission. The Commission refers to this exercise as comparing “forecast PIs” to “actual PIs”. The Commission has cited variances between “forecast PIs” and “actual PIs” as giving rise to concerns about FEI’s forecasting accuracy. It has inferred the potential for an “undue cost burden” on existing customers where “actual PIs” are less than 1.0.²⁰

21. The term “actual PI” is, however, a misnomer. The output of the re-run MX Test is a *re-forecasted* PI, and it is a function of the assumptions and inputs used.²¹ A re-forecasted PI cannot be equated with a measure of whether existing customers are benefitting or being harmed by FEI’s main extension activity; the meaning that can be ascribed to a re-forecast PI depends on the validity of the assumptions used in the forecast and when the forecast is conducted. FEI has identified issues with the assumptions that it is required to use in MX

¹⁸ A good illustration of how FEI views this issue is in the BCUC IR 2.1.2 to 2.1.4 series.

¹⁹ FEI discussed and included the spreadsheet provided by Commission Staff that sets out the methodology in the response to BCUC IR 2.4.1.

²⁰ “The Commission is concerned that the 2008 aggregate PI results over the five year period were below 1.0...”.

²¹ BCUC IR 1.7.2; BCUC IR 2.1.2.1.

Reporting. Moreover, the exercise of comparing the *ex ante* and *ex post* forecasts only depicts variances over a short reporting period defined by the parameters of the MX Test.²² As discussed later, one of the advantages of the Rate Impact Analysis is that it uses actual data for both costs and revenues and does effectively yield an “actual PI” at a point in time. EES Consulting calculated the true “actual PI” for customer attachments occurring between 2008 and 2014 as 1.25, indicating a benefit to existing customers.²³

The MX Reporting Approach Understates the Benefits of System Extensions

22. The MX Test was designed to be conducted before a main extension is built, and it incorporates conservatism for the benefit of existing customers. Key among these conservative parameters are:

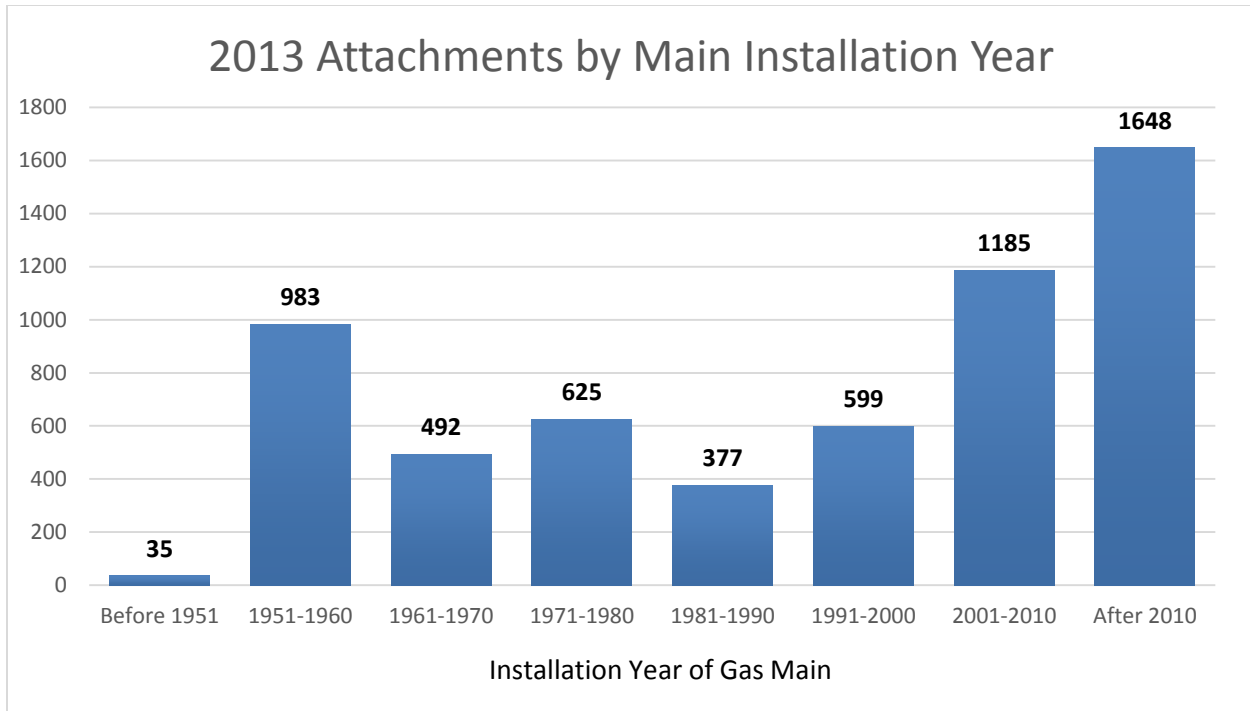
- First, the MX Test only considers customers that are forecast to be added to a main during the first five years, when it is known that new customers typically continue to attach to mains over the course of the main’s service life (64 years on average²⁴). To illustrate this point, the graph below shows a profile of all single service line connections (connecting a customer to a main *via* a service line) for the 2013 calendar year, grouped by the year the main extension was originally installed. It shows that the majority of connections were associated with mains older than five years. For example, 16% of the mains (983 of 5,944 single service lines installed) were associated with mains installed between 1951 to 1960.²⁵

²² Application, p.45.

²³ BCUC IR 2.1.2.1.

²⁴ CEC IR 1.1.1 updated page 36 of the Application. Gannett Fleming, in its most recent depreciation study, recommended a 64 year life for mains. It was approved by the Commission by Order G-44-12.

²⁵ BCUC IR 1.3.1.



- Second, even for those customers who are expected to be added in the first five years, the MX Test only considers 20 years of revenue in the DCF calculation. In essence, the MX Test utilizes not even a third of the life of the asset for revenue generation. This assumption is unrealistic.

23. It is one thing to use short attachment horizons and DCF terms that are known to understate revenues and connections as a means of incorporating conservatism in an *ex ante* test, and entirely another thing to use those same conservative inputs when evaluating FEI's performance and the profitability of a main after the fact. Simply put, the approach of using a re-run MX Test to assess FEI's past extension activities is fundamentally unfair. Using that methodology will also impair the Commission's ability to make sound decisions about the MX Test parameters going forwards. The practice should be discontinued.

FEI Is Required to Use Unrealistic Attachment and Consumption Assumptions

24. The unfairness associated with evaluating FEI's performance using a test designed to understate the benefits of extensions is compounded by FEI being required to use assumptions regarding attachments and consumption in MX Reporting that may not reflect the

best information available at the time the MX Test is re-run. These assumptions introduce additional downward bias in revenues used in the DCF calculation, and thus drive the re-run PI down even further.

25. The re-run MX Test starts with the original forecast of attachments used in the MX Test and updates for actual data. However, for future years the Commission requires FEI to assume that delayed attachments from prior years never materialize. The problem with this approach is highlighted in the following description of the re-forecasting process from FEI's response to BCUC IR 1.8.1:

If an attachment is completed at the time of reporting, re-forecasting will be using actual values. For example, if in a given year, 10 out of 25 forecasted attachments occur, only 10 attachments will be used for the re-calculation. The methodology assumes the other 15 attachments do not materialize and therefore are not included in the MX Test for re-calculation.

For future years, the original forecast is used. For example, if a particular main is in Year 2 (out of 5) then actual values would be used for Year 1 and Year 2. The original forecast values are used for Years 3 to 5 since they haven't happened yet. As each additional year passes, actual values are used.

For example, if FEI had forecast 20 attachments in years 1 and 2 and 5 attachments in years 3, 4 and 5, and by the end of year 2 only 10 attachments had occurred, the MX Reporting methodology requires FEI to include the 10 attachments that had occurred in years 1 and 2 and the forecast of 5 attachments for the remaining three years, even if it is expected that the attachments in those three years will be higher. [Emphasis added.]

26. This is not just a theoretical problem. FEI's experience with the economic slowdown following the 2008 market crash provides concrete evidence that the assumptions the Commission is requiring FEI use in MX Reporting can yield (and has yielded) misleading PI results. Customer attachments in 2008 and 2009 were much lower than forecasted due to the recession. Although many of these attachments were only delayed, the MX Reporting approach precluded FEI from accounting for those attachments in future years. FEI explained:

This assumption, since it results in the analysis being so timing-dependent, can also fail to capture what is happening in the new home construction

marketplace. The customer attachment forecast is based on the data available at the time, derived directly from customers, municipal building and permit plans and FEI's industry experience. However, attachments can be delayed when outside events impact the marketplace. For example, the financial crash of 2008/09 delayed many customer attachments until the market recovered. Builders and developers are highly motivated to sell their properties to homeowners and re-coup their investments. The longer lots sit unsold, the greater the carrying costs, the lower the profit margin. This means that builders and developers will continue to pursue attachments and, although delayed, they will usually materialize.²⁶

27. It is incorrect to assume that re-running the MX Test two or three years after the main is installed will capture most attachments on the main. The Figure included in paragraph 22 above demonstrates that attachments typically occur throughout the life of mains.

28. Commission IRs asked FEI to re-present information from MX Reporting in a manner that exacerbated the distortion present in the current reporting methodology. Specifically, FEI was asked to "update the 'Actual Attachments' Table 5-3 to only include actual attachments that are actually connected and receiving gas", thus omitting a forecast of attachments for the remainder of the five year period. FEI provided the information, but submits that the approach is very misleading and should not be used. FEI elaborated:

For instance, if a main extension is only in its third year as shown in the illustrative example provided by the Commission (refer to the response to BCUC IR 2.4.1), comparing the total forecast attachments for the five year period (50) to only the first three years of actual attachments (32) would be incorrect since years 4 and 5 have not happened yet. This method focuses on individual years and compares them to an aggregate total. This incorrectly skews the attachment variance and would not be a valid comparison.²⁷

Consumption Input is a Credit Not a Forecast

29. As part of MX Reporting, FEI is required to report consumption variances from the number used in the original *ex ante* analysis. This is an "apples to oranges" comparison. It treats the original consumption inputs as a forecast of what new customers on the extension

²⁶ Application p.46. See also: BCUC IR 1.7.1.

²⁷ BCUC IR 2.4.1.1.

will consume. In fact, the consumption input in the *ex ante* MX Test is a credit for consumption based on the usage of existing utility customers. EES Consulting explained that this is common practice and is aimed at achieving equitable treatment of existing and new customers:

For residential gas use, utilities use standard numbers per appliance for their particular region as the basis for the usage per customer for each particular case. These estimates are typically based on the average use of existing customers differentiated by specific appliance. In a few cases, a total system average for the class is used for all customers regardless of appliances. These average use numbers are not intended to reflect the use of customers in the future but rather reflect the average usage of all customers on the system. That allows new customers to be treated equitably compared to existing customers.

FEI is consistent in this practice as it uses the results of the REUS [Residential End Use Study] survey of usage per appliance which is based on all customers on the system. Because the REUS is updated periodically, any trends in customer usage will be reflected in the calculations. It is also consistent with the practice of BC Hydro where the line extension credit is a flat amount based on the costs and benefits associated with a customer using a standard amount of electricity based on historic averages.²⁸ [Emphasis and parenthetical added.]

30. In essence, evaluating main extensions and FEI's performance based on UPC variances is not meaningful. The appropriateness of the credit based on average UPC does not change simply because the consumption of new customers on a particular extension differs from the rest of the system.²⁹ Variances should be expected when one compares "apples to oranges".

Summary

31. As a result of the issues discussed above, a variance between the *ex ante* PI and an *ex post* PI recalculated in successive years as part of the current MX Reporting is not an indication of poor forecasting. An *ex post* PI of less than 1.0 is not an indication that the extension is uneconomic. The downward PI bias inherent in the current MX Reporting methodology is underscored by the extent to which the PIs derived using that methodology are

²⁸ Exhibit B-1, Appendix 1, EES Consulting Report, pp.13-14.

²⁹ Application, p.45.

at odds with the results of EES Consulting's analysis, which was based on actual revenue and cost data from 2008 to 2014.

(b) Rate Impact Analysis Demonstrates that Existing Customers Are Benefitting

32. EES Consulting's Rate Impact Analysis "clearly demonstrates that existing FEI customers are actually benefitting from customer growth."³⁰

33. EES Consulting described the Rate Impact Analysis in their Report.³¹ EES Consulting articulated the underlying theory of the Rate Impact Analysis as follows:

The underlying theory of the approach is that while customers cause the utility to incur additional costs, that is offset by the fact that many costs of the utility are fixed in nature and do not increase as customers are added. When more customers and sales are added to the system, those fixed costs are spread out among more customers and that benefits all ratepayers. The rate impact analysis attempts to model both the added costs and the added benefit of the additional sales to new customers.³²

34. In simple terms, the Rate Impact Analysis looks at what customer rates would be in aggregate with and without actual, historical system extensions installed within a predetermined period. This point-in-time analysis considers whether the incremental revenue achieved and cost of extensions completed in the predefined timeframe has thus far raised or lowered customer rates (all else equal) as of the date of the analysis. It is based on what actually occurred and does not rely on any forecasted data. It uses the standard parameters (revenue requirements, sales, etc.) that are used in setting rates for utilities.³³

35. EES Consulting determined that customer growth since 2008 has reduced customer rates by over \$10 per year (equivalent to \$0.058/GJ) from what they otherwise would have been.³⁴ This calculation is conservative in the sense that it is a retrospective calculation

³⁰ Exhibit B-1, Appendix A, EES Consulting Report, p.29.

³¹ Exhibit B-1, Appendix A, EES Consulting Report, pp.22-28.

³² Exhibit B-1, Appendix A, EES Consulting Report, p.23.

³³ BCUC IR 1.37.1 (EES Consulting response).

³⁴ Exhibit B-1, Appendix A, EES Report, p.2; Application, p.47.

performed between one and seven years after the surveyed mains had been installed. That is, it still does not account for the reasonable expectation that (a) customers will continue to attach to these mains over their service life, and (b) customers will continue to provide revenue over the service life while the assets depreciate.³⁵

36. The response to BCUC IR 2.1.2.1 explains that the Ratepayer Impact Analysis essentially calculates a true point-in-time “actual PI” using actual information to determine the customer impact at that time. As of the date of EES Consulting’s analysis, the true “actual PI” for the mains installed between 2008 and 2014 is 1.25. This value is well in excess of 1.0, the PI that would signify a balance between the interests of new and existing customers:

The Rate Impact analysis could also be considered a more detailed form of an actual PI calculation, similar to the OEB’s approach. Specifically, between 2008 and 2014, the Rate Impact analysis is determining the rate impact of adding \$47.7 million in revenue and \$38.3 million in costs associated with system extensions. A simpler way of presenting the same data would be to say FEI’s “actual PI” has been 1.25 where actual PI is defined as the ratio of actual revenue to actual costs (i.e. \$47.7 million divided by \$38.3 million). The Company’s approach takes this simple PI calculation several steps further by showing how an actual PI of 1.25 reduces rates for existing customers. The Company has proposed adding the periodic Rate Impact information in response to the Commission’s concerns identified in L-34-14 and L-44-14 which suggested that existing customers may have been harmed from system extensions. [Emphasis added.]

37. The fact that existing ratepayers have benefitted from customer attachments is not surprising. As discussed above, the MX Test incorporates conservatism that works to the benefit of existing customers.

38. It is important to recognize that the benefits to existing customers come at the potential expense of new customers. The magnitude of the benefits calculated by EES Consulting demonstrates that an opportunity exists to update aspects of the MX Test to allow

³⁵ The only way to truly assess the full impact on customers would be to examine the actual revenues and costs over the life of the main, which is not practical in the context of reporting.

for additional customer attachments, and better balance the interests of both new and existing customers. EES Consulting stated:³⁶

While it is important that existing customers do not see rate increases as a result of customer growth, it is equally important that new customers do not pay more than their incremental costs. According to NRRI [National Regulatory Research Institute], “If instead the utility recovers more than incremental costs from new customers....new customers are cross-subsidizing existing customers.” Existing customers should not receive all of the benefits of efficiencies and economies of scope related to new customers, thereby lowering their rates as a result of new customer growth. It is important to strike the proper balance where both new and existing customers are paying their share of the costs they cause and neither group is cross-subsidizing the other group.³⁷

39. FEI’s proposals, which are addressed in the next Part, strike a more equitable balance.

³⁶ Exhibit B-1, Appendix A, EES Consulting Report, p.2.

³⁷ Exhibit B-1, Appendix A, EES Consulting Report, p.9.

PART FOUR: PROPOSALS ARE APPROPRIATE AND JUST AND REASONABLE

40. The majority of the MX Test input parameters continue to serve their intended purpose. FEI is proposing refinements to a proven concept with the benefit of further experience and stakeholder input. In this Part, FEI addresses the evidence regarding its proposals: extension of the DCF term to 40 years; adoption of a 10-year horizon for attachments in limited circumstances; implementation of a sliding scale for overhead costs; discontinuance of energy efficiency credits; updating the SLCA to reflect new information; and, the System Extension Fund. FEI submits:

- There is a sound rationale for each of FEI's proposals.
- The proposals promote a better balance between the interests of new and existing customers, although existing customers are still expected to obtain a net benefit from new extensions.
- The MX Test, incorporating FEI's proposals, will remain consistent with the Commission's System Extension Guidelines and Guiding Principles developed with stakeholders.

A. THERE IS A SOUND RATIONALE FOR FEI'S PROPOSALS

41. FEI's proposals are rooted in the overarching purpose of system extension policies, which is to promote the fair and equitable treatment of new and existing customers.³⁸

(a) The DCF Term Should Be Extended to 40-years

42. FEI's proposal to change the DCF term from 20 years to 40 years better recognizes the expected benefits associated with new mains.

43. The DCF analysis used in the MX Test is, in simple terms, a means of determining whether or not expected revenues exceed expected costs. Most of the costs are incurred up

³⁸ 2007 *System Extension and Customer Connection Policies Review* Decision, p.19.

front, but revenues continue to flow throughout the life of the main. The service life of mains is between 50 and 66 years, with the approved average service life for depreciation purposes being 64 years.³⁹ Since mains continue to generate revenues throughout their service life, it would be reasonable to use 64 years as the DCF term to reflect expected benefits brought by new customers.⁴⁰

44. Establishing a DCF term that is less than the expected service life of a main has the effect of capturing the bulk of the expected costs, while excluding a portion of the expected revenues. It will, other things being equal, understate the PI. The shorter the term, the greater the potential for distortion. The current 20-year DCF term represents less than one-third of the average service life of the assets. In practice, the current DCF term means that new customers do not receive credit for a significant portion of the anticipated benefits of the main. Inevitably, some new customers must provide a CIAC to access natural gas service when a CIAC is not really required to protect existing customers.

45. The current 20-year horizon was set in 1996 to correspond with FEI's Integrated Resource Plan ("IRP") planning horizon during a time when the Commission sought a consistent set of evaluative criteria to be applied to the Company's investments. The 20-year horizon, however, bears no relation to how long a main will continue to produce revenues. In 2013, for example, there were 983 single service lines that attached to main extensions that were originally installed between 1951 to 1960 – main extensions that have continued to produce revenues 53 to 62 years after being completed.⁴¹ While using a consistent set of evaluative criteria may be appropriate as a general objective, the Commission has also determined that the purpose of the MX Test is to balance the interests of existing and new customers. The Commission now has the benefit of considerable experience and analysis demonstrating that the parameters of the MX Test have favoured existing customers. In the circumstances, the Commission should give priority to restoring the balance.

³⁹ CEC IR 1.1.1 updated page 36 of the Application. Gannett Fleming, in its most recent depreciation study, recommended a 64 year life for mains. It was approved by the Commission by Order G-44-12.

⁴⁰ CEC IR 1.36.2.

⁴¹ BCUC IR 1.3.1

46. FEI's proposal to establish a 40-year DCF term strikes a fairer balance between new and existing customers.

- New customers will benefit from greater recognition of the benefits expected to flow from the main in determining the amount of any CIAC.
- At the same time, the proposed term is still well short of the typical service life of mains, thereby incorporating conservatism in the DCF analysis.
- Although existing customers will be impacted by any foregone CIACs, this impact is minimal and they stand to benefit from the additional revenue associated with customers taking service that would otherwise not have been deterred by an unnecessary (or unnecessarily large) CIAC.⁴²

47. FEI's proposal is more consistent with the System Extension Guidelines than the present 20-year DCF term. The Commission stated in its Guidelines Decision: "The Commission also recommends that, insofar as is practical, the analysis of system extensions be based on full incremental costs and benefits."⁴³ The Guidelines also state that a DCF analysis term should be long enough "to consider the full impact of the extension".⁴⁴ There are no "practical" impediments to incorporating a term more reflective of the service life of mains. FEI's proposal for a 40-year DCF term is still short of measuring the "full impact of the extension", since FEI's mains remain in service for 24 more years on average.

48. EES Consulting's survey of the practices of other utilities also suggests that 30 to 40 years is a common DCF term.⁴⁵

⁴² BCUC IR 1.14.1.

⁴³ Guidelines, p.9.

⁴⁴ Guidelines, pp. 31-33.

⁴⁵ Exhibit B-1, Appendix A, EES Consulting Report, p. 14.

(b) Customer Addition Horizon Should Be 10 Years in Some Circumstances

49. Customer additions are an input in the MX Test. Other things being equal, the higher the forecast customer additions, the lower the CIAC required. The time horizon incorporates conservatism in the MX Test; by design, any customers added beyond the time horizon have no consideration in the MX Test revenue calculation.⁴⁶ However, the current short horizon for customer additions also represents a lost opportunity. FEI's proposal to extend the customer additions horizon from five years to 10 years on a case-by-case basis is beneficial to both existing and new customers.

Benefits Associated With A Longer Horizon

50. Considering piecemeal extensions can result in new customers being required to make a CIAC that would otherwise not be required if the combined impact of the phases was considered up-front. Installation cost savings⁴⁷ would benefit existing customers, as would any incremental revenues associated with new customer additions encouraged to attach by a potentially lower CIAC. FEI elaborated:

New customers currently potentially face a disproportionate CIAC that does not factor in the full impact of the costs and benefits of the system extension. Existing customers can lose the benefit of new customers that opt against the use of natural gas due to a prohibitive CIAC. Under the existing five year horizon, the only way to mitigate these immediate negative outcomes for new and existing customers would be for the utility to size the distance of the mains as close as possible to meet only the forecast within that five year period and not further growth beyond.

FEI does still account for growth in capacity requirements beyond the five years to accord with good system planning, but the interaction of the MX Test short attachments horizon with good system planning that suggests the length of main should be confined to the five year horizon is creating unintended negative consequences. A better solution that is in the long term interests of both new

⁴⁶ Application, p.37.

⁴⁷ BCUC IR 2.20.3; 2.20.4; 2.20.14 and 2.23.1.

and existing customers is to modify the test parameters in the manner FEI is proposing.⁴⁸

51. The Commission's *System Extension Guidelines* contemplate the very issue being addressed by FEI's proposal. The Commission stated:

With respect to the aggregation of longer system extensions, the Commission believes that there may be situations where two or more system extensions should be reviewed in aggregate. One situation could be where the grouping of contiguous system extensions would likely lead to cost savings due to efficiencies in construction. There may also be situations where an initial system extension that is uneconomic is required prior to subsequent further system extensions which would render the result economic.⁴⁹

52. EES Consulting's findings also support the change. They stated, for instance: "Given what FEI has actually seen in terms of housing developments, this window [5 years] appears to be too short in some circumstances."⁵⁰ SaskEnergy, Union Gas and EGD already use a 10-year timeframe.⁵¹

53. In short, a 10-year forecast of customer attachments would be more reflective of the benefits of those customers waiting to connect to the main extension.⁵² As discussed next, there is limited risk associated with extending the horizon to 10 years.

Similar Risk and Additional Reporting

54. FEI's evidence is that "the uncertainties and risks that the attachments will not occur are very likely indistinguishable between a 5 year and a 10 year forecast."⁵³ The five year horizon incorporates conservatism in the MX Test, since it is common for customer attachments to continue over the entire life of the main (see paragraph 22 above).

⁴⁸ BCUC IR 2.23.1.

⁴⁹ Guidelines, p. 16.

⁵⁰ Exhibit B-1, Appendix A, EES Consulting Report, p.14.

⁵¹ Exhibit B-1, Appendix A, EES Consulting Report, p.14.

⁵² BCUC IR 1.13.4.4.

⁵³ BCUC IR 1.13.4.4.

55. UPC accuracy is not an issue with a longer horizon. As indicated above, the consumption used in the MX Test has always been a credit commensurate with the average usage of existing customers. It is not intended to represent a forecast of future use on a specific main extension.⁵⁴

56. FEI's Application outlined the type of data that would be used to determine if a planning horizon greater than five years is appropriate in a given case. FEI also proposed specific reporting on the mains for which a 10-year horizon was used.⁵⁵ The case-by-case reporting provides additional comfort in moving forward with the proposal. In the future, the periodic Rate Impact Analysis can be used to inform whether the 10-year period should be adopted more generally or whether five years should remain the default.

Summary

57. There is a strong case to be made that a 10-year horizon is more appropriate than a five year term for all extensions (as seen in Ontario). FEI's proposal to use a 10-year horizon only where the evidence of a longer term build out horizon is particularly compelling really reflects a recognition that incrementalism may be more palatable.⁵⁶ FEI submits that this case-by-case basis approach, accompanied by the annual reporting on the use of a 10-year horizon, is a reasonable means of introducing this change.

(c) Implementation of a Sliding Overhead Scale

58. The application of overhead to the MX Test is intended to represent an allocation of general costs that are incurred by FEI to install main extensions that are not specifically associated with a particular main extension. EES Consulting characterized the current approach of applying a 23% overhead rate to all sizes of projects as being inconsistent with standard practice.⁵⁷ Larger projects are currently being allocated a disproportionately

⁵⁴ BCUC IR 2.24.1.

⁵⁵ Application, p.55.

⁵⁶ BCUC IR 1.14.1; Application, p.55.

⁵⁷ Exhibit B-1, Appendix A, EES Consulting Report, p.15.

large share of overhead because the relationship between project capital costs and overhead costs is not linear.⁵⁸

59. FEI's proposal to address this issue is described on p.55 of the Application. The proposed change will more fairly allocate the overhead costs,⁵⁹ consistent with the Commission's Guidelines and industry practice.⁶⁰ There is every reason to make this principled adjustment to the MX Test, particularly since the rate impact on existing customers is expected to be minimal.⁶¹

(d) Energy Efficiency Credits Should Be Discontinued

60. Although removing the energy efficiency credits will result in a higher CIAC for some customers, discontinuing the energy efficiency credits still makes sense for several reasons:

- First, the rationale for the credits was to promote energy efficiency, which is a role now well-served by FEI's extensive Energy Efficiency and Conservation ("EEC") program. At the time the Commission approved the energy efficiency credits (2007), the Company had a modest DSM program with an annual budget of \$3.1 million (excluding partner investment). The credits made good sense in that context to supplement the limited DSM options. In contrast, the Commission has approved an annual EEC budget of approximately \$35 million over the period 2014-2018.⁶² FEI's EEC programs provide ample opportunity for potential customers to improve energy efficiency.

⁵⁸ Application, p.39.

⁵⁹ See also BCUC IR 2.25.1 for statistical analysis.

⁶⁰ The Guidelines contemplate that as a general principle, the costs of system extensions should be allocated to customers that cause them.

⁶¹ In section 4.1.3.1 of the Application, the Company showed a difference in the total cumulative CIAC reduction in the amount of approximately \$1.0 million resulting from the change based on the mains installed from 2008 and 2014. This means a rate impact on existing customers of \$0.001/GJ, calculated using the EES Consulting's Rate Impact Analysis. See also: BCUC IR 1.14.1.

⁶² Application, p.59.

- Second, using the REUS data to estimate the consumption per customer in the MX Test already reflects the success of the Company's DSM programs as seen by the gradual decline in UPC.⁶³
- Third, separating efficiency initiatives from the MX Test and leaving those initiatives to be addressed by the EEC program will make the MX Test easier to understand and administer.⁶⁴
- Fourth, the impact of this proposal on existing customers is not likely to be significant given the relatively small portion of main extensions that have used the credit.⁶⁵

(e) Service Line Cost Allowance (SLCA) Should Be Updated

61. The SLCA has been used for more than twenty years. It continues to serve the needs of customers. EES Consulting confirmed that "...FEI's practice of calculating the SLCA using the MX test and applying that allowance for new customers not requiring a main extension is consistent with standard practice in the industry and within the Province."⁶⁶ It makes sense to update the inputs in the existing methodology, since the current inputs were put in place eight years ago. FEI's proposal is consistent with what had been done in past reviews of the MX Test in 1996 and 2007.⁶⁷ FEI is also proposing to update the inputs annually hereafter, which will ensure the SLCA continues to reflect the best information available.⁶⁸

62. Commission IRs inquired whether the average consumption value in the SLCA should be based only on the most recent year, rather than the most recent six years. FEI submits that using a single year creates issues regarding the representative nature of the data. The average consumption value in the SLCA should be determined using a long enough time

⁶³ Application, p.59.

⁶⁴ Application, p.59.

⁶⁵ Application, p.59.

⁶⁶ Exhibit B-1, EES Consulting Report, p.13.

⁶⁷ BCUC IR 1.30.1.

⁶⁸ The details of the proposal are described in Section 4.2 of the Application.

frame to include a sufficient mix of consumption data over different dwelling types, regions and individual customer usage patterns. A six year rolling average provides a reasonable sample to be used in the derivation of the SLCA, which will be updated annually.⁶⁹

(f) System Extension Fund is Appropriate and Just and Reasonable

63. FEI's proposed System Extension Fund, which is capped at \$1 million annually and does not accumulate, helps eligible customers in lower density areas defray the upfront CIAC required in order to proceed with a main. In order to qualify, a main would have to yield a PI of 0.2.⁷⁰ The remaining 60% of the cost (to get the PI to 0.8) will be shared between the connecting customer through a CIAC, and FEI's ratepayers through the proposed System Extension Fund. The connecting customer will have to forgo a potential refund from a contributory main.⁷¹ Further information about the operation of the System Extension Fund is found in responses to BCUC IRs 2.15.5 to 2.15.7.

64. The System Extension Fund is modelled in part after BC Hydro's long-standing \$1.5 million Uneconomic Extension Fund ("UEF"). FEI's proposed System Extension Fund is sized equivalent to two-thirds of the UEF to reflect FEI's smaller service territory, fewer new customers added annually, and smaller distribution rate base.⁷² FEI's proposal to cap the fund at \$1.0 million annually ensures that the size of the fund is sufficient to meet the potential demands from customers, while limiting the maximum potential rate impact to \$0.0007/GJ that could arise from a fully subscribed fund. Even this minimal rate increase assumes that the Fund generates no increased throughput on FEI's systems.⁷³

⁶⁹ BCUC IR 2.26.1.

⁷⁰ A PI of 0.2 means that the customer's consumption and resulting revenue would at least cover 20% of the cost of the main extension.

⁷¹ BCUC IR 1.18.1.

⁷² Application, p. 64; BCUC IR 2.12.4.

⁷³ BCUC IR 1.16.1; BCUC IR 2.12.5.1; BCUC IR 1.14.1.

65. FEI proposes to include in its annual MX Reporting, the total number of approved requests to access the Fund and the total dollar value of the approved requests. The Commission will thus be able to monitor FEI's use of the fund.⁷⁴

66. The underlying public interest rationale for the System Extension Fund is to provide customers who are further away from the system or are in less densely populated areas with more equitable access to natural gas service. Conversion customers (i.e. those switching from one fuel to another in a pre-existing home) are most likely to access the System Extension Fund. The greatest conversion potential is on Vancouver Island although opportunities exist throughout the rest of the province as well.⁷⁵ Given that new customers residing in lower density areas will likely have a higher CIAC than those in urban areas, the System Extension Fund will promote the equitable treatment of new customers in lower density areas and new customers in urban areas.⁷⁶

67. Although the System Extension Fund is not specifically targeting low income customers,⁷⁷ the proposal has the potential to benefit people with low incomes. Access to natural gas is seen by some stakeholders to be one way to manage heating costs.⁷⁸ With access to the System Extension Fund, the CIAC contribution (if required) is reduced. With greater access to natural gas service, the customer may also see the potential for a lower utility bill.⁷⁹

68. The fact that existing customers are contributing towards a new customer's CIAC (*via* the System Extension Fund) does not make the proposal contrary to rate setting provisions of the UCA. First, the cost to existing customers should not be viewed in isolation. Mains

⁷⁴ BCUC IR 1.15.1.1; Application, section 4.4.3.

⁷⁵ BCUC IR 1.18.6.

⁷⁶ BCUC IR 2.15.2.

⁷⁷ Any applicant regardless of income level that meets the eligibility requirements as set out in the Application could potentially receive the System Extension Fund.

⁷⁸ See, for instance, the letter of Linda Larson, MLA of July 15, 2014: "We were thrilled to be asked [to participate in consultation] because we feel that it is an important issue that needs to be addressed, assessed and "fixed" as soon as possible to ensure that all British Columbians living in areas without access to alternative sources of power [i.e. alternatives to electricity] get that access." Application, Appendix C.

⁷⁹ BCOAPO IR 1.2.2; Application, section 3.2.4.1.

supported by the System Extension Fund could provide a net benefit to existing customers over the life of the main.⁸⁰ FEI elaborated:

Mains supported by the System Extension Fund could well provide a net benefit to existing customers over the life of the main, as discussed in the response to BCUC IR 1.16.2. In such circumstances, the SEF amounts to a form of financing, rather than a subsidy, which is consistent with MX Guideline 9a (p. 33):

“9. Alternative methods for collecting customer contributions are discussed in section 6.5. In the Commission’s view, viable mechanisms would satisfy the following criteria: ... Introduce additional options for financing system extensions, thereby reducing the financing pressures on local government (i.e. the use of local taxation mechanisms);”⁸¹

Even if one were to pessimistically assume that no increased throughput is generated from the funded extensions, the introduction of the System Extension Fund could still be expected to have only a very modest impact on existing customers.⁸²

69. Second, even if the revenues do not offset the cost to existing ratepayers and it becomes a subsidy in economic terms, this type of economic subsidization is routine in ratemaking. It flows from the fact that regulators must balance a variety of accepted ratemaking principles. The legal test is the absence of “undue” discrimination, not an absence of economic subsidy or discrimination. Bonbright (1st Ed.) states:

Readers of the treatises and case law of railroads and public utility rates will often come across bald statements to the effect that, in these regulated industries, the practice of rate discrimination is unlawful. In fact, however, such statements are grossly inaccurate. What the law forbids is “undue” or “unjust” discrimination. (p.370)⁸³

⁸⁰ BCUC IR 1.16.2.

⁸¹ BCUC IR 2.14.5.

⁸² BCUC IR 1.14.1. Using the Rate Impact Analysis, the rate impact is conservatively forecast to be \$0.001/GJ, even assuming that the fund of \$1 million is fully subscribed annually and generates no increased throughput on FEI’s systems.

⁸³ BCUC IR 2.14.5.

70. The intent and effect of the System Extension Fund is akin to postage stamping of rates in that it makes service more cost effective in areas with a higher than average cost of service. Regulators routinely approve the use of uniform rates throughout the utility service area despite geographic differences in cost of service so as to achieve other rate design objectives.⁸⁴

71. FEI submits that the System Extension Fund should be approved.

B. EXISTING CUSTOMERS STILL EXPECTED TO BENEFIT FROM EXTENSIONS

72. EES Consulting's analysis indicates that customers will continue to benefit from extension policies with these recommendations in place.⁸⁵ A pessimistic estimate of the cumulative rate impact per GJ for all of FEI's proposals is \$0.012/GJ⁸⁶, reflecting an approximate annual bill increase of \$1 for a Mainland Residential customer consuming 90 GJ per year. The benefit that EES Consulting calculated for existing customers from historical system extensions installed from 2008 to 2014 was significantly higher at \$0.058/GJ, a savings equivalent to over \$10 per customer annually. In other words, the cumulative net rate impact as a result of adding mains and taking into account FEI proposals is still a net positive to existing customers.

73. The net benefit to existing ratepayers is also likely to be larger than is suggested by the difference between the above-referenced \$.012/ GJ and \$0.058/GJ amounts because the calculations did not account for any increased system extension installations and resulting customer additions and load that may result from the proposals. FEI expects that future conversion customers would be more likely to decide to proceed with natural gas service as a result of the proposals in the Application.⁸⁷

⁸⁴ Exhibit B-1, Appendix A, p.7.

⁸⁵ Application, p.60.

⁸⁶ BCUC IR 1.42.1

⁸⁷ BCUC IR 1.42.3; see also: BCUC IR 1.42.2.

C. MX TEST IS CONSISTENT WITH COMMISSION GUIDELINES

74. The MX Test, incorporating FEI’s proposals, is consistent with the Commission’s Guidelines. The following table summarizes why this is the case.

Guideline	Consistency
<p>1. The Commission recommends that evaluation of system extensions be based on a discounted cash flow evaluation method that includes, to the extent feasible, all incremental costs and benefits associated with a particular system extension over a time period long enough to consider the full impact of the extension. The Commission also recommends that, as a general principle, the costs of system extensions be allocated to those customers who cause them.</p>	<p>FEI is retaining the DCF methodology.</p> <p>A “time period long enough to consider the full impact of the extension” would, in reality, equal the service life of a main (64 years on average). The proposal to use a 40 year period captures more of the expected service life of the asset and more of the expected benefits.</p> <p>The incremental system extension costs continue to be reflected in the MX Test.</p> <p>The proposal to implement a sliding scale for overheads is consistent with principle of cost causality reflected in the Guideline.</p>
<p>2. The Commission recommends that the Utilities evaluate system extensions both from a social perspective, which applies a social discount rate, and a utility perspective, which applies a discount rate based on each utility’s cost of capital.</p>	<p>FEI will continue to use a discount rate based on the Company’s cost of capital.⁸⁸ This is consistent with other BC utilities. As discussed later in this Submission, the Commission acknowledged in the Guidelines that a social discount rate would be based on government guidance, which remains outstanding.⁸⁹</p>
<p>3. The Commission recommends that Utilities submit extension tests or information that analyzes system extensions on a disaggregated basis. However, where the benefits of aggregation exceed the costs as may be the case for situations involving routine, short extensions, the Commission will consider Utility proposals for dealing with such situations. The Commission recommends that these proposals be based on the incremental cost of extending the system and adding new customers. For the purposes of annual statement filing, the Utilities initially may choose the level of aggregation they deem appropriate. The extent of aggregation will depend on the projects planned by each utility in a given year.</p>	<p>The Guideline contemplates that utilities can propose to use more aggregated information if circumstances warrant. In the present circumstances, the Core Review Report has recommended that reporting should be evaluated to ensure it is useful and necessary. It also recommended exception-based reporting. FEI has identified compelling reasons to use more aggregated information in MX Reporting.</p>

⁸⁸ After-tax, inflation adjusted weighted average cost of capital as noted on page 17 of the Application.

⁸⁹ CEC IR 1.2.2.

Guideline	Consistency
<p>4. The Commission expects the Utilities to ensure that estimates are as accurate as possible without adding substantially to the administrative workload associated with estimating system extension costs. The Commission will rely on prudency reviews to examine the accuracy of system extension estimates.</p>	<p>Consistent with this Guideline, FEI has implemented a scaled approach to cost estimating that ensures the amount of work is commensurate with the size of the project. Since the average cost of mains from 2008 to 2014 was approximately \$11,600 and 97% of those extensions are less than \$50,000, it often makes more sense to use Geo-coding and pricing averages. Performing manual estimates is generally only cost effective for larger mains.</p>
<p>5. The Commission recommends that the costs and benefits to be considered in the analysis of proposed system extensions include pre-construction estimates of the following:</p> <ul style="list-style-type: none"> (a) construction costs of the system extension; (b) associated incremental system improvement costs, where these can be identified and assessed in a cost-effective manner; (c) associated incremental operation and maintenance costs, where these can be identified and assessed in a cost-effective manner; (d) net costs of connection (i.e., cost of connection less connection fees); (e) net revenues from the system extension (i.e., customer payments less revenues to provide for commodity purchases and upstream transmission charges); and (f) a reasonable consideration of externalities (for the social perspective evaluation). 	<p>FEI will continue to reflect these costs and revenues in the MX Test. FEI is only proposing to change parameters that affect how some of these inputs are determined. The longer DCF term will make the revenue input in the MX Test more reflective of what would be expected over the life of a main.</p>
<p>6. The Commission recommends that Utility connection charges move toward recovery of the full costs of the service connection up to but not including the meter, and include incremental costs such as applicable system improvement costs. In addition, the Commission recommends that the Utilities come forward with options for connection fees that send an appropriate signal about the net social costs of less efficient energy use.</p>	<p>The Company is not making any proposals to change its current connection charges previously approved by the Commission.</p>
<p>7. Until such time as the connection charge recovers all connection costs, the Commission recommends that the Utilities include the cost of the service connection and any revenues to be received from connection charges in their system extension test.</p>	<p>The Company is not making any proposal to change its current connection charges previously approved by the Commission.</p>

Guideline	Consistency
<p>8. In cases where a customer contribution is required, the Commission anticipates that the cost would be borne by those customers benefiting from the system extension. In situations where the consideration of social costs may lead to contributions by other customers, the Commission will want to review the matter.</p>	<p>The CIAC is borne by the customers benefitting from the system extension, consistent with this Guideline.</p>
<p>9. Alternative methods for collecting customer contributions are discussed in section 6.5. In the Commission’s view, viable mechanisms would satisfy the following criteria:</p> <p>(a) introduce additional options for financing system extensions, thereby reducing the financing pressures on local government (i.e., the use of local taxation mechanisms);</p> <p>(b) reduce the incentive for prospective customers to avoid the contribution charge by not applying for connection until after the system extension has been funded and constructed; and that, at a minimum, all customers who attach within the first five years to contribute to system extensions;</p> <p>(c) ensure that those customers paying an initial contribution are reimbursed as additional customers connect, at least for a reasonable initial period; and</p> <p>(d) minimize risk to the utility and its ratepayers while avoiding undue administrative burden, perhaps by including mechanisms such as deferral accounts or ‘deadbands’ within which no refund would be required.</p>	<p>The Application does not propose to change any of these parameters, except insofar as the System Extension Fund is consistent with 9(a). The Company has a process in place to provide for refunds where initial contributions were made and future customers attach to the system (referred to as contributory mains).</p>
<p>10. If a community application for a system extension is close to break-even with respect to the financial cost test, the utility may be required to justify the extension with a preliminary comparative analysis of all feasible alternatives for meeting the community’s energy service needs. This analysis would include recognition of significant social or environmental impacts associated with each alternative. The utility can either file this information voluntarily with its annual statement or expect to file it as part of a CPCN application, should a CPCN be required for the project.</p>	<p>FEI is not making any proposal in this regard.⁹⁰</p>

(a) Consistency with Other Utilities

75. There is a high degree of consistency among BC utilities when it comes to the fundamental elements of the MX Test, including the use of a DCF approach and a discount rate

⁹⁰ BCSEA IR 1.5.1.

based on the utility's cost of capital. The Commission's *System Extension Guidelines* explicitly recognize the need to tailor extension tests to reflect the unique circumstances of each utility:

[C]onsistency within and among Utilities in the analysis of system extension is desirable in that it reduces the potential for discrimination among current and prospective customers with regard to the availability of and charges for energy service. Nevertheless, the Commission recognizes that neither the values used as inputs into the analysis of proposed system extensions, nor the detailed calculation method, will necessarily be the same for each utility. In evaluating Utilities' system extensions, the Commission will endeavor to apply as much consistency as it considers reasonable given the individual circumstances of each utility.⁹¹ [Emphasis added.]

76. FEI's infrastructure requirements to connect new customers differ from those of electric utilities in BC.⁹² FEI should not be locked into the *status quo* to achieve consistency when changing particular Test parameters is otherwise appropriate in the context of FEI. FEI's proposals were developed to address the particular circumstances of the Company. They are principled and fair to new and existing customers of FEI.

(b) Social Discount Rate and Externalities

77. FEI was asked about the application of a "social discount rate" and consideration of externalities. The Commission's *System Extension Guidelines* acknowledge that the exercise of developing a social cost-benefit perspective and a corresponding "social discount rate" is a matter best left to be determined by government policy:

The Commission believes that a social discount rate should be used for evaluating projects from a social perspective, and that the utility's discount rate should be used when evaluating projects from a ratepayer and shareholder perspective. The requirement to accommodate both a social and a utility perspective can be achieved by engaging in two calculations: one which adopts a social cost-benefit perspective, and one which adopts a private investment perspective, with each calculation using the discount rates appropriate to its perspective. This approach corresponds to the current approach of the Commission with respect to DSM, for example, wherein the societal cost test

⁹¹ Guidelines, p.9.

⁹² BCUC IR 1.13.4.2; BCUC IR 1.13.4.3.

would apply a social discount rate while the rate impact test would apply a discount rate based on the utility's cost of capital.

An appropriate social discount rate would be the one adopted or mandated by the provincial government for public investment projects by ministries or crown corporations such as BC Hydro.⁹³ [Emphasis added]

78. The social perspective evaluation as described in the Guidelines has yet to be developed in BC. All utilities in BC evaluate system extensions from a utility investment perspective using a single discount rate that is based on the utility's cost of capital. FEI has not identified any BC utility that evaluates system extensions using a social discount rate.⁹⁴

79. Section 5(f) of the Guidelines recommends a reasonable consideration of externalities for the social perspective evaluation. However, the Guidelines also limit the type of externalities to be considered:

As noted in the Phase II Decision, which preceded this Decision, the Commission believes that a reasonable consideration of externalities is limited to externality considerations that have the potential, in the judgment of the Commission, to eventually emerge as unavoidable regulatory costs for the Utilities and their customers.⁹⁵

80. The MX Test is based only on utility costs and revenues because there is no evidence of externalities that have the potential "to eventually emerge as unavoidable regulatory costs for the utilities and their customers."⁹⁶

D. CONSISTENT WITH STAKEHOLDER GUIDING PRINCIPLES

81. FEI conducted a series of workshops for interested stakeholders regarding the MX Test. This led to the development of Guiding Principles, which informed the Company's review of the SLCA and MX Test.⁹⁷ FEI explained in Section 4.6 of the Application why its

⁹³ Guidelines, pp.13-14.

⁹⁴ CEC IR 1.2.1.

⁹⁵ Guidelines, s. 5.2.

⁹⁶ BCSEA IR 1.3.1.

⁹⁷ BCSEA IR 1.3.1.

proposals are consistent with the five Guiding Principles developed with stakeholders during consultation. Briefly:

- ***Provide energy choice:*** Stakeholders expressed that they perceive value in having choice among energy alternatives.⁹⁸ The proposed changes to the SLCA and MX Test collectively meet this principle.⁹⁹
- ***Protect existing customers:*** The MX Test should continue to protect existing customers. Every indication is that, even with the proposed changes to the MX Test, the balance still favours existing customers. A pessimistic estimate of the rate increase associated with the proposed recommendations (\$0.012/GJ) is materially less than the benefit to existing customers determined by EES Consulting using the Rate Impact Analysis (\$0.058/GJ).¹⁰⁰
- ***Support government objectives:*** The BC provincial government's Natural Gas and LNG strategies, BC's Job Plan as well as the *Clean Energy Act* were discussed with stakeholders. The policies identify the importance of natural gas in sustaining and growing BC's economy, encouraging the creation and retention of jobs through the use of natural gas, and GHG emissions. FEI's proposals primarily promote the potential benefits of access to low cost energy, local economic development, and the creation and retention of jobs and tax revenue. Promoting fuel switching from higher carbon energy sources to natural gas supports GHG objectives.¹⁰¹
- ***Recognize First Nations:*** The proposed changes are rooted in accepted rate making principles. However, it is expected that the changes to the MX Test,

⁹⁸ CEC IR 1.18.1. See, for instance, the letter of Linda Larson, MLA of July 15, 2014: "We were thrilled to be asked [to participate in consultation] because we feel that it is an important issue that needs to be addressed, assessed and "fixed" as soon as possible to ensure that all British Columbians living in areas without access to alternative sources of power [i.e. alternatives to electricity] get that access." Application, Appendix C.

⁹⁹ Application, p.68.

¹⁰⁰ Application, p.68.

¹⁰¹ Application, p.69.

SLCA and introduction of the System Extension Fund will have the effect of making it easier for First Nations like the Seabird Island Band to access natural gas service should they choose to do so.¹⁰² This is in the public interest.

- ***Easy to understand:*** Maintaining continuity in the essential elements of the MX Test, while proposing incremental refinements, promotes ease of understanding.¹⁰³ Eliminating the efficiency credits will simplify the inputs in, and administration of, the MX Test.

E. SUMMARY

82. The essential parameters of the MX Test - the DCF approach and the PIs - have been in place for many years, and they continue to make sense. Customer growth under the current MX Test has benefitted existing ratepayers. FEI's proposals in this Application are only refinements to the MX Test, and their adoption will strike a better balance between the interests of existing and new customers.

¹⁰² Application, p.69. During the stakeholder workshops Chief Clem told the group that the Band was struggling during the winter time to pay their heating bills. He expressed that access to natural gas would help alleviate this problem. All of the Company's proposals, except for the removal of the energy efficiency credit, will help increase the ability to access natural gas service. (BCUC IR 1.44.1.)

¹⁰³ Application, p.69.

PART FIVE: REPORTING PROPOSAL ALLOWS FOR APPROPRIATE OVERSIGHT

83. Consistent with the Core Review recommendations, FEI is proposing to change MX Reporting so that it is more focused, meaningful and proportional to the potential ratepayer impact associated with main extensions. FEI makes the following points in this Part:

- First, the Core Review emphasized the need to re-evaluate compliance reporting to ensure that it is useful and necessary.
- Second, MX Reporting has become more complex over time, and the annual cost and effort associated with MX Reporting today is out of proportion to the amount of capital involved.
- Third, the Commission's current approach to assessing FEI's main extension activity yields unreliable and potentially misleading results.
- Fourth, FEI's proposed MX Reporting offers a better way for the Commission to oversee FEI's compliance with the MX Test, to assess past extensions, and to evaluate whether the parameters of the MX Test remain appropriate over time.

A. CORE REVIEW EMPHASIZED USEFUL AND NECESSARY REPORTING

84. One of the key recommendations of the Core Review was the need to ensure the necessity and usefulness of compliance reports:

The BCUC should make additional efforts to ensure all compliance reports are necessary and useful, and eliminate the reporting requirement for those that are not. The BCUC should place more responsibility on regulated entities to report, on an exception basis, deviations from forecasts that could affect costs and rates, instead of routine reporting.¹⁰⁴

85. FEI submits that the Commission should give weight to these recommendations, and re-evaluate the current MX Reporting in that light.

¹⁰⁴ Application, p.42.

B. CURRENT REPORTING IS ONEROUS AND DISPROPORTIONATE

86. The cost and significant effort associated with current MX Reporting is out of proportion to the amount of capital involved and the potential rate impacts associated with main extensions.

87. The Commission's annual reporting requirements are more onerous today than they were in 2007. FEI summarized the evolution (which is detailed in the Application)¹⁰⁵ as follows:¹⁰⁶

Previously, MX Reports contained a small number of tables designed to provide the Commission with aggregate MX test information to determine if the Company was using the MX test appropriately. For instance, the 2008 MX report had 15 tables and took a small amount of resources to complete. The current annual MX reporting consists of 175 individual data tables and takes one highly specialized employee approximately 3 months to complete, assuming a 5 day work week and 100% of the workload is dedicated to the annual MX Report. In addition, the Company must draw upon internal resources across the organization to produce the current MX Report, including assistance from the Forecasting, GIS-Mapping, Information Systems, Operations, Sales, Marketing and Regulatory departments. In total, the Company estimates the preparation of the current format of the MX Report, excluding extraneous activities as requested, requires approximately 500 labor hours, costing approximately \$100,000 annually to produce. This is an estimation based on quantifying the annual resources required to produce the MX Report.

88. FEI provided a breakdown of, and support for, the \$100,000 cost estimate in the responses to BCUC IR 1.32.2, BCUC IR 2.27.6 and 2.27.7. Irrespective of how the cost is calculated, the fact that MX Reporting involves approximately 500 hours of labour annually speaks volumes about the need to find a better path forward. By contrast, most utilities are not required to submit any after the fact reporting on main extensions.¹⁰⁷

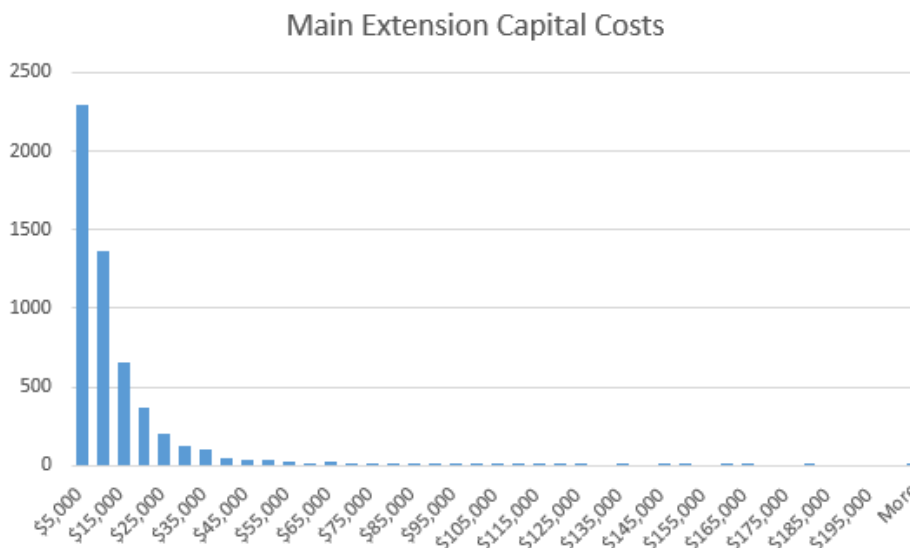
¹⁰⁵ Application, p.43.

¹⁰⁶ BCUC IR 1.32.2.

¹⁰⁷ Exhibit B-1, Appendix A, EES Consulting Report, p.29: "The annual reporting requirements for actual costs and revenues for main extensions are inconsistent with standard practice in the industry, as most utilities are not required to submit after the fact reporting."

89. The need to reassess the current reporting regime is evident when put in the context of the amount of capital involved in FEI’s main extensions and their potential impact on ratepayers:

- FEI installed 5,492 mains between 2008 and 2014 – an average of 785 extensions per year. The average cost of all main extensions during this period is only \$11,600. A significant majority (72%) of main extensions were less than \$11,600¹⁰⁸ and the vast majority (97%) cost less than \$50,000.¹⁰⁹ The following Figure is from FEI’s response to CEC IR 1.39.1:



- Even the largest main extensions are relatively small capital expenditures for FEI. For example, the average cost of the top five mains between 2008 and 2014 was only \$211,000. FEI routinely undertakes capital expenditures well in excess of the cost of any main extension with little or no compliance reporting. These include, for instance, a number of transmission and distribution projects identified in FEI’s PBR Application that each exceed \$1 million in value. FEVI’s 2014 RRA similarly listed a number of projects that are in excess of \$400

¹⁰⁸ CEC IR 1.38.6.

¹⁰⁹ BCUC IR 1.32.7.1.

thousand.¹¹⁰ The practice of requiring compliance reporting only in limited circumstances is efficient and consistent with the general principle of utility regulation that day-to-day operations should be left to utility management.

- Only approximately \$5.6 million of forecast growth capital in each of the next three years is associated with mains.¹¹¹ That amount represents only approximately 0.2% of FEI's \$3.7 billion rate base. A single project of \$5.6 million would not even trigger a CPCN application, let alone annual reporting.

90. Simply put, there are no other instances where the Commission has required FEI to devote so many resources to report on an equivalent amount of capital. This Application provides an opportunity to revisit the MX Reporting requirements in light of the Core Review to ensure that they are necessary, useful and proportional. FEI respectfully submits that the Commission should take this opportunity.

C. CURRENT REPORTING NOT A RELIABLE MEANS OF ASSESSING FORECASTING ACCURACY, PERFORMANCE OF MAINS OR CUSTOMER IMPACT

91. The Core Review emphasis on "useful" and "necessary" reporting speaks to having MX Reporting that is not only proportional, but also fit for its intended purpose and yielding results that are helpful to FEI, stakeholders and the Commission. Despite the time and resources currently invested in annual reporting, the reported information is not a reliable means of assessing FEI's forecasting accuracy, the performance of past main extensions or the impact of MX Test parameters on existing customers for the reasons discussed in Part 3 above. The Commission's use of the current reporting to evaluate FEI's past performance and the MX Test parameters is unfair. The misalignment between the objective of MX Reporting and what it actually conveys underscores the need to re-evaluate the form and content of FEI's MX Reporting.

¹¹⁰ BCUC IR 2.27.17.

¹¹¹ BCUC IR 1.42.3.

D. FEI'S PROPOSED REPORTING FRAMEWORK IS MORE REASONABLE AND EFFICIENT

92. FEI's proposed MX Reporting includes two components: (1) annual reporting focusing on FEI's compliance with the MX Test, and (2) a periodic review of whether or not the MX Test is achieving its intended result, which is informed by the Rate Impact Analysis.¹¹² Consistent with the Core Review recommendations, the proposed MX Reporting will maintain an appropriate level of oversight and provide more meaningful information, while reducing the cost, effort and administrative burden associated with the current reporting regime.

(a) FEI's Proposed Reporting Is Useful

93. FEI's proposed MX Reporting is "useful" (to reference the concept from the Core Review) because it offers a better way for the Commission to oversee FEI's compliance with the MX Test, to assess how the portfolio of extensions is performing, and to evaluate whether the parameters of the MX Test are balancing the interests of new and existing customers over a longer time frame.¹¹³ The proposed annual reporting and periodic Rate Impact Analysis focus on different aspects of these objectives.

Benefit of Proposed Annual Reporting

94. FEI described the content of its proposed annual MX reporting in the responses to BCUC IR 1.32.2 and BCUC IR 2.27.1. FEI included a sample annual report in Attachment 32.1, using 2013 data as an illustration. The proposed annual reporting will:

- Confirm that FEI has been adhering to Commission-approved MX Test parameters (*ex ante* PI of 0.8 individually and 1.1 in aggregate) for extensions undertaken in that year.
- Provide certain actual data pertaining to the main extensions installed in a given year on an aggregate basis, which will allow the Commission to remain apprised of FEI's capital investments.

¹¹² Further details of the Company's proposal are found in Section 4.4 of the Application.

¹¹³ BCUC IR 1.32.7.1.

- Report on FEI's use of the System Extension Fund and the 10-year customer addition forecast horizon.¹¹⁴

95. This is the appropriate focus of annual reporting. The evidence addressed in Part 3 of these Submissions underscores the inherent problems in seeking to assess the profitability of mains only a short time after they have been installed (when installation costs are known but revenues over the service life are not).

Benefit of Periodic Rate Impact Analysis

96. The Rate Impact Analysis provides a better "point in time" view of the impact that new customers have been having on existing customers because it uses actual cost and revenue data; it dispenses with the problematic forecast assumptions that have been used to date when re-running the MX Test. The output of the Rate Impact Analysis can be expressed as a PI based on actual numbers. Under the Rate Impact Analysis, rates with capital growth equalling rates without capital growth indicates a balance between new and existing customer interests at that point in time. Further inquiries may be appropriate if there is a material imbalance.¹¹⁵ These inquiries could include examining, for instance: (i) whether the imbalance is a function of timing, (ii) whether there are any systematic issues with the way in which FEI is implementing the MX Test, and (iii) whether any changes are required to the MX Test itself.¹¹⁶

97. Performing the Rate Impact Analysis every 5-7 years is optimal for the reasons described in the response to BCUC IR 2.34.1 through 2.34.2.1.

(b) Proposed MX Reporting More Proportional

98. Under FEI's proposal, there will be a significant reduction in the amount of time and effort devoted to MX compliance reporting, with those resources being dedicated elsewhere. FEI estimates it will cost approximately \$10,000 to prepare the proposed annual

¹¹⁴ BCUC IR 1.32.2.

¹¹⁵ Application, p.47; BCUC IR 1.38.1; CEC IR 1.35.1.

¹¹⁶ Application, p.47; BCUC IR 2.27.2.

report, a savings of approximately \$90,000 per year.¹¹⁷ FEI estimates that the cost of preparing the Rate Impact Analysis will be approximately \$15,000, given that model has already been developed and the majority of the input data will have already been gathered by FEI for annual MX Reporting.¹¹⁸ These savings will be in the form of reduced unpaid overtime, and an ability to focus the existing resources on other value added projects.¹¹⁹ This level of reporting is more in line with the level of capital expenditure on mains, although it still exceeds the amount of main extension reporting done by other utilities (none) and the amount of compliance reporting that FEI typically does on expenditures of similar size (none).

(c) Proposed Reporting Consistent with Commission’s MX Guidelines

99. FEI’s proposed reporting is consistent with the Commission’s MX Guidelines.

DCF Analysis Based on Full Incremental Costs and Benefits

100. In BCUC IR 2.9.1 the Commission posed the following question: “The FEI proposal to use the EES Rate Impact analysis periodic ex post facto analysis appears to be inconsistent with the BCUC Utility System Extension Guidelines recommendation that the analysis of system extensions be a DCF based system based on full incremental costs and benefits. Please explain why or why this is or is not inconsistent.” FEI explained in its response why its proposals are consistent with the Guidelines. The reasons included:

- First, the referenced Guideline is referring to the MX Test itself, not how the Commission must evaluate main extensions after the fact. The MX Test is a DCF test.
- Second, the Rate Impact Analysis examines the actual incremental costs and benefits. The results of the Rate Impact Analysis can just as easily be expressed as an actual PI.¹²⁰

¹¹⁷ BCUC IR 1.32.4.

¹¹⁸ BCUC IR 1.32.4.

¹¹⁹ BCUC IR 1.32.4.

¹²⁰ BCUC IR 2.1.2.1.

- Third, the Rate Impact Analysis provides an indication of whether or not the actual costs of system extensions are allocated to the customers who cause them, which is also consistent with the Guidelines. In contrast, one of the limitations of the Commission's recent annual reviews of system extension filings is that the time period has been too short to garner meaningful insights to evaluate system extension policy.

Aggregated, Rather than Main-By-Main, Reporting

101. FEI is proposing that all reporting – both annual reports and the Rate Impact Analysis - should be performed on an aggregated basis. Any follow-up inquiries should generally remain at an aggregated level unless there is some compelling reason to suggest more detailed examination of an individual main should be pursued. FEI submits that this proposal is consistent with the Guidelines and the Core Review recommendations.

102. The Commission's Guidelines contemplate a level of aggregation commensurate with the type of projects: "For the purposes of annual statement filing, the Utilities initially may choose the level of aggregation they deem appropriate. The extent of aggregation will depend on the projects planned by each utility in a given year."¹²¹ The Guidelines should now be read in conjunction with the Core Review recommendations, which emphasized the necessity and usefulness of compliance reports, as well as exception based reporting. None of the extensions constructed under the MX Test in recent years has been of sufficient size to merit main-specific compliance reporting.

The Commission is Able to Assess Prudence When Required

103. Commission IRs questioned how FEI's proposals reflected Item 4 of the Guidelines, which states in part: "The Commission will rely on prudence reviews to examine the accuracy of system extension estimates."¹²² The proposed MX Reporting will provide the necessary information for the Commission to carry out this function in a proportional manner.

¹²¹ Guidelines, p.16.

¹²² Exhibit A-3.

104. A first point to note is that the Guidelines are not suggesting that compliance reporting itself should be approached like an annual prudence review of FEI's extensions. Second, there is nothing in the Guideline dictating that reporting *on a main-by-main basis* (as is done today with the highest cost mains) is required for the Commission to carry out this function.

105. Annual MX compliance reporting should be focussed on whether FEI applied the 0.8 and 1.1 PI requirements in undertaking new extensions during the prior year. Reported non-compliance with the MX Test (applying the "exception based" principle from the Core Review) could trigger further inquiries.

106. The Rate Impact Analysis provides the Commission with a point-in-time snapshot of whether existing customers are being adversely impacted by the aggregated extensions included in the Analysis. This outcome could be the product of the parameters of the MX Test requiring adjustment, timing or unforeseen external events, rather than some imprudent conduct on the part of FEI in implementing the MX Test. However, the fact that the results are negative could trigger further inquiries.

107. The Commission's determination of whether to conduct a prudence review based on information included in compliance reporting should always consider the cost and benefit of doing so. It would be a truly exceptional case where ratepayers would be well served by a process to inquire about cost overruns or delayed attachments on an individual main extension when the average main extension cost for 2008-2014 is \$11,600, with 97% of the main extensions under \$50,000 for this period, and the average cost of the top five mains between 2008 and 2014 was only \$211,000. Regulation should be proportional and cost effective, even when it comes to prudence inquiries.

E. SUMMARY REGARDING REPORTING

108. It is in the best interests of ratepayers for regulatory oversight to be proportional to the potential capital costs and ratepayer impacts. The Core Review underscored that reporting should be necessary and useful, with a greater emphasis on exception-based

reporting. FEI's proposed MX Reporting will maintain an appropriate level of oversight and provide more meaningful information, while reducing the cost and the administrative burden associated with the current reporting regime.

PART SIX: FEI HAS ADDRESSED COMMISSION CONCERNS

109. FEI has addressed the issues raised by Commission Letters L-34-14 and L-44-14 by:

- Undertaking a successful stakeholder consultation;
- Demonstrating that existing ratepayers have benefitted from extensions, rather than potentially being exposed to “undue cost burden”;
- Demonstrating that FEI has used reasonable data inputs in the MX Test, and has undertaken steps to improve its data verification;
- Proposing to discontinue the use of efficiency credits; and
- Providing a compelling rationale for FEI’s current approach to requiring a CIAC and security deposits.

A. SUCCESSFUL STAKEHOLDER CONSULTATION

110. FEI undertook a successful stakeholder consultation on the MX Test, which is described starting on page 25 of the Application. The participants in FEI’s four consultation sessions included Commission Staff, traditional interveners, and a variety of other parties. Stakeholders agreed on how the consultation process should unfold. FEI’s stakeholder consultation addressed the issues identified in Commission Letter L-44-14. The Stakeholder Review Summary in Table 3-2 outlines the topics for each of the four stakeholder sessions. Consultation materials are included in the Application behind Tab B. Several stakeholders wrote to the Commission indicating their support for the review process.¹²³

¹²³ Application, p.27; Appendix C. See, for instance, the letter from MEM: “It is laudable that FortisBC has chosen to engage stakeholders in a collaborative manner and the Ministry feels that this route should be supported as much as possible.”

B. RATEPAYERS NOT EXPOSED TO “UNDUE COST BURDEN”

111. In Letter L-34-14 the Commission expressed concerns that rate payers “might be exposed to an undue cost burden as a result of the expansion of the distribution system to attach these new customers...”. FEI has demonstrated that customers have, in fact, benefitted from attachments since 2008.

C. REASONABLE FORECASTING

112. The Commission identified “the forecasting accuracy of main extension costs, number of attachments, timing of attachments and use per customer” as a concern.¹²⁴ FEI submits its approach to forecasting is appropriate and reasonable.

(a) Accurate Cost Estimates

113. The overall main extension cost variance is reasonable. Cost variances should be examined in conjunction with revenues, not in isolation. For instance, the average variance of 9.5% in recent years is distorted by a significant cost variance in 2012 (44% for FEI) that was the product of a greater than forecast number of attachments. Increasing the number of attachments costs more, but the added attachments are beneficial for existing customers because they drive additional revenues. The variance experienced on main extension costs (adjusting for the distortion in 2012) is well within the estimating margin of error that the Commission would generally require for a CPCN project (+30% to -15%).¹²⁵

114. The Company takes steps to ensure its estimates are as accurate as possible. FEI updates its Geo-Prices using a linear regression analysis to determine an average cost per meter of a main extension based on geo-graphic zones.¹²⁶ In 2010, FEI implemented a new manual estimating process for more complex projects.¹²⁷ FEI has also introduced graduated senior management oversight.¹²⁸ The managerial review includes all aspects of the MX Test, such as

¹²⁴ Commission Letter L-34-14.

¹²⁵ BCUC IR 1.1.1; BCUC IR 2.3.4.1; 2.3.5.1.

¹²⁶ BCUC IR 1.1.7 describes the updating process in detail.

¹²⁷ Application, p.75.

¹²⁸ Application, p.75.

the forecast customer attachments, consumption, costs, CIAC, PI and security.¹²⁹ FEI has also taken steps to manage and reduce costs associated with system extensions.¹³⁰

115. It is appropriate for the degree of rigour in ensuring accurate cost estimates to be commensurate with the size of the extension. The average main extension is only \$11,600,¹³¹ and 97% of extensions are less than \$50,000.¹³² In such cases it makes sense to use pricing averages, since it is not cost effective for FEI to employ manually intensive estimating processes for small extensions. FEI is taking the reasonable approach of limiting the manually intensive estimates to more complex projects. An *ex ante* independent review of individual cost estimates (as contemplated in a Commission IR) is impractical, not cost effective and is not likely to yield materially better estimates given that FEI is already using the best information available.¹³³

(b) Forecasting Attachments

116. FEI has discussed in Part 3 of these Submissions how the variances between the original PIs and the re-run PIs are a function of market conditions and the attachment assumptions that FEI is required to use when re-running the MX Test. FEI has a robust process for forecasting attachments, which it described in the response to BCUC IR 1.2.4:

New Home Construction

New construction refers to a main extension projects where a new building or buildings in a subdivision requires a main extension to connect to FEI's system. For these projects, the customer seeking the main extension is often the builder who is managing the subdivision project and would be paying a CIAC (if required based on the MX Test).

The most important source of information the Company uses to establish a forecast under this circumstance is interaction with the builder. The Company

¹²⁹ The thresholds for each level of management review are set out in BCUC IR 1.1.8.

¹³⁰ BCUC IR 1.1.1.

¹³¹ BCUC IR 1.1.4.

¹³² BCUC IR 1.32.7.1.

¹³³ BCUC IR 1.1.9.

has a long history of working with builders through decades of building relationships in the BC new home marketplace. Depending on the complexity and scale of the project, FEI's engagement with a builder could be over the span of years and involve multiple different parties from FEI and the builder's organization before new end users actually begin taking service from FEI. The Company works closely with the builder's business development staff, architects and engineers through all stages of the construction process to promote the use of natural gas.

In developing an attachment forecast, the Company confirms with the builder the plans being submitted to the municipality. At times, the Company uses both published municipal information such as Official Community Plans (OCP) and information gathered from discussions with municipal staff in planning and permitting departments and City Council to confirm the builder's commercial plans.

For larger projects, the Company is often involved in the discussions with the builder's vendors regarding the type and number of appliances to be installed.

The Company may also utilize third party market data, such as those produced by Construction Market Data, Yellow Sheet Construction Data Limited and Landcor Data Corporation, to learn whether a project is in the land acquisition, planning, or bidding stage of the pre-construction process and to develop leads for potential projects that could ultimately lead to a customer incorporating natural gas into a project.

Conversion of Existing Neighborhoods

A main extension to an existing neighborhood is often referred to as a conversion main as the customers are converting to natural gas from another fuel. For existing neighborhoods, FEI first assesses the level of interest from home owners to connect to the Company's natural gas distribution system through customer surveys, town hall meetings and/or door to door canvassing. If there is adequate interest, then the Company would typically run preliminary MX Tests under different customer attachment and appliance installation scenarios to educate customers on what the potential CIAC would be. For example, the scenarios might depict different number of homes connecting to the main. The Company would then follow up with each customer to determine attachment plans before proceeding with the project. The Company factors in the individual appliances in each home.

117. Table 5.3 in the Application presents the attachment variances back to 2008 using the Commission's current methodology. The average variance using that methodology is 7.2%, with the unfavourable variances occurring in the years coming out of the recession (characterized by delayed housing starts) and significant favourable variances in the most recent two years.¹³⁴ FEI submits that even a variance of 7.2% is reasonable. Moreover, the effect of using the Commission's current methodology is to overstate the variance, since it requires a comparison of forecast to actual data for the entire five year forecast period, regardless of the specific reporting year of the main extension projects. Correcting for this issue by comparing forecast to actual data specific to the stage of development of the main extension brings the variance down to 2.7% on average since 2008.¹³⁵

118. FEI submits that its current practices for forecasting attachments remain appropriate.

(c) FEI's Consumption Inputs Are Reasonable

119. The consumption value used in the MX Test is currently based on a forecast of the number of appliances, and the average consumption of existing customers on a per appliance basis as determined in the latest REUS. Using average consumption per appliance in the MX Test (i.e., the current consumption credit approach) is appropriate. FEI's approach to forecasting the number of appliances is also reasonable.

Average Consumption Per Appliance

120. Using average consumption per appliance in the MX Test (i.e., the current consumption credit approach) is appropriate for several reasons:

- Using a forecast consumption that was specific to a particular main extension would introduce a logical inconsistency in the MX Test, since the revenue inputs in the MX Test reflect rates determined with reference to the average consumption. The rates used as an input in the MX Test (currently reflecting

¹³⁴ Application, p.76.

¹³⁵ This is discussed in detail in the response to BCUC IR 2.4.1.1.

inflationary increases only) would have to be higher, other things being equal, if the consumption per appliance is lower. FEI elaborated in its response to BCUC IR 2.18.3:

In order to maintain consistency from a rate design perspective, customer rates and customer consumption should be treated similarly in the MX Test. Since customer rates are derived from a forecast use per customer (UPC) of existing customers, it follows that the consumption per customer should also be derived from the UPC of existing customers. Further, the customer rates used in the MX Test are not adjusted to forecast any potential changes over the course of the DCF term; therefore the consumption per customer should be treated in a similar fashion.

If, hypothetically, consumption per customer were to be based on new customers, or adjusted downwards over the course of the DCF term to forecast potential appliance switching, the customer rates in the MX Test would have to be adjusted proportionally higher. Otherwise, the revenue credited to new customers in the MX Test would be understated and new customers would be unfairly discriminated against compared to existing customers.

- Lowering the consumption value without a corresponding lowering of the PI thresholds would increase the likelihood of a CIAC, thereby penalizing new customers for using energy efficient appliances.¹³⁶
- Using the REUS to determine average consumption on the system is efficient¹³⁷ and takes into account the increased efficiency associated with the use of new appliances.¹³⁸ FEI stated:

¹³⁶ BCUC IR 35.1.

¹³⁷ FEI explained in the response to BCUC IR 1.4.2 that there would be limited benefits, as well as significant costs associated with performing the REUS more frequently.

¹³⁸ Exhibit B-1, Appendix A, EES Consulting Report, p.14. "Because the REUS is updated periodically, any trends in customer usage will be reflected in the calculations. It is also consistent with the practice of BC Hydro where the line extension credit is a flat amount based on the costs and benefits associated with a customer using a standard amount of electricity based on historic averages." As shown in the response to BCUC IR 1.4.5, the average PI values for the top 5 main extensions in 2014 decreased 12% using the 2012 REUS, comparing to the resulting values if the 2008 REUS was used. This comparison demonstrates that the increased efficiency with the use of new appliances is being incorporated in the MX Test.

The determination of consumption for new customers must balance the interests of both new and existing customers: in other words the consumption values used should not unduly burden either group. Using the REUS accomplishes this desired outcome. Using the REUS does not significantly disadvantage a new customer for having a more efficient house or appliance (and associated lower consumption), as the MX Test used consumption values of existing customers. However, as each REUS is updated, and residential consumption declines, the consumption values used for new customers is adjusted. Existing customers attached to the system at a time when consumption was higher and costs were lower. Existing customers also have access to energy efficiency programs that encourage them to lower consumption through the use of more efficient appliances. This balance of needs between new and existing customers is an important consideration in determining the methodology of including consumption values in the MX Test.

There would be incremental costs to gathering the new customer consumption data and limitations in the forecasting accuracy.¹³⁹

- Using an average annual consumption of existing ratepayers is consistent with the practice in other surveyed utilities.¹⁴⁰

Forecast of Number of Appliances

121. FEI already verifies its forecasts of the number and type of appliance forecasts against plans provided by the builder and makes site visits. Adding a further verification process would add costs and process with little tangible benefit, since FEI has not seen anything to suggest that developers systematically fail to install appliances contemplated in their drawings.¹⁴¹

¹³⁹ The response to BCUC IR 1.4.3 describes how the new customer average consumption per appliance could be acquired, including a discussion on how the REUS could be modified, the addition of customer site-visits and the implementation of appliance sub-metering, and discusses the merits and practical challenges associated with each method.

¹⁴⁰ Exhibit B-1, Appendix 1, EES Consulting Report, pp.13-14.

¹⁴¹ BCUC IR 1.2.5. See also BCUC IR 1.11.1.

D. APPLICATION OF ENERGY EFFICIENCY CREDITS

122. Commission Letter L-34-14 referenced energy efficiency credits. FEI has applied the energy efficiency credits in the manner approved by the Commission in Order G-152-07. Six percent of main extensions completed from 2008-2014 used the 10 percent credit and less than 1 percent used the 15 percent credit. As discussed in Part 4 above, FEI has proposed to remove the efficiency credits from the MX Test going forward to improve ease of understanding and simplify implementation of the MX Test. FEI's EEC programs now fulfil the role of encouraging customers to use gas more efficiently.

E. SUFFICIENCY OF SECURITY AND CIAC

123. Commission Letter L-34-14 raised the issue of the sufficiency of CIACs and security collected by FEI:

It is possible, had the Companies obtained sufficient contributions in aid of construction or other securities for main extensions where the actual costs were higher, attachments were fewer or later, and/or customer consumption was lower than forecasted, the potential exposure to existing ratepayers of an undue cost burden as a result of the expansion of the distribution system to attach new customers would have been mitigated.

124. The starting premise of potential "undue cost burden" is unfounded, for the reasons described in Part 3 above.

125. The size of the CIAC that FEI requires from new customers is the output of the MX Test, which FEI has applied properly.

126. With respect to security, FEI adheres to section 12.10 of its approved Tariff, which stipulates: "In those situations where the financial viability of a Main Extension is uncertain, FortisBC Energy may require a security deposit in the form of cash or an equivalent form of security acceptable to FortisBC Energy." The determination of the financial viability of a main extension is mainly based on FEI's internal project approval process, drawing upon the

experience of FEI's internal resources with respect to main extension development and the Company's past dealings with the particular customer.¹⁴²

127. In FEI's experience, security for main extension development is necessary only in a rare number of instances. Changes to FEI's security policy and practices are unwarranted for several reasons:

- First, FEI works with the builders/developers to develop forecasts and confirms with the municipal resources when appropriate, which is generally going to be an effective method of reducing risk.¹⁴³
- Second, the MX Test already incorporates a significant amount of conservatism, and the risk to existing ratepayers from most main extensions is thus relatively low. Security is a means to mitigate potential risks to the Company and its ratepayers over and above the operation of an extension test. FEI has required security from projects that may potentially pose a higher risk for the Company and its ratepayers than typical extensions undertaken under the MX Test.¹⁴⁴
- Third, an obligation to routinely require security for extensions would be inefficient given that the average extension is \$11,600 and 97% are less than \$50,000.¹⁴⁵
- Fourth, requiring security in circumstances where it is not warranted can be expected to create a significant disincentive to install natural gas due to the opportunity cost of tying up capital. Deterring extensions through excessive risk mitigation tools is detrimental to existing ratepayers in the long run.¹⁴⁶

¹⁴² BCUC IR 1.9.3.

¹⁴³ BCUC IR 1.2.4; BCUC IR 1.9.3.

¹⁴⁴ Please refer to the response to BCUC IR 1.9.2 and 1.9.3 for examples and explanations where security has been required for main extension developments.

¹⁴⁵ BCUC IR 2.7.1.

¹⁴⁶ BCUC IR 1.9.3.

PART SEVEN: CONCLUSION AND ORDER SOUGHT

128. The general structure of FEI's MX Test is typical of extension tests used in the industry. It aims to balance the interests of existing and new customers, including by protecting existing customers from undue cost burden associated with new extensions. Customer growth under the current MX Test has benefitted existing ratepayers, but this benefit has potentially been to the detriment of new customers. FEI's proposals in this Application are refinements to the MX Test, and their adoption will strike a more equitable balance between the interests of existing and new customers.

129. This Application provides the Commission with an opportunity to clarify the purpose and content of future reporting. The significant resources currently invested in annual reporting could be put to better use while still providing the Commission with more meaningful information, which is in the interests of FEI, customers and the Commission. FEI's proposed annual reporting, combined with periodic reporting of the Ratepayer Impact Analysis, is proportionate, informative, and consistent with the Core Review.

130. FEI respectfully requests that the Commission grant the approvals sought on pages 2 and 3 of the Application.¹⁴⁷

ALL OF WHICH IS RESPECTFULLY SUBMITTED.

Dated:

November 27, 2015

[original signed by Matthew Ghikas]

Matthew Ghikas

FASKEN MARTINEAU DUMOULIN LLP

Counsel for FortisBC Energy Inc.

¹⁴⁷ FEI has also filed proposed Tariff changes, submitted as Appendix E of the Application and attachment 10.4.1 in response to BCUC IR 1.10.4.1.