



SIXTH FLOOR, 900 HOWE STREET, BOX 250
VANCOUVER, BC CANADA V6Z 2N3
TELEPHONE: (604) 660-4700
BC TOLL FREE: 1-800-663-1385
FACSIMILE: (604) 660-1102

Log No. 50563

ERICA HAMILTON
COMMISSION SECRETARY
Commission.Secretary@bcuc.com
web site: <http://www.bcuc.com>

VIA EMAIL

gas.regulatory.affairs@fortisbc.com

August 10, 2015

FORTISBC ENERGY 2015 SYSTEM EXTENSION
EXHIBIT A-3

Ms. Diane Roy
Director, Regulatory Affairs
FortisBC Energy Inc.
16705 Fraser Highway
Surrey, BC V4N 0E8

Dear Ms. Roy:

Re: FortisBC Energy Inc.
Project No. 3698840 / Order G-126-15
2015 System Extension Application

Further to British Columbia Utilities Commission Order G-126-15, which established a Regulatory Timetable with respect to the above noted Application, enclosed please find the Commission's Information Request No. 1 to FortisBC Energy Inc. In accordance with the Regulatory Timetable and the Commission's Document Filing Protocols, please file your responses electronically with the Commission by Friday, September 4, 2015.

Yours truly,

Erica Hamilton

/nd

Enclosure

cc: Registered Interveners

**FortisBC Energy Inc.
2015 System Extension Application**

Table of Contents	Page No.
A. Commission Concerns	1
B. Consistency with BCUC Guidelines.....	14
C. System Extension Fund.....	16
D. Discounted Cash Flow Term	20
E. Customer Addition Term	22
F. Sliding Scale Overhead Rate	24
G. Service Line Cost Allowance	25
H. Energy Efficiency Credits	25
I. Reporting Methodology – Annual Reporting	26
J. Reporting Methodology – Other Jurisdictions	29
K. Reporting Methodology – Rate Impact Analysis	31
L. Amalgamation and PBR Impacts	32
M. Other	33

A. COMMISSION CONCERNS

**1.0 Reference: FORECASTING ACCURACY
Exhibit B-1, Application, Section 5.4.1, pp. 74, 75; Appendix C, L-34-14, p. 3
Main extension cost estimates**

On page 3 of letter L-34-14, the British Columbia Utilities Commission (Commission) lists forecasting accuracy as an area of concern. The Commission explains:

Forecasting accuracy refers to the accuracy of the inputs used in the forecast PI calculations. Inputs include, but are not limited to, main extension costs, number of attachments, timing of attachments, use per customer, and application of efficiency credits. Forecasting lower costs, a greater number of attachments, earlier attachments, and/or a higher use per customer than actual may result in a main extension meeting the main extension test with less (or no) contribution from the customer(s) than what the customer(s) should have contributed.

On page 74 of its Application, FortisBC Energy Inc. (FEI) includes a table providing the MX forecast and actual costs and the variances between the two.

1.1 Please complete the following table twice, once for FEI and once for FortisBC Energy Vancouver Island Inc. (FEVI) (in MX Year \$):

1. MX Year	2.Total Forecast MX Cost Estimates used in Original MX Tests	3. Total Actual Cumulative MX Spend to Date	4. Estimated Remaining MX Costs	5. Variance (in MX Year \$) 2 – (3+4)	6. Variance (in %) [2 – (3+4)]/2	7. Total Expected MX Costs (3+4)
2008						
2009						
2010						
2011						
2012						
2013						
2014						
Sum	8. Sum(2)	9. Sum(3)	10. Sum(4)	11. Variance 7 - (8+9)	12. Variance [7 – (8+9)]/7	Total (9+10)

1.2 Please explain the variances, if any, between the variances FEI submitted in Table 5-1 and the variances FEI reports in the table above.

1.3 Please complete the same table as above but for service line costs.

1.4 Please provide a breakdown of MX actual costs showing the highest, lowest and average of the actual cost of main extensions. Please use the following template.

	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Row 1		Cost of Main Extensions (Actual) (\$)					
Row 2		FEI			FEVI		
Row 3	Year	Lowest	Average	Highest	Lowest	Average	Highest
Row 4	2008						
Row 5	2009						
Row 9	...						
Row 10	2014						
Row 11	Total						

1.5 Please explain Earned Value Reporting.

1.6 Please discuss the pros and cons of using Earned Value Reporting to compare forecast and actual main extension cost and schedule performance, on an individual extension basis, and on a yearly aggregate basis.

Table 5-2 on page 75 provides pipe sizes for when FEI uses manual estimates and when FEI uses Geo-Code pricing. In footnote 69 on page 75, FEI explains: “Geo Code prices are derived by running regression analysis on historical data to derive average dollar per meter estimates.”

- 1.7 Please provide and explain the regression analysis used to derive the average dollar per meter estimates in Table 5-2 and confirm that FEI plans to continue updating the Geo-Codes annually.

On page 75 of the Application, FEI states: “Another check and balance implemented is graduated senior management oversight. As main forecast costs increase, additional approvals from more senior staff are required.”

- 1.8 Please provide the thresholds where approval from more senior staff are required and confirm that FEI plans to continue following the same policy in the future.
- 1.9 Please discuss the pros and cons of requiring independent reviews of the cost estimates of the higher forecast cost main extensions.

**2.0 Reference: FORECASTING ACCURACY
Exhibit B-1, Section 2.2.1, pp. 18, 19; Section 4.1.2.1, p. 55; Section 5.4.2, pp. 76–78;
Number and timing of attachments**

On page 76 of the Application, FEI provides Table 5-3 showing the forecast and actual attachments, as well as variances.

- 2.1 Separately, once for FEI, once for FEVI, and once combined, please fill in the table in Appendix BCUC IR 1.2.1. Please explain any differences between the variances in Table 5-3 and the variance in response to this question.

FEI states on page 77 of the Application:

In recent years the Company has also changed the approval process for customer attachments such as a graduated approval is required based on the size of the project. Specifically, for smaller main extensions, a sales manager would sign off on all customer attachments and consumption while the Planner would sign off on the forecast cost. Together, both Sales and Planning/ Operations must approve the MX Test results before the project can proceed, including the forecast PI, any CIAC as well as any steps being taken to collect security such as a take or pay agreement. For larger projects, approvals progress from the manager level to more senior management levels depending on the size of the project. This senior management oversight provides an additional opportunity to critically assess the information obtained from developers.

- 2.2 Please provide the thresholds where approvals progress from the manager level to more senior management levels and confirm, otherwise explain, that FEI plans to continue following the same policy in the future. Is this the same policy as used for MX costs (see IR 1.8)?
- 2.3 Please discuss the pros and cons of requiring independent reviews of customer attachment forecasts for higher forecast cost main extensions.

In section 4.1.2.1 of the Application, FEI explains that it will utilize the following types of data to determine if a planning horizon period greater than 5 years is appropriate for use in the MX Test of a given project:

- Municipal Official Community Plans;
- Zoning plans;
- Discussions with municipal city planners;
- Evidence of commercial commitments having been made with developers; and
- The various options available to the Company to install a main(s) to serve the area.

FEI's Application on page 18 states: "The number of customers for a proposed main extension is estimated through discussions between the customer and FEI."

FEI's Application on page 19 states "The individual appliances to be used by the customer are determined through conversations between FEI and its customers."

On page 77 of the Application, FEI states: "The Company forecasts attachments based upon discussions with developers and its own knowledge of the marketplace and history with the developer."

On page 78 of the Application, FEI explains: "The Company will continue to forecast customer attachments based on plans submitted by the builder/developer or homeowner and build and design main extensions accordingly."

2.4 Please confirm, otherwise explain, that FEI's current policy for forecasting the number and timing of attachments, and the appliances to be used includes comparing its discussions with the potential customers to municipal official community plans, zoning plans, discussions with municipal city planners, and evidence of commercial commitments made with developers.

2.4.1 If confirmed, please elaborate on this policy and explain which of the plans, discussions and evidence of commitments are more important than the other and why.

2.4.2 Please confirm, otherwise explain, that FEI plans to compare its discussions with the potential customers to municipal official community plans, zoning plans, discussions with municipal city planners, and evidence of commercial commitments made with developers for all of its future main extensions and use the importance explained in the answer to the previous question, whether it be for 5 year or 10 year planning horizons.

2.5 Please confirm, otherwise explain, that FEI's current policy includes a step where FEI verifies that the number and type of appliances that FEI used in its forecast are actually installed by the customer.

2.5.1 Please confirm, otherwise explain, FEI plans to include this step in for all its future main extensions.

3.0 Reference: HISTORICAL DATA
Exhibit B-1, Section 5.4.2, p. 76
Number of attachments

- 3.1 Please confirm, otherwise explain, that the majority of customer attachments occur in the first two years of a main extension's life and very few occur in the subsequent years.
- 3.2 Please provide a customer addition profile line graph showing the actual number of attachments on the y-axis and each of the years on the x-axis for each of the following (please include data points showing figures representing the number of attachments):
- a. 2009 FEI Sample Main Extensions for years 1 through 5;
 - b. 2009 FEVI Sample Main Extensions for years 1 through 5;
 - c. 2010 FEI Sample Main Extensions for years 1 through 4;
 - d. 2010 FEVI Sample Main Extensions for years 1 through 4;
 - e. 2009 FEI - 2nd Avenue Main Extensions for years 1 through 5;
 - f. 2009 FEVI - Shawnigan Lake Road Main Extensions for years 1 through 5;
- 3.3 Please identify and explain any general trends, or anomalies, in the customer addition profile graphs provided in response to the previous question.
- 3.4 Please provide the number of main extensions for FEI and FEVI, respectively, by year, for 2008 through 2014.

4.0 Reference: FORECASTING ACCURACY
Exhibit B-1, Section 5.4.3, p. 78
Use per customer - consumption credits

In the Application, FEI explains:

Consumption credits in the MX Test are determined by assigning a consumption value in GJs per year for each appliance the customer installs. The annual consumption per appliance is taken from the Residential End Use Study (REUS). The MX Test has been updated with REUS values in 2002, 2008 and 2012; this methodology was acknowledged in BCUC Order G-152-07.

- 4.1 Please confirm when FEI is committing to perform and submit the next REUS and for what MX year the REUS results will be incorporated into the MX test and the Service Line Cost Allowance (SLCA) calculation.
- 4.2 Please discuss the pros and cons of requiring more frequent REUS, and subsequently more frequent updating of the related inputs to the MX test and SLCA calculation.
- 4.3 Please confirm, otherwise explain, that the REUS has the capability to determine new customer average consumption per appliance.
- 4.3.1 If confirmed, please provide the new customer annual consumption per appliance.
 - 4.3.2 If not confirmed, please discuss why not and how FEI could obtain this information, whether it be in the REUS or some other manner.

- 4.4 Please discuss the pros and cons of knowing the new customer annual consumption per appliance.
- 4.5 Please compare the top five forecasted main extension PIs for both FEI and FEVI from the 2014 MX year, which uses consumption credits, to forecasted PIs for each of those same main extensions using what FEI actually expects for new customer consumption per appliance to be, and provide the quantum of difference:

1. Main Extension	2. Forecast PI using credits	3. Forecast PI using actual expected consumption	4. Difference (2 -3)
FEI Top 5 – 1			
FEI Top 5 – 2			
FEI Top 5 – 3			
FEI Top 5 – 4			
FEI Top 5 – 5			
FEVI Top 5 – 1			
FEVI Top 5 – 2			
FEVI Top 5 – 3			
FEVI Top 5 – 4			
FEVI Top 5 – 5			

- 4.6 Please provide a list of other BC utilities that use consumption credits, rather than actual expected consumption in their main extension policies.
- 4.6.1 Please elaborate on how those utilities determine their consumption credits.
- 4.6.2 Please provide the difference between those other utilities’ consumption credit values and their actual expected consumptions.
- 4.6.3 Please discuss compare the difference between these other utilities’ credits and actuals to the difference between FEI’s credits and actuals.

**5.0 Reference: FORECASTING ACCURACY
Exhibit B-1, Section 5.4.3, p. 79;
FEI 2014-2018 Revenue Requirement Application (RRA), p. 98
Use per customer - rate impact and Rate Stabilization Adjustment Mechanism (RSAM)**

On page 79 of the Application, FEI states: “FEI has seen an overall reduction in use per customer for new customers compared to existing customers.”

On page 98 of the FEI 2014-2018 RRA, FEI states:

The RSAM stabilizes delivery margin received from residential and commercial customer classes on a UPC basis. If UPC rates vary from the forecast levels used

to set the rates, whether due to weather variances or other causes, FEI records the delivery charge differences in the RSAM deferral account for refunding or recovering through a rate rider to the RSAM rate classes.

- 5.1 Please complete the table below to show the estimated impact on the RSAM of new customers having a lower use per customer than existing customers.

Estimated RSAM Impact of Residential Customer Additions							
				Usage Variance	Total	Delivery	Total
	Main Extension	New Customer	Existing Customer	per	Usage	Rate	Delivery
Year	Customer Additions	Average UPC (GJ)	Average UPC (GJ)	Customer (GJ)	Variance (GJ)	(\$/GJ)	Variance (\$)
	A	B	C	B- C=D	A X D = E	F	E x F = G
2010							
2011							
2012							
2013							
2014							

**6.0 Reference: FORECASTING ACCURACY
Exhibit B-1, Section 5.5, p. 80
Application of energy efficiency credits**

In section 5.5 of the Application, FEI explains:

The Company has applied the energy efficiency credits as approved by the Commission in Order G-152-07. In Section 4, the Company indicated that six percent of main extensions completed from 2008-2014 used the 10 percent credit and less than 1 percent used the 15 percent credit. The Company has proposed to remove the efficiency credits from the Test going forward to make the implementation of the Test simpler and easier to implement. The Company now has a robust Energy Efficiency and Conservation program that encourages customers to use gas more efficiently. As such the Company believes that it does not need to include these credits in the MX Test, in conjunction with the other proposed amendments to the MX Test.

- 6.1 Please provide the percent of main extension applications that received the 10% credit in each year from 2008 to 2014, and the percent that received the 15% credit in each year from 2008 to 2014. Please also provide a forecast of the number of customers who would be expected to receive each of these credits in 2015 to 2020 under the existing MX test.

	10% Credit	15% Credit
2008		
2009		
2010		
2011		
2012		
2013		
2014		
2015 (Forecast)		
2016 (Forecast)		
2017 (Forecast)		
2018 (Forecast)		
2019 (Forecast)		
2020 (Forecast)		

6.2 Please explain how each of: 1) the minimum energy performance standard for gas fired furnaces in annual fuel utilization efficiency (AFUE); 2) the minimum AFUE required for a gas fired furnaces to be EnergyStar rated; 3) the minimum efficiency rating for water heaters; and 4) the requirements for LEED General Certification, are taken into account in FEI’s policy for applying energy efficiency credits.

6.2.1 Please discuss the changes in 1) through 4) from 2007 to today.

6.2.1.1 Do these changes affect FEI’s ability to apply energy efficiency credits? Please explain.

**7.0 Reference: VARIANCES BETWEEN FORECAST AND ACTUAL PROFITABILITY INDEX
Exhibit B-1, Appendix D, pp. 111–126; Table 10-3, p. 112; Table 10-6, p. 114;
Table 10-21, p. 122; Table 10-28, p. 126
2009 FEI and FEVI aggregate main extensions sample results**

FEI state that the results for the 2009 main extensions “are based on a small sample of the actual main installations in 2008” and “up to this point in time, only consider attachments in the first 5 years of the life of the mains...”¹

¹ Exhibit B-1, Appendix D, p. 111.

The following table was compiled using the data in sections 10.1 and 10.2 of Appendix D.²

	2009 Aggregate Main Extensions (Sample)								
	Attachments			Use per Customer			Profitability Index		
	Original Forecast	Actual	Variance (%)	Original Forecast	Actual	Variance (%)	Original Forecast	Actual	Variance (%)
FEI	1,228	1,061	-14%	107	38	-64%	1.44	0.51	-65%
FEVI	698	430	-38%	67	12	-82%	1.63	0.15	-91%

- 7.1 Please provide an explanation for the variances in the profitability index in each of FEI and FEVI. Please include a discussion of the costs, the attachments and the use per customer.
- 7.2 Please explain how FEI proposes to reduce the risk, or resulting effect, of actual P.I.s being lower than forecasted.

The following table was compiled using the data in Tables 10-21 and 10-28 of Appendix D.

2009 Main Extensions - FEVI - West Coast Road								
Attachments			Use per Customer			Profitability Index		
Original Forecast	Actual	Variance (%)	Original Forecast	Actual	Variance (%)	Original Forecast	Actual	Variance (%)
201	2	-99%	70	18	-75%	1.56	0.00	-100%

- 7.3 Please provide the total number of 2009 main extensions for FEI and FEVI that have an attachment variance -90% or worse and the total number of 2009 main extensions for FEI and FEVI that have a use per customer variance of -90% or worse. For each one noted, please provide the information using the above table format.

**8.0 Reference: REPORTING METHODOLOGY
Exhibit B-1, Appendix D, 2014 Main Extension Report, Section 8, pp. 83–96
Projections in reporting**

FEI's reporting on 2011 main extensions includes actual customer attachments, and use per customer for years 1 through 3 and re-forecast customer attachments and use per customer for years 4 and 5.³ Tables 8-16 and 8-27 show the variance between the original and re-calculated PIs for the 2011 top 5 main extensions for FEI and FEVI.⁴

- 8.1 Please state whether the values for (i) the Use per Customer; and (ii) Customer Attachments for years 4 and 5 are re-forecasted using the same values that were used in the original MX test or based on the actuals observed in years 1 through 3 in the re-calculation of the PI for each main extension presented.
- 8.1.1 If not, please state which values were used and explain why this value was chosen.

²Ibid., pp. 112, 114.

³ Exhibit B-1, pp. 83-96.

⁴Ibid., pp. 91, 96.

8.1.2 If not, please explain why.

- 9.0 Reference: SECURITY AND EXISTING RATEPAYER PROTECTION**
Exhibit B-1, Appendix C, L-34-14, p. 3; Appendix C, FEI Response to L-34-14, p. 8;
Section 3.4.2.2, p. 46; Section 5.6.2, p. 81;
Security policies

On page 3 of letter L-34-14, the Commission lists security and existing ratepayer protection as an area of concern. The Commission explains:

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.

FEI's Application on page 81 states:

Security is used in instances where the Company believes that there is a risk that the customer (typically a builder or developer) may not attach to the system in the timeframe expected, the number of appliances will not materialize or, in the case of commercial and industrial customers, when there is risk of the customer leaving the system. The Company adheres to section 12.10 of its tariff that 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.'

Section 3.4.2.2 of FEI's Application states: "...builders and developers will continue to pursue attachments and, although delayed, [attachments] will usually materialize."

In its July 9, 2015 response to Commission letter L-34-14, FEI explains: "In most cases, unrealized attachments are simply delayed, and when considered beyond their respective forecast year, the majority of forecasted attachments will materialize."

- 9.1 Please provide and discuss the specific criteria FEI uses to determine when security is required and in what amount. If FEI does not use specific criteria, please explain why not.
- 9.2 Please provide the number of times security was required and the total amount of security obtained in each of 2008, 2009, 2010, 2011, 2012, 2013 and 2014.

	Total number of extensions	Total number of extensions requiring security	Percent of extensions requiring security	Total amount of security required
2008				
2009				
2010				
2011				
2012				
2013				
2014				

9.3 Please list the two highest amounts of security required in each year and compare to the forecast cost of those extensions.

		Total forecast cost of extension	Total amount of security required	Amount of security / total forecast cost of extension
2008	Extension 1			
	Extension 2			
2009	Extension 1			
	Extension 2			
2010	Extension 1			
	Extension 2			
2011	Extension 1			
	Extension 2			
2012	Extension 1			
	Extension 2			
2013	Extension 1			
	Extension 2			
2014	Extension 1			
	Extension 2			

- 10.0 Reference: **SYSTEM EXTENSION POLICY REVIEW**
Exhibit B-1, Section 2.2.1, p. 17; Section 3.3.2, pp. 40–41; Section 5.6.2 p. 81
Security and Contribution in Aid of Construction (CIAC)

Figure 2-1 provides the current MX Test formula:

Figure 2-1: Current MX Test Formula

$$\text{P.I.} = \frac{\text{Net Present Value of Net Cash Inflows (20 Year DCF Term)}}{\text{Net Present Value of Capital Costs (5 years of Attachments)}}$$

(Delivery Margin + Application Fees-O&M-System Improvement –Municipal Tax-Property Tax-Income Tax)

(Mains, Services & Meter Costs + Overhead + Working Capital)

In the Application, FEI states:

The Company currently recovers a CIAC from a customer based on the results of an MX Test. In the event that the project is a contributory main, the customer paying a CIAC is entitled to a pro-rata refund if a future customer connects within a five year window. The Company currently doesn't provide alternatives for recovering CIACs associated with system extensions.⁵

Ten percent, or 551, of the 5,492 mains installed between 2008 and 2014 required a CIAC, totalling \$3.9 million. By increasing the DCF from 20 to 40 years, the CIAC would have decreased by approximately \$2.0 million in total and 4.8% of customers would have paid a CIAC, as shown below. The number of customers paying a CIAC would consequently go down from 551 to 261 by switching from the current 20 year DCF term to a 40 year DCF term.⁶

The Company proposes to use a 10 year horizon for customer attachments in certain circumstances when it can be reasonably demonstrated by the customer or municipality that there is a longer term municipality-accepted plan for growth exceeding five years.⁷

Security can provide a further level of ratepayer protection in the event a builder or developer did not deliver on their commitments... It should be noted that security is seen by developers and customers as a punitive measure. Rather than increasing existing rate payer protection because security is acquired, developers may choose not to attach, reducing the potential benefit from the addition of new customers to the system. As such, the use of security must be used judiciously.⁸

- 10.1 Is the CIAC considered a negative capital cost (denominator) in the PI formula?
- 10.2 In tabular format by year since 2008, please state the amount of CIAC that FEI collected.

⁵ Exhibit B-1, p. 40.

⁶ Ibid., p. 53.

⁷ Ibid., p. 55.

⁸ Ibid., p. 81.

- 10.2.1 Please compare these amounts to the System Extension Fund (SEF) and discuss if the proposed \$1 million amount is appropriate to help fund the CIAC.
- 10.2.2 FEI collected an average of \$0.65 million CIAC per year between 2008 and 2014⁹. If the Commission approves the Discounted Cash Flow (DCF) time horizon to 40 years, then the average CIAC would amount to be \$0.33 million per year. Based on the criteria set out in the proposed SEF (i.e. \$1 million per year, maximum \$10,000 per customer, unused funds rolling over to second deadline, etc.) would it be fair to say that there will be a very high likelihood that all SEF applicants will receive some level of funding? Please explain.
- 10.3 Please provide the amount of CIAC received by year, 2008 to 2014 for FEI and for FEVI.
- 10.4 Please describe how the CIAC refund mechanism works in the existing Tariff based on a five year horizon. What impact, if any, would a ten year horizon have on the CIAC refund mechanism?
 - 10.4.1 Please explain how the proposed Tariff changes reflect the ten year horizon case.
- 10.5 Please clarify if FEI is referring to developers or home owners (or both) when it states that “security is seen by developers and customers as a punitive measure.”

**11.0 Reference: SYSTEM EXTENSION POLICY REVIEW
Exhibit B-1, section 5.6.2 p. 81
Security and Contribution in Aid of Construction**

On page 81 of its Application, FEI states:

Security can provide a further level of ratepayer protection in the event a builder or developer did not deliver on their commitments... Where the builder or developer has provided reasonable forecasts of appliances and end use customers, it would then be inappropriate to require security due to ultimate usage not materializing as that is beyond their ultimate control. To do so would be a disincentive to consider natural gas in their building plans.

The Company believes that it is applying security appropriately and in a manner that considers the risk of new customer attachments without creating a punitive signal to the market. Applying more stringent steps would likely result in fewer attachments and therefore less benefit to potential and existing customers.

- 11.1 It would appear that builders and developers may have incentives to over-forecast attachments and consumption to avoid paying a security as they consider security as a punitive measure. Please explain how FEI ensures forecast accuracy and how the builder/developer could be held accountable without a security?
- 11.2 Similarly, it would appear that builders and developers may have incentives to over-forecast attachments and consumption to avoid paying a CIAC. Please explain how FEI ensures forecast accuracy and how the builder/developer could be held accountable for its forecasts?

⁹ \$3.9 million divided by 6 years.

**12.0 Reference: SECURITY AND CONTRIBUTIONS IN AID OF CONSTRUCTION
Exhibit A2-3, EB-2006-0243, Decision regarding an Application by Natural Resource
Gas Ltd. to construct a natural gas pipeline and ancillary services, pp. 2–3
Other jurisdictions – Ontario Energy Board (OEB)**

The section on page 2 of the decision titled “Economics of the Proposed Facilities” outlines that “To protect the ratepayers of NRG, a capital contribution of approximately \$3.8 million is required from IGPC [Integrated Grain Processors Co-operative] to achieve a profitability index of 1.0.” This is an increase from the PI of the proposed facilities stated earlier to be “0.55.”

On page 3, the decision states that the:

PCRA [Pipeline Cost Recovery Agreement] requires IGPC to provide an irrevocable delivery letter of credit in the amount of \$5.3 million, which IGPC must maintain as long as it continues to receive service. This letter of credit will be reduced annually to an amount equal to the net book value of the assets of this project. This ... will ensure that NRG can draw on this letter of credit in the event of either a default by IGPC or its ceasing operation prior to the assets are fully depreciated, thereby avoiding the potential for stranded assets. This protects NRG and its ratepayers.

12.1 Please discuss FEI’s views on the use and magnitude of the CIAC required to achieve the profitability index of 1.0 as described in the preamble. Also discuss how the magnitude of this CIAC compares to CIACs collected by FEI in the 2008 to 2014 period.

12.2 Please discuss FEI’s view on the use of the letter of credit and the process through which it is reduced over time.

12.2.1 Is there an alternative that provides a similar level of protection for the utility and its ratepayers that FEI could incorporate into its Main Extension policies? If yes, please explain.

B. CONSISTENCY WITH BCUC GUIDELINES

**13.0 Reference: CONSISTENCY WITH OTHER BC UTILITIES
BCUC Utility System Extension Guidelines; Exhibit B-1, Appendix A, Paper 2, p. 43.
DCF term, customer addition term and cost allowances**

On page 1 of the BCUC Utility System Extension Guidelines (Guidelines) it reads:

The purpose of the system extension hearing was to look broadly at the system extension policies of the Utilities to determine if opportunities existed to improve the fairness and efficiency of these policies and to make them more consistent with one another.

FEI submitted a paper in Appendix A of its Application titled “Line Extensions for Natural Gas: Regulatory Considerations.” In the author’s recommendation, the author explains: “A good extension policy should feature certain objectives...A second objective is to create a level playing field among the different energy sources.”

- 13.1 Does FEI agree with the objective in the paper FEI submitted? Why, or why not?
- 13.2 Do each of FEI's proposed changes meet this objective? Please explain.
- 13.3 Does FEI consider it fair to the other utilities to make FEI's proposed changes in isolation (i.e. without the other utilities making their own comparable adjustments)? Why, or why not?
- 13.4 Please provide and compare FEI's proposed cash flow term, customer addition terms, and cost allowances to British Columbia Hydro and Power Authority (BC Hydro), FortisBC Inc. (FBC) and Pacific Northern Gas Ltd.'s (PNG) discount cash flow terms, customer addition terms and cost allowances.

Utility	Cash Flow Term	Customer Addition Term	Cost Allowance
FEI	40 years	5 (or 10) years	\$2,150 / \$4,300
FBC			
BC Hydro			
PNG			

- 13.4.1 Based on the information in the above table, please explain how changing FEI's DCF term to 40 years, customer addition term to 10 years and increasing the cost allowances each support making the utility policies more consistent with one another.
- 13.4.2 Please discuss how the expected lives of FEI's main and service assets compare to expected lives of the same or similar assets of these other utilities.
- 13.4.3 Please discuss the infrastructure that these other utilities would require to construct a main extension and service line to serve a customer.
 - 13.4.3.1 How would FEI's capital costs to serve a new customer compare to the costs these other utilities may encounter? Please explain.
- 13.4.4 Please discuss the uncertainties and risks that FEI encounters when planning a main extension 5 years out and when FEI plans extensions 10 years out.
 - 13.4.4.1 Would these other utilities expect to encounter similar uncertainties for their 5 year extensions and for their 10 year extensions? Please elaborate.

The Guidelines item 4 reads:

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 prudence reviews to examine the accuracy of system extension estimates.

- 13.5 Please explain how the criteria FEI proposes it will report to the Commission could be used by the Commission to determine whether or not to initiate a prudence review to examine the accuracy of system extension estimates.

14.0 Reference: CONSISTENCY
Exhibit B-1, Section 5.4.3, p. 78; Appendix A, p. 14
Existing and new customers, risks and uncertainties

On page 78 of the Application, FEI argues: [Using average volumes in the MX test] is intended to credit the new customers with an amount of consumption equal to the average consumption of other existing customers on a per appliance basis in order to treat the two groups comparably.

- 14.1 Please discuss how each of 1) changing the DCF term from 20 years to 40 years; 2) allowing 10 year customer addition terms; 3) changing to an overhead sliding scale; 4) allowing an System Extension Fund; and 5) removing the energy efficiency credits would each support treating the two groups comparably.

In Appendix A of the EES Report, it explains:

FEI is consistent in this practice as it uses the results of the REUS 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.

- 14.2 Please provide and compare BC Hydro's historic average use per customer that it uses to determine its line extension credit to its new customer use per customer.
- 14.3 Please provide and compare the difference between FEI's average use per existing customer and FEI's expected average use per new customer to the difference between BC Hydro's historic average use per customer that is used to determine its line extension credit and its new customer use per customer.

C. SYSTEM EXTENSION FUND

15.0 Reference: INTRODUCTION AND OVERVIEW
Exhibit B-1, Section 1.1, p. 3
System extension fund – approvals sought

On page 3 of the Application, FEI is seeking the following approval, among others: "The establishment of the System Extension Fund of \$1.0 Million, to be recovered through gas delivery rates and included in rate base each year as an offset to Contributions in aid of Construction."

- 15.1 Under what section of the *Utilities Commission Act*, or any other jurisdiction of the Commission, is FEI requesting Commission approval for the proposed System Extension Fund (SEF)?
- 15.1.1 Please state the criteria that the Commission should consider when it assesses the merits of a SEF. Provide an analysis on how the SEF meets/does not meet such criteria.
- 15.1.2 Please provide any government policy and/or recommendation for FEI to implement a SEF.

- 15.2 How would FEI evaluate the success of the SEF program? How would FEI inform the Commission that the SEF is performing (or not performing) as intended?
- 15.3 What is the trigger mechanism to terminate, renew, or modify the SEF? When is the appropriate time to review the SEF?

16.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4.3.2, pp. 64–66; EES Report, p. 15
Terasen Gas (Whistler) Inc. Certificate of Public Convenience and Necessity for the Whistler Natural Gas Project and Terasen Gas (Vancouver Island) Inc. Certificate of Public Convenience and Necessity for the Squamish to Whistler Intermediate Pressure Pipeline, Exhibit B1-13, TGW Response to BC Hydro IR 2.0, p. 3
System extension fund recommendations

On page 64 of the Application, FEI states:

FEI is proposing that the Fund be established for its natural gas customers at \$1.0 million, equivalent to two thirds the size of BC Hydro's \$1.5 million level, to reflect that FEI has a smaller service territory and a smaller number of new customer added annually...

The Fund would be set up with comparable provisions to the BC Hydro fund; however, there would be natural differences due to the fact that it would apply to gas customers rather than electric customers. FEI is also proposing a simpler approach than the one in place at BC Hydro.

In the Terasen Gas (Whistler) Inc.¹⁰ proceeding as noted above, it states:

Tariff elements such as rates and connection policies are established to provide reasonable assurance that existing customers will not be negatively impacted by new core customers joining the system but there is not a long-term requirement that the new customers provide the same actual revenues they were forecast to provide when they joined the system. There are some instances in B.C., such as with BC Hydro's Uneconomic Extension Fund, where it can be argued that existing utility customers are explicitly subsidizing new customers for reasons that were found acceptable by the Commission when the tariffs were approved. In citing this TGVI is not implying that any special benefit should be conferred on TGW to attach to the system but neither should a stronger revenue recovery burden be imposed on TGW than on core market customers anywhere else on TGV's system. [Emphasis added]

The EES Report, dated June 2015, states that "projects with a P.I. above 1.1 offset the added costs of those projects below 1.0, leading to an aggregated outcome that does results in holding existing customers harmless from the growth in customers."

- 16.1 Please compare BC Hydro's 2015 rate base to FEI's 2015 rate base. What would the size of the extension fund be if it was sized in the exact same proportions?

¹⁰ FortisBC Energy (Whistler) Inc. (FEW) was formerly known as Terasen Gas (Whistler) Inc. FEW amalgamated with FEI on December 31, 2014.

- 16.2 With respect to the underlined response by FEI, please confirm the proposed \$1 million SEF that FEI is seeking is a subsidy from existing utility customers to new customers. If not confirmed, please explain.
- 16.3 Instead of providing up to \$1 million each year by way of a SEF, are there any merits to lower the individual PI threshold in substitution of the SEF? For example, would FEI agree that this alternative may reach more beneficiaries, ensure non-discriminatory new customers treatment, and reduce the burden of administrating the SEF? Please provide a risk-benefit analysis between the proposed SEF and lowering the individual PI threshold.
- 16.4 What would the equivalent individual PI threshold be, if CIACs were reduced by \$1M annually?
- 16.5 With respect to the EES Report, the gap between 0.8 PI and 1.0 PI could be viewed as one group of new customers subsidizing another group of new customers in the same cohort year. To the extent possible, please estimate the total annual CIAC that would be needed to bring all 0.8 PI main extensions up to 1.0 PI for each year since 2008. State the assumptions.

17.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4.3, pp. 63–66;
BC Hydro 2004-2006 Revenue Requirements Application, Exhibit B1-8, Peace River Regional District IR 1.6.0, BC Hydro response dated March 29, 2004 (page 7382 of 8018 in the PDF);
A Generic Hearing into Extension Policies of Regulated Utilities, November 7, 1995 System extension fund

The uneconomic extension fund has an annual budget of \$1.5 million. FEI states that it has been in place for roughly 30 years.

At the Generic Hearing into Extension Policies of Regulated Utilities, on November 7, 1995, BC Hydro indicated that any qualifying party who has applied for Uneconomic Extension Assistance (UEA) funding in the past has received it.¹¹

Based on a BC Hydro response in 2004, it provides the total UEA funds spent and the number of numbers.

Details of the UEA program are provided below. Information prior to F1996 is not available. The total number of kilometres of distribution line constructed is also not readily available.

UNECONOMIC EXTENSION ASSISTANCE PROGRAM		
Fiscal Year	Amount (\$ 000's)	Number of Customers
1996	1,328.8	139
1997	605.1	92
1998	508.7	102
1999	584.5	73
2000	1,485.6	121
2001	362.9	47
2002	297.9	63
2003	290.1	23
2004 Forecast	845.6	56

¹¹ <http://search.allwestbc.com:8080/bcuclibrary/proceedings/other/1995extensionpoliciesreview/tr/19951107.pdf> T6: 954

On page 66 of the Application, FEI states:

... the Company regards the \$1.0 million as an annual maximum amount that does not accumulate. That is, unused fund amounts from previous years will not be carried over to future years. As such, FEI proposes to account for any allowance for customers from this fund as an offset to the CIAC additions that are included in rate base each year. As a result, these amounts will be recovered through the delivery rates of all non-bypass customers via the amortization of contributions embedded in the revenue requirement. This approach is simple, and is consistent with BC Hydro. [Emphasis added]

- 17.1 For clarification purposes, please confirm that BC Hydro's Uneconomic Extension Fund, Uneconomic Extension Assistance (UEA), and UEA program all have the same meaning.
- 17.2 Please describe BC Hydro's rate recovery mechanism of the UEA program. Compare and contrast BC Hydro's mechanism to the FEI proposal.
- 17.3 BC Hydro's UEA actual funding ranges from \$0.29 to \$1.49 million from 1996 to 2003 and it appears that BC Hydro customers are likely going to receive funding if requested. Please forecast the actual SEF amount that will be granted and the number of customers that will receive the SEF for 2016 to 2020.
- 17.4 With respect to the underlined, is FEI proposing to use any remaining unused SEF to offset the CIAC each year? Please clarify.

18.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 1.1, p. 3; Section 4.3.2, pp. 64–66; Section 4.4.3, pp. 67–68;
Appendix E, p. 12-5
System extension fund – proposed mechanism

On page 65 of the Application, FEI states:

Customers applying for service failing to meet the required P.I. of 0.8, but at least a 0.2, for the requested main extension can apply for the Fund. Customers must complete all required forms and submit them to FEI on or before March 31st or June 30th of each year. Forms will be available on-line as well as through regional FEI sales staff.

FEI will review all applications and will select projects to be funded. Project selection will consider the potential to connect future customers. Projects with a higher potential for future customer connections based on the number of lots between the customer and the beginning of the main extension will be given priority.

In the proposed Tariff changes on page 12-5 of Appendix E, FEI states: "The number of Customers eligible to receive the System Extension Fund will be limited and the determination of eligibility will be made by FortisBC Energy in its sole discretion, acting reasonably."

On page 3 of the Application, FEI explains that by way of an annual report, FEI proposes to report "The

total number of approved requests to access the System Extension Fund, including the total dollar value of the approved requests.”

- 18.1 Please provide the rationale that the PI must be at least 0.2 to be eligible for the SEF.
- 18.2 Please file the required forms that FEI will be requesting customers to complete.
- 18.3 Please provide the rationale why “Projects with a higher potential for future customer connections based on the number of lots between the customer and the beginning of the main extension will be given priority.” Please elaborate and provide an example.
- 18.4 Regarding the Tariff, please elaborate on the statement: “the determination of eligibility will be made by FortisBC Energy in its sole discretion, acting reasonably.” Can the applicant customer file a dispute, reconsideration, or complaint? If yes, how would that process be handled? If not, why not?
- 18.5 How many times can a customer apply for the SEF? Is there a limit?
- 18.6 Are there specific regions that FEI expects will use the SEF more so than others? For example, would new customers in certain areas of Vancouver Island be expected to benefit more than customers in the Lower Mainland, Fraser Valley or Interior from the SEF? Please explain.

D. DISCOUNTED CASH FLOW TERM

- 19.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4.1.1, p. 51;
Community Energy Association, <http://communityenergy.bc.ca/>
Analysis of DCF term**

In its Application, FEI states: “The Company is recommending a 40 year DCF term. Although a longer DCF term may also be justified as it more closely aligns with the life of the main and captures more of the benefits, the Company is proposing to limit the DCF term to 40 years, as it covers the majority of useful life of the main.”

- 19.1 FEI states that 40 years covers the majority of useful life of the main. Please discuss how climate action plans and community energy plans to reduce fossil fuel use and GHGs could reduce the economic life and revenue from a system extension to below 40 years.

- 20.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4.1.1.1, p. 51;
BCUC Gas Uniform System of Accounts, Account 473, p. 197
Analysis of DCF term**

On page 51 of its Application, FEI states: “Between 2008 and 2014, 5,492 mains were installed by the Company. FEI conducted a CIAC analysis using a proxy version of the 2015 MX Test since it would be impractical to re-run thousands of individual MX tests to determine the impact on each CIAC by extending the DCF term.”

Page 197 of the Gas Uniform System of Accounts for account 473 states: “Services which have been used, but have become inactive, shall be retired from plant in service immediately if there is no prospect

for re-use, and, in any event, shall be retired by 'the end of the second year following that during which the service became inactive unless re-used in the interim."

- 20.1 Please provide the number of mains and services installed by FEI and FEVI from 2008-2014 by year, also provide the number of services installed by FEI and FEVI from 2008-2012 that became inactive.
- 20.2 Please confirm that the "proxy version of the 2015 MX Test" has not been reviewed or approved by the Commission. Also provide the parameters used in the" proxy version of the 2015 MX Test."

**21.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4.1.1.1, Table 4-2, p. 52
Analysis of DCF term**

- 21.1 Please provide a fully functioning Excel spreadsheet showing the calculation of each of the results in Table 4-2 and provide the discount rates, inflation rates and all other assumptions used in the calculations.
- 21.2 Recalculate Table 4-2 using discount rates based on FEI's approved 2008-2014 weighted average cost of capital adjusted for inflation by year.

**22.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4.1.1.1, pp. 52-53;
FEI Annual Review for 2015 Rates, Section 11, Schedule 25, p. 91
DCF term-meter life**

On page 53 of its Application, FEI states: "Increasing the DCF term to 40 years will have no impact on the capital costs in the Test since the life of the main and the service line both exceed 40 years and the impact of an assumed meter and regulator replacement at 20 years will have an immaterial impact on the MX Test results."

- 22.1 Please provide each of the total residential meter costs and the total regulator costs included in the 2008-2014 MX tests, by year.

Schedule 25 of the FEI Annual Review for 2015 Rates shows a depreciation rate of 7.36 percent (13.6 years) for account 474, house regulators and meter installations.

- 22.2 Please recalculate Table 4-2 assuming that meters and regulators are replaced every 14 years.

**23.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4.1.1, p. 51
DCF term-appliance life**

- 23.1 Please provide the expect life of each of the appliances used in the 2014 system extension test parameters.
 - 23.1.1 Should the expected life of appliances should be considered when determining the DCF term. Please explain why, or why not.

23.2 Please discuss the risks and uncertainties in forecasting each of the items in the revenues part of the MX test 40 years out.

E. CUSTOMER ADDITION TERM

**24.0 Reference: CUSTOMER FORECAST PERIOD
Exhibit B-1, Section 3.3.1.3, pp. 37–38; Section 4.1.2, pp. 54–55
Customer forecast period**

On page 38 of the Application, FEI states “The EES [EES Consulting Ltd.] survey found that utilities in Saskatchewan and Ontario currently use a 10 year customer forecast window for all projects.”

FEI proposes to “use a 10 year horizon for customer attachments in certain circumstances when it can be reasonably demonstrated by the customer or municipality that there is a longer term municipality-accepted plan for growth exceeding five years.” FEI then lists five types of data to be used to determine if a planning horizon period greater than 5 years is appropriate for use in the MX Test of a given project. FEI further states that “it is impractical to estimate the rate impact of this recommendation.”¹²

On page 54 of the Application, FEI states: “Based on feedback from customers and the Company’s experience in the new construction marketplace, FEI estimates that there will be a relatively small number of these main extensions every year. These main extensions are expected to have a higher capital cost than the average main cost which is \$11,600.”

- 24.1 Please explain the reason for the difference in application of the 10 year customer forecast period used for all projects in Ontario and Saskatchewan and FEI’s proposed approach to use a 10 year customer forecast window in certain circumstances, as outlined in section 4.1.2.1.
- 24.1.1 Please list and describe the sources and types of data for the 10 year customer addition forecasts used by utilities in Ontario and Saskatchewan in their main extensions test.
- 24.1.2 Please explain the differences, if any, between the sources and types of data provided in response to the previous question and those proposed by FEI in Section 4.1.2.1.
- 24.2 Please provide an analysis using figures and explanations to show:
- (i) the number of mains extensions as a percentage of the total number of main extensions between 2003 and 2013 where a customer forecast period of 10 years would be required based on the circumstance outlined in section 4.1.2; and
 - (ii) the number of customer attachments as a percentage of the total customer attachments between 2003 and 2013 where a customer forecast period of 10 years would be required based on the circumstance outlined in section 4.1.2.
- 24.3 Please list and explain the types of data currently used by FEI to forecast customer additions during a planning horizon of up to 5 years.

¹² Exhibit B-1, Section 4.1.2, p. 55.

- 24.3.1 Please explain how the data listed in response to the previous question differs from those FEI propose to use to determine if a planning horizon period greater than 5 years is appropriate.
- 24.4 Please discuss the possibility that Municipal Official Community Plans and Zoning plans are modified, updated or replaced during a 10 year period.
- 24.5 Is there a threshold or criteria that will be used for each type of the five types of data? For example, what type and how much commercial commitment will be required by the developer to support the decision to use a customer forecast period of greater than 5 years? Please address each of the 5 types of data, providing quantitative examples where applicable.
- 24.6 Please explain if there are any additional risks to current ratepayers associated with extending the forecasting period for customer additions to 10 years.
- 24.6.1 If there are additional risks, please discuss the possibility of using a different P.I. threshold, for example no less than 1.0, for circumstances described in the preamble.
- 24.7 Please explain why the capital costs are expected to increase for projects using a 10 year customer addition forecast in the MX Test as opposed to a 5 year forecast. Is there a change in the length of the main extension pipe?
- 24.8 Please discuss how FEI would install a 10 year main. Would FEI install the pipe for the entire main extension all at once or in stages? When would the main go into rate base? Please elaborate.

**25.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4.1.2.1, p. 55
DCF term-meter life**

FEI states in its Application: "The Company believes the revenue for these longer horizon system extensions will be more fairly represented using a 10 year horizon. Additionally, the Company expects improvements in the efficiency and cost to install these types of main extensions by taking a longer term view. However, it is impractical to estimate the rate impact of this recommendation."

- 25.1 Should the portion of the main extension for customers connecting in years 6-10 be treated as Gas Plant Held for Future Use, account 102, until a customer connects to this portion of the main extension? Please explain why, or why not.
- 25.2 Please discuss how FEI would go about installing a 10 year main. Would FEI install the pipe for the entire main extension all at once or in stages? Please elaborate.
- 25.3 Please explain how main and service lines sizes are determined. In most cases, would a 10 year main be expected to be bigger than a 5 year main? Please elaborate.

F. SLIDING SCALE OVERHEAD RATE

**26.0 Reference: SYSTEM EXTENSION POLICY REVIEW
Exhibit B-1, Section 3.3.1.4, Figure 3-3, p. 39
Sliding scale overhead calculation**

- 26.1 Please provide the fully functional spreadsheet used to generate the graph in Figure 3-3.
- 26.2 Please recalculate graph in Figure 3-3 for the period 2010-2014 by year. Also include a fully functional electronic spreadsheet showing the calculations.

**27.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4.1-4.1.3.2, pp. 56–58
Sliding scale overhead calculation**

- 27.1 Please explain the methodology used to determine the Sliding Scale Overhead formula and provide the standard error of the estimate.
- 27.2 Please explain how FEI proposes to update the Sliding Scale Overhead formula on an annual basis.
- 27.3 Please complete the table below for mains (account 475), services (account (473) and meters (account 474) and provide the response as a fully functional electronic spreadsheet.

Capitalized Overhead - Mains

(\$000's)

Year	Actual Additions	Actual Overhead Capitalized	Cap O/H % of Additions	Forecast		
				Forecast Additions per MX Test	Forecast MX Test Cap O/H	Forecast Cap O/H % of MX Additions
2008	14,567	6,412	44%	10,000	3,300	33%
2009						
2010						
2011						
2012						
2013						
2014						

**28.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4.1.3.1, Table 4-4, p. 58
Sliding scale overhead calculation**

- 28.1 The difference between the fixed annual rate overhead rate and the sliding scale overhead calculation in Table 4-4 is \$1.605 million. Please calculate the sliding scale overhead that would be required to eliminate the \$1.605 million difference.

**29.0 Reference: APPENDIX A
Exhibit B-1, Appendix A, Attachment 2, p. 12
Sliding scale overhead calculation**

FEI states in Appendix A: “For consistency purposes, we believe it is appropriate for the amount of overheads added to the costs used in the MX test to be comparable to the overheads capitalized as part of the amount placed in rate base.”

29.1 Is the sliding scale overhead methodology consistent with calculation of overheads capitalized as part of the amount placed in rate base (i.e. a lower overhead rate is applied to larger projects)? Please explain why, or why not.

G. SERVICE LINE COST ALLOWANCE

**30.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4.2.2, p. 62
Service Line Cost Allowance (SLCA)**

In section 4.2.2, FEI states: “...68.3 GJ is a scenario representing the normalized average annual consumption of residential customers that connected to FEI’s system between 2008 and 2014.”

30.1 Please explain why FEI is using the normalized average annual consumption of residential customers between 2008 and 2014 to calculate the SLCA, when the 1996 and 2007 analysis used the consumption for only the most recent year.

30.2 Please recalculate Table 4-7 using the normalized average annual consumption of residential customers that connected to FEI and FEVI in 2014.

30.3 In Table 4-6, the 2007 FEI Mainland consumption of 80 GJ results in a Maximum allowance of \$1,535 and the 2014 consumption of 68.3 GJ results in a Maximum allowance of \$2,150. Please explain why the lower 2014 consumption results in a higher service line Maximum allowance.

H. ENERGY EFFICIENCY CREDITS

**31.0 Reference: ENERGY EFFICIENCY CREDITS
Exhibit B-1, Section 4.1.4, pp. 58–59
FEI’s demand side management program**

On page 58 of the Application, FEI proposes to eliminate the use of energy efficiency credits reasoning that energy efficiency is now being driven by their demand side management (DSM) program.

31.1 Please outline the aspect of the DSM program which incentivizes new customer attachments (i) for using high efficiency gas-fired space heating and water heating appliances; and (ii) for attaining LEED General Certification.

I. REPORTING METHODOLOGY – ANNUAL REPORTING

32.0 Reference: APPROVALS SOUGHT
Exhibit B-1, Section 1.1, p. 3; Section 4.1.2, Figure 4-1, pp. 54, 55; Section 3.2.4.2, p. 32;
Decision for TGVI TGI 2007 System Extension & Customer Connection Policies Review
Proceeding (2007 Decision), p. 35
Reporting

On page 3 of the Application, FEI requests:

3. Effective with the reporting on 2015 main extensions:

a. The discontinued use of the current MX reporting requirements.

b. To provide a Report to the Commission at the end of the first quarter for the preceding year's main extensions that includes:

i. The total number of main extensions completed, including the total actual costs for main extensions completed; the forecast PI for all main extensions in aggregate; the total number of customers providing a CIAC, including the total dollar value of CIAC. For main extensions using a 10-year customer addition forecast period, the number of main extensions, the actual costs and the total number and dollar value of CIAC will be provided separately from the total main extensions.

ii. The total number of approved requests to access the System Extension Fund, including the total dollar value of the approved requests; and

iii. Updated MX Test input parameters consistent with approved practices, for implementation January 1 of the following year.

On page 42 of the Application, FEI quotes the Core Review:

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.

32.1 Please provide a sample annual report in the form FEI proposes to submit to the Commission annually using 2013 MX results.

32.2 Please provide the number of hours spent preparing and the cost of preparing each MX Report from 2008 through 2014, including only preparation costs and not extraneous activities such as the EES reports, the consultation activities for this application and these application costs.

32.3 Please provide the costs of this application and explain how FEI plans to account for these costs.

- 32.4 Please estimate the number of hours and the costs FEI expects to spend preparing the proposed annual reports, and separately, the proposed Rate Impact Analysis reports.
- 32.5 Please explain how the costs of FEI's proposed changes to the reporting regime would affect PBR.

The 2007 Decision highlighted that Terasen [now FEI] stated the following in its Reply Argument:

Due to the significant work that is involved in using the entire population of main extensions, the Companies propose to use only a sample of the main extensions completed to review in order to determine if the aggregate PI is above 1.1. ... The Companies are in the planning stages to make modifications to the information systems will also enable the Companies to use the entire population of main extensions in a given year to determine the aggregate PI without significant manual involvement. However, at the present time, the Companies believe that a sample population will provide the best compromise between the costs associated with the administrative burden related to the amount of work involved and the accuracy of the result.¹³

- 32.6 Please confirm, otherwise explain, that FEI has completed the modifications referenced in the preamble.

32.6.1 If confirmed, is population data currently available for MX performance reporting?

- 32.7 Please confirm that FEI has the capability to and does track:

- i. actual capital costs for each main extension;
- ii. forecast capital costs for each main extension;
- iii. actual costs for each service line;
- iv. forecast costs for each service line;
- v. actual total costs for service line connections;
- vi. forecast total costs for service line connections;
- vii. forecast number of connections per main extension;
- viii. actual number of connections per main extension;
- ix. forecast PI for each main extension;
- x. forecast use per customer (i.e. not the "credit" inputs to the PI test, but what FEI believes will actually be consumed), individually or in aggregate, for each main extension; and
- xi. actual use per customer, individually or in aggregate, for each main extension.

- 32.7.1 If any of these are confirmed please explain why FEI is not proposing to report on this information to the Commission.

32.7.2 If any of these are not confirmed please explain why not.

¹³ 2007 Decision, p. 35.

- 32.8 Please discuss the pros and cons of reporting each of the above information to the Commission.
- 32.9 Please confirm, otherwise explain, that with the actual capital cost for each main extension and the forecast capital costs for each main extension, one could evaluate and trend FEI's cost estimate forecasting performance for main extensions, and identify deviations from forecasts that affect costs and rates.
- 32.10 Please confirm, otherwise explain, that with the actual service line cost for each connection and the forecast service line cost for each connection, one could evaluate and trend FEI's cost estimate forecasting performance for service lines, and identify deviations from forecasts that affect costs and rates.
- 32.11 Please confirm, otherwise explain, that with the actual number of connections and the forecast number of connections, one could evaluate and trend FEI's connection forecasting performance, and identify deviations from forecasts that affect costs and rates.
- 32.12 Please confirm, otherwise explain, that with the forecast total service line costs and the actual total service line costs, one could evaluate and trend FEI's forecasting performance on the average cost per service line in each year, and identify deviations from forecasts that affect costs and rates.
- 32.13 Please confirm, otherwise explain, that with the forecast use per customer, individually or in aggregate by main, and the actual consumption by main, one could evaluate and trend FEI's forecasting performance for consumption, and identify deviations from forecasts that affect costs and rates.
- 32.14 Please confirm, otherwise explain, that the forecast aggregate PI is the average of the individual PIs and not a weighted average aggregate PI.
- 32.14.1 If confirmed, would FEI consider it more appropriate to use a weighted average aggregate PI for its MX test? Why or why not?
- 32.15 Please discuss the pros and cons of using an average versus a weighted average aggregate PI.
- 32.16 Please confirm, otherwise explain, that FEI would consider the five most costly main extensions, material extensions? If confirmed, why? If not confirmed, why not?
- 32.17 Please provide the cost of the five most costly main extensions in 2008, 2009, 2010, 2011, 2012, 2013 and 2014.
- 32.18 Would FEI consider it helpful to the Commission to understand FEI's main extension performance by reporting each year on the five most costly main extensions? Why or why not? Please discuss.

J. REPORTING METHODOLOGY – OTHER JURISDICTIONS

- 33.0 Reference: REPORTING METHODOLOGY**
TGVI TGI 2007 System Extension & Customer Connection Policies Review Proceeding, Exhibit B-1, Sections 5.4 and 5.5, pp. 24–26;
Exhibit A2-2, OEB Guidelines for Assessing and Reporting on Natural Gas System Expansion in Ontario, Section 3, pp. 5–7;
Exhibit B-1, Appendix D, 2014 Main Extension Report, pp. 26–27;
Other jurisdictions - Ontario Energy Board (OEB)

In the Application for the System Extension & Customer Connection Policies Application Review, dated August 13, 2007, FEI [then TGI] drew parallels with the practice of gas utilities in Ontario, referring to Enbridge Gas' Main Extension Policy when describing FEI's proposed Profitability Index.

Exhibit A2-2 contains the Ontario Energy Board (OEB) Guidelines for Assessing and Reporting on Natural Gas System Expansion in Ontario. Section 3 of these guidelines provides details regarding the monitoring of portfolio performance and short-term rate impacts. Section 3.1 outlines the information regarding the test (forecast) year and the historic year that is to be submitted on a periodic basis. Section 3.2 outlines information to be submitted to the Board to allow for a review of the utilities distribution system expansion project portfolios including financial and environmental requirements.

- 33.1 Please highlight and discuss the similarities and differences regarding the monitoring and reporting of main extension performance and short-term rate impacts between FEI's reporting proposals and sections 3.1 and 3.2 in OEB's Guidelines referenced in the preamble. Please include discussion regarding OEB's requirement of historic reporting of the aggregate NPV, the total capital, and the portfolio P.I. for a rolling project portfolio at the end of each year; and each of section 3.2 (A), (a), and (b).
- 33.2 Please discuss the inclusion of the associated revenues along with the costs of the cumulative number of customers attached at the end of each year in the annual main extensions report.

- 34.0 Reference: REPORTING METHODOLOGY**
Exhibit A2-2, OEB Guidelines for Assessing and Reporting on Natural Gas System Expansion in Ontario, Section 3.1, Historic Year, Subsection (c), p. 6
Projections in reporting

Subsection (c) under the title "Historic Year" outlines that "upon the request of the Board, a list of the projected results of individual extensions included in the Rolling Project Portfolio."

- 34.1 Please discuss FEI's view of providing projected results of individual main extensions to the Commission.

35.0 Reference: USE PER CUSTOMER
Exhibit B-1, Section 5.4.3, pp. 78–79;
Exhibit A2-2, OEB Guidelines for Assessing and Reporting on Natural Gas System
Expansion in Ontario, Section 2.1, p. 3
Use per new customer

FEI states in section 5.4.3 of its Application:

FEI has seen an overall reduction in use per customer for new customers compared to existing customers. There are several factors which may contribute to the reduction in use per customer more generally, including successful energy efficiency and conservation efforts, marketplace shifts to high efficiency appliances, and a reluctance of customers to incur the high fixed costs associated with installing multiple gas appliances. ... With respect to those customers that have installed high efficiency appliances, the Company does not feel it would be appropriate to encourage the customer to consume more gas simply to meet the volume averages of existing customers in order to create a more favourable MX Test result. Nor would it be fair to new customers to use a lower volume for a more efficient appliance as a credit in the test as this would lead to a lower PI forecast and encourage customers to use less efficient appliances in order to pass the MX Test. In addition, the Company does not have data on which to base a volume credit for gas usage in new more efficient appliances. ... it remains appropriate to use the volume credit, as derived from existing customers in the REUS, as an input into the MX test. [Emphasis added]

The OEB states that the DCF calculation for a Portfolio will be based on a set of common elements including “an estimate of average use per added customer which reflects the mix of customers to be added.”

- 35.1 Please discuss the benefits and disadvantages to existing ratepayers of accounting for the increased efficiency associated with the use of newer appliances in the MX test.
- 35.2 Please confirm, otherwise explain, that the increased efficiency associated with the use of newer appliances is not incorporated into FEI’s main extension test. If confirmed, please explain why not.
- 35.3 Please discuss FEI’s view on the use of the Residential End-Use Survey to establish a base use per customer value followed by an adjustment to this base for changes in building code, increased appliance efficiency as a result of new technology and experience monitoring the recent variances between actual and forecast use per customer.
- 35.4 Please discuss FEI’s view on the section of the OEB Guidelines in the preamble.
 - 35.4.1 Please explain how utilities in Ontario satisfy the section of the OEB Guidelines in the preamble.
 - 35.4.2 Please discuss the feasibility of FEI utilizing a similar approach.
- 35.5 Please discuss the pros and cons of reporting to the Commission the number of each type of appliance forecast to be installed and the number and type of the appliances actually installed.

- 36.0 Reference: VARIANCES BETWEEN FORECAST AND ACTUAL PROFITABILITY INDEX**
Exhibit A2-1, OEB’s E.B.O. 188 - Final Report of the Board, Para. 6.3.9, p. 32;
Exhibit A2-2, OEB’s Guidelines for Assessing and Reporting on Natural Gas System
Expansion in Ontario, Section 3.3, p. 7
Other jurisdictions – Ontario Energy Board (OEB)

In Exhibit A2-1, the OEB concludes its report with: “The utilities will provide explanations of the reasons for the variations and the corrective actions taken or proposed. The Board will judge the degree to which the cost impacts should be apportioned between the shareholder and the ratepayers.” Section 3.3 of Exhibit A2-2 discusses the risks of non-performance of a main extension.

36.1 Please discuss FEI’s view of the section of paragraph 6.3.9 of OEB’s decision quoted above.

36.2 Please discuss FEI’s views on section 3.3 of Exhibit A2-2.

K. REPORTING METHODOLOGY – RATE IMPACT ANALYSIS

- 37.0 Reference: SYSTEM EXTENSION POLICY REVIEW**
Exhibit B-1, Section 3.2.4.2, p. 32
EES Rate Impact analysis

On page 32 of its Application, FEI states: “To facilitate the understanding of the EES analysis, FEI forwarded a working model of the Rate Impact analysis to stakeholders along with a briefing on how it was constructed, and invited participants to meet individually with EES to review the assumptions in greater detail if required.”

37.1 Please provide a fully functional copy of the most recent Rate Impact analysis model.

37.2 Has the methodology used in Rate Impact analysis model been approved and used in other jurisdictions? If yes, please provide the jurisdictions. If not, please explain why not.

- 38.0 Reference: SYSTEM EXTENSION POLICY REVIEW**
Exhibit B-1, Section 3.4.3.1, p. 47
EES Rate Impact analysis

FEI states in its Application: “The Rate Impact analysis does not determine if a main or aggregate of mains is economic, but it does provide a better “point in time” view on the impact that new customers have been having on existing customers, and can serve as a reasonable assessment of the functioning of the system extension policies and MX Test.”

38.1 Given that the “Rate Impact analysis does not determine if a main or aggregate of mains is economic”, please explain how it provides a “reasonable assessment of the functioning of the system extension policies and MX Test.”

**39.0 Reference: SYSTEM EXTENSION POLICY REVIEW
Exhibit B-1, Appendix A, pp. 23–24;
EES Rate Impact analysis**

On page 23 of Appendix A, FEI states:

When more customers and sales are added to the system, those fixed costs are spread out among more customers and that benefits all ratepayers

..Because there are many factors that impact rates over time, the analysis is designed to isolate the impacts of customer additions while holding all other factors constant.

- 39.1 Please confirm that “fixed costs are spread out among more customers and that benefits all ratepayers” only when incremental revenue generated by the additional customers exceed their incremental costs.
- 39.2 Would FEI agree that cost of providing service to new customer s using less than 5 GJ/year is likely to be more than the incremental revenue generated by these customers? Please explain why, or why not.

On page24 of Appendix A, FEI states: “In order to determine the added costs associated with new customers, we included the costs associated with meters/regulators, services and mains for new customers as well as costs associated with Standing job orders and internal costs.”

- 39.3 Does omitting the impact of new customers on general plant (i.e. buildings, office equipment and vehicles) and incremental O&M overstate the benefits of adding new customers? Please explain why, or why not.
- 39.4 Please provide the increase in general plant costs from 2008-2014.

On page 24 of Appendix A, FEI states: “The 13.8% multiplier was determined by looking at the expense items associated with return, depreciation and taxes relative to the rate base of the utility for the meters, services and mains categories.”

- 39.5 Please show the calculation of the 13.8 percent multiplier.

L. AMALGAMATION AND PBR IMPACTS

**40.0 Reference: APPENDIX A
Exhibit B-1, Appendix A, pp. 7-8; 1996 System Extension Guidelines, p. 19
Amalgamation**

On page 7 of Appendix A, FEI states: “The usage estimated for each new customer will also be based on common usage rates rather than regional levels. The usage will still be based on the expected appliances to be installed.”

- 40.1 Please provide a schedule comparing the 2014 FEI and FEVI usage rates and the 2015 common usage rates by appliance.

On page 8 of Appendix A, FEI states: “Given the goals and practices associated with amalgamation, looking at each separate MX project as needing to be cost-effective on an individual basis may not be appropriate as it does not reflect the goal of treating customers the same regardless of their individual location and costs.”

40.2 Is the “goal of treating customers the same regardless of their individual location and costs” consistent with the statement on page 19 of the 1996 System Extension that it is “appropriate to also require greater precision in the determination of the net revenue which offsets these costs”? Please explain why, or why not.

**41.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4, p. 50; Order G-120-15
FEI 2014-2019 Multi-Year Performance Based Ratemaking Plan (PBR)**

41.1 If the Application is approved as filed, will changes to the MX test be treated as an exogenous factor in the PBR? Please explain why, or why not.

41.2 Please provide a schedule showing the differences between 2014 PBR growth capital and costs forecast in the 2014 main extension test by account.

41.3 If the Application is approved as filed, does FEI expect to construct any main extensions that will exceed FEI’s PBR materiality thresholds of \$15 million or its Certificate of Public Convenience and Necessity dollar threshold of \$15 million during the term of the PBR?

M. OTHER

**42.0 Reference: CUMULATIVE IMPACT AND SUMMARY
Exhibit B-1, Section 4.1.5, pp. 59, 60; Section 3.2.4.1, Figure 3-1, pp. 29–31;
FEI 2007 System Extension Proceeding, Exhibit B-1, pp. 8, 9
Cumulative impacts**

On page 59 and 60 of the Application, FEI explains:

...the estimated annual cumulative rate impact of all of these changes is approximately \$0.003 per GJ as follows:

Table 4-5: Approximate Delivery Rate Impact of Recommendations⁶⁵

Recommendation	Approximate Rate Impact (\$/GJ)
Extending DCF Term to 40 years	\$0.002
Extending Customer Additions forecast to 10 years	-
Sliding Scale Overhead	\$0.001
Discontinue Use of Energy Efficiency Credits	-
	\$0.003

42.1 Please provide the approximate delivery rate impact assuming the proposed increase to the SLCA, and separately assuming the proposed System Extension Fund is approved.

42.2 Please provide the approximate cumulative delivery rate impact assuming all of FEI’s

recommendations are approved.

42.3 Please fill in the table in the attached Excel spreadsheet and discuss the results.

42.1 Please explain why FEI has proposed adjustments to the inputs to the MX test but not to the individual PI threshold or the aggregate PI threshold.

42.2 Please fill in the following table and discuss:

1. 2014 Main Extensions	2. Forecast PI	3. Forecast PI assuming all approvals sought are approved	4. Difference (2 -3)
FEI Top 5 – 1			
FEI Top 5 – 2			
FEI Top 5 – 3			
FEI Top 5 – 4			
FEI Top 5 – 5			
FEVI Top 5 – 1			
FEVI Top 5 – 2			
FEVI Top 5 – 3			
FEVI Top 5 – 4			
FEVI Top 5 – 5			

On pages 29, 30 and 31 of the Application, FEI explains and shows in Figure 3-1, that natural gas prices have decreased since 2007, are below those observed in 2007 and are currently more competitive than heating oil, propane and electricity on an operating basis for heating and hot water.

On pages 8 and 9 of FEI’s 2007 System Extension application, FEI justified “a reduction in the upfront connection costs partly on the basis that ‘...the price differential between gas and electricity has narrowed and has eroded much of the traditional operating cost advantage of natural gas’ and as such it ‘...is the belief of the Companies that...a reduction in the upfront connection costs is appropriate and should be made at this time.’”

42.3 Considering gas commodity prices are lower now than they were in 2007, please discuss how FEI proposes the Commission take into account the effects the 2007 changes had on the upfront connection costs.

**43.0 Reference: SYSTEM EXTENSION POLICY REVIEW
Exhibit B-1, section 3.2.4.1, pp. 29–31
Provide an energy choice**

On page 30, Figure 3.2 shows the BC Hydro electricity vs. FEI Mainland burner tip rates.

On page 31, FEI states: “Customers want access to natural gas to save money on their total utility bills

since heat and hot water are the biggest energy requirements in homes, and natural gas is less expensive to operate compared to heating oil, propane and electricity.”

- 43.1 Please expand Figure 3.2 to show 2007 through 2015.
- 43.2 If upfront costs for appliances or a potential CIAC is included, would natural gas still have a competitive advantage over electricity? If not, please estimate the time horizon that it will take for natural gas customer savings to break even compared to electricity. State the assumptions.
- 43.3 Suppose natural gas becomes relatively more expensive compared to heating oil and propane, would it be fair to say that FEI is exposed to uneconomic customers and possibly stranded assets where these customers will substitute to other fuel?

**44.0 Reference: RECOMMENDATIONS
Exhibit B-1, Section 4.6.4, p. 69
Recognizing First Nations**

In section 4.6.4, FEI states: “... one of the stakeholders in the Review, Seabird Island Band, will have much greater opportunity to access service as a result of the changes put forward by the Company.”

- 44.1 Please demonstrate the Seabird Island Band case with the proposed changes. Compare with the existing MX Test.

**45.0 Reference: SYSTEM EXTENSION POLICY REVIEW
Exhibit B-1, Section 3.3.3, p. 41
Service to off system communities**

On page 41, FEI states:

In BC, similar government policy promoting the expansion of natural gas to off system communities does not yet exist as it does in Ontario, Quebec and parts of the US. The Company notes that having a supportive government policy is critical to the successful development of a program to serve these types of customers. FEI intends to continue to pursue the need to provide natural gas service to off system communities with the provincial government. Consequently, FEI does not make any related recommendations in this Application.

The Ministry of Energy and Mines and Responsible for Core Review states¹⁴:

There are close to 70 remote communities in B.C. that are not connected to the major natural gas or electricity grid. These communities have challenges and opportunities in their energy systems that are very different than grid connected communities. The Ministry’s community energy solutions support in these communities is tailored to these unique situations.

The Remote Communities Regulation was issued in conjunction with Special Direction 10 to support the 2007 Energy Plan Policy Action #27 that allows BC Hydro to offer electric utility service to interested and eligible remote

¹⁴ <http://www.empr.gov.bc.ca/RET/COMMUNITYENERGYSOLUTIONS/RCCEP/Pages/default.aspx>

communities.

- 45.1 Please define on and off system communities. What criterion is used to determine whether or not a community is on system or off system?
- 45.2 Please explain how the 200m threshold noted in Section 28 and 29 of the *Utilities Commission Act* apply to FEI’s current test and how it relates to the Fund, if at all.
- 45.3 On page 33 of the Application, FEI states that there are 180 off-system communities throughout BC that do not have access to natural gas service. However, the Ministry of Energy and Mines indicates that close to 70 remote communities in BC are not connected to the major natural gas or electricity grid. Please clarify the statistics regarding the number of off-system communities.
 - 45.3.1 Of the 180 off system communities, how many of them actually have a community energy plan that they wish to receive natural gas service and pay for the infrastructure?
- 45.4 FEI submits that it does not make any recommendations regarding off system communities in this Application. Please confirm that the proposed \$1 million SEF will not have any impact in servicing off system communities. If not confirmed, please clarify.
- 45.5 Please provide the status of FEI’s efforts to pursue providing natural gas service to off system communities with the government. To expand natural gas service to off system communities, would FEI require government support similar to the BC Hydro’s Remote Community Regulation?¹⁵

**46.0 Reference: SUPPORT GOVERNMENT OBJECTIVES
Exhibit B-1, Section 3.2.4.3, p. 33; Section 3.2.4.1, p. 30
Low cost energy: BC Hydro electricity versus FEI natural gas rates**

On page 33 of the Application, FEI states that the expansion of access to natural gas services supports the following government objective: “Assisting in meeting the legislated greenhouse gas (GHG) emissions targets and related energy objectives set forth in the *Clean Energy Act* (CEA).”

- 46.1 Please complete the following table, providing the GHG emissions in CO₂e. Please insert a new row for each type of attachment that would otherwise be categorized as “Other.”

	Column 1	Column 2	Column 3	Column 4	Column 5
Row 1	Type of Attachment	New Customer Attachments from 2008 through to 2014			
Row 2		Number	% of Total	GHG Emissions**	% of Total GHG Emissions
Row 3	New*				
Row 4					
Row 5	Fuel Switch from:				
Row 6	Electricity				
Row 7	Wood				
Row 8	Heating Oil				
Row 9	Propane				
Row 10	Other				
Row 11	Total				

* - New refers to customers of new developments who are not fuel-switching

** - GHG Emissions refers to GHG Emissions from using FEI's Natural Gas system

¹⁵ http://www.bclaws.ca/civix/document/id/complete/statreg/240_2007