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November 13, 2015

Via Email
Original via Mail

Commercial Energy Consumers Association of British Columbia
c/o Owen Bird Law Corporation
P.O. Box 49130
Three Bentall Centre
2900 – 595 Burrard Street
Vancouver, BC
V7X 1J5

Attention: Mr. Christopher P. Weafer

Dear Mr. Weafer:

Re: FortisBC Energy Inc. (FEI)
2015 System Extension Application (the Application)
Response to the Commercial Energy Consumers Association of British
Columbia (CEC) Information Request (IR) No. 2

On October 2, 2015, FEI filed its responses to IRs No. 1. In accordance with Commission Order G-170-15 setting out the Amended Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to CEC IR No. 2.

If further information is required, please contact Brent Graham at 604-592-7857.

Sincerely,

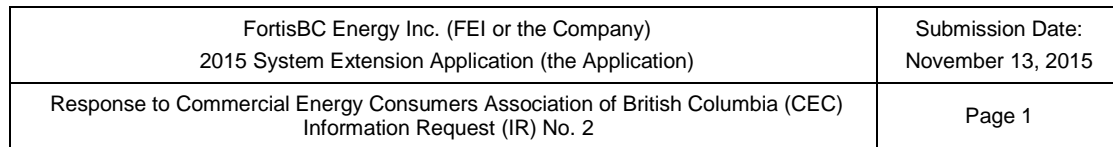
FORTISBC ENERGY INC.

Original signed by: Ilva Bevacqua

For: Diane Roy

Attachments

cc (email only): Registered Parties



On pages 13 - 14 of the Guidelines, the Commission notes:

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. [Emphasis added]

The Company believes the exercise of defining a social cost-benefit perspective and a corresponding 'social discount rate' falls well beyond the scope of this Application. The social perspective and what constitutes societal costs and benefits is really a matter of provincial policy and it is in this forum that the societal-cost perspective and the corresponding social discount rate would be most appropriately defined, from a wider policy perspective. For this reason, the Company agrees with the Commission in its Guidelines that the appropriate social discount rate would be one that was adopted or mandated by the provincial government for public investment projects by ministries or Crown Corporation.

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NOW THEREFORE pursuant to Sections 28 to 30 and 59 to 61 of the Utilities Commission Act, the Commission orders as follows:

1. Effective January 1, 2016, with respect to FEI's MX Test, FEI is directed to:

- a. Discontinue the use of the 20 year term and apply a 40 year Discounted Cash Flow term for use in the MX Test.
- b. Consider a 10 year horizon for customer attachments in circumstances when the party requesting an extension can reasonably demonstrate the existence of a long term plan for growth that exceeds 5 years.
- c. Apply the sliding-scale methodology as proposed in the Application to calculate the overhead rate for main extensions where capital costs are forecast to be greater than \$25,000.
- d. Discontinue the application of the +10% and +15% Energy Efficiency Consumption credits for customers with high efficiency and LEED certified appliances.

1.1 Please confirm that under Sections 28 to 30 of the Utility Commission Act (UCA), the Commission must consider the public interest in its approval of system extension.

Response:

Confirmed.

1.2 Please confirm that under Sections 59 – 61 of the UCA the Commission must ensure that rates are fair, just and reasonable, and are not unduly discriminatory.

Response:

Confirmed.

1.3 Please confirm that neither the Province of BC nor the Commission has a prescribed social discount rate.

Response:

FEI is not aware of a prescribed social discount rate of the Province or Commission.

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- 1.4 Please confirm that in considering the public interest for the extension of service, the Commission must consider a broad range of public issues including but not limited to:
- The value of choice in energy services for potential customers in BC;
 - The value of energy services provided on a postage stamp basis;
 - The long term potential for development of community neighbourhoods;
 - The potential for economic variability in any given period of time to arbitrarily impact particular customers;
 - The fact that natural gas service incorporates an embedded price of carbon in the form of a carbon tax to explicitly deal with GHGs as a social issue;
 - The fairness in the degree of consistency of impacts arising from the extension of electrical service compared to natural gas service;
 - The merits in sharing the heritage value of embedded cost service with new customers;
 - The fairness in providing natural gas service, particularly for communities bearing the environmental and social costs of providing natural gas to customers in the province, and for economic development benefits for all citizens of the province;
 - The appropriateness of not over-burdening new customers having efficient use of natural gas and efficient building envelopes and behaviours;
 - The fairness of determining extension costs applicable to the initial customers in a large-scale phased development where social and economic policy of the municipalities and developers requires long-term staged development; and
 - The merits of inclusiveness in serving cities and towns that want service and are within a reasonable range of costs for providing the service.

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1 **Response:**

2 FEI agrees the list reflects considerations in the public interest but notes that not all the items
3 need to be prevalent to determine public interest or that each item carries similar weight.

4

5

6

7 1.4.1 Please provide any other public interest considerations that FEI would
8 find reasonable for the Commission to consider and/or have been
9 brought to FEI's attention in its consultation processes.

10

11 **Response:**

12 It is not possible or practical to exhaustively define the public interest. There are no doubt other
13 considerations, but the list provided in CEC IR 2.1.4, and FEI's response to CEC IR 2.2.1.1, as
14 well as those documented in the Application and two rounds of IRs capture significant
15 considerations in the context of this Application. Note that not all considerations are required to
16 be met to determine public interest.

17

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1 2 **Reference: Exhibit B-6, CEC 1.2.2; Exhibit B-1, Page 9 and Exhibit B-6, CEC**
2 **1.4.1.5**

On pages 13 - 14 of the Guidelines, the Commission notes:

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 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. [Emphasis added]

Today, 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 and no utilities evaluate system extensions using a social discount rate as specified in the Guidelines. .

The Company believes the exercise of defining a social cost-benefit perspective and a corresponding 'social discount rate' falls well beyond the scope of this Application. The social perspective and what constitutes societal costs and benefits is really a matter of provincial policy and it is in this forum that the societal-cost perspective and the corresponding social discount rate would be most appropriately defined, from a wider policy perspective. For this reason, the Company agrees with the Commission in its Guidelines that the appropriate social discount rate would be one that was adopted or mandated by the provincial government for public investment projects by ministries or Crown Corporation.

Please also refer to the response to BCSEA IR 1.3.1.

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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:

- 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).

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Response:

As indicated in the response to CEC IR 1.2.2, evaluation of a system extension policy from a social perspective, which applies a social discount rate, is a matter of provincial policy. As no such perspective has been defined provincially, the Company is unable to comment on whether or not a social perspective would become more relevant as the size of the area in which customers are located and are to be integrated into the FEI network increases.

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2.1 Please confirm or otherwise clarify that a test of the public interest includes an understanding of the societal benefits.

Response:

Confirmed.

2.1.1 If confirmed, please discuss the public interest in connecting new customers from a societal perspective.

Response:

The public interest includes consideration of both existing and potential new customers, as well as the broader economic, social and environmental implications. Key considerations relevant to

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the public interest in connecting new customers from a social perspective are reflected in the Guiding Principles identified in stakeholder consultation:¹

1. Provide energy choice;
2. Protect existing customers;
3. Support government objectives;
4. Recognize First Nations; and
5. Easy to understand.

The Guiding Principles have served to capture the varying interests of the stakeholders involved in the review of FEI's system extension policies.

From FEI's perspective, the issue can be summarized as balancing the needs of providing fair access to energy choice for all new customers against protecting existing customers from harm in the form of unwarranted rate increases. Ultimately, the issue boils down to the mechanics of whether or not a new customer has to pay a CIAC since the presence or absence of a CIAC impacts the energy choice of new customers and the rates of existing customers.

FEI believes that the recommendations in the Application will better serve the public interests since they are designed to fairly update the circumstances under which a CIAC will be required, resulting in a re-balancing of the interests of new and existing customers.

- 2.2 Please explain how FEI, the Commission and interveners should assess the 'reasonable consideration of externalities (for the social perspective evaluation)' as provided for in the Commission's recommendation 5(f) above.

Response:

As indicated in the response to BCSEA IR 1.3.1, the Company's view of what constitutes 'externalities' and how they should be assessed is consistent with that described in Section 5.2 of the Guidelines referenced below:

As noted in the Phase II Decision, which preceded the Decision, the Commission believes that a reasonable consideration of externalities is limited to externality

¹ Refer to section 3.2.4 of the Application.

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1 considerations that have the potential, in the judgment of the Commission, to eventually
2 emerge as unavoidable regulatory costs for the Utilities and their customers. [Emphasis
3 added.]

4 Please refer to the response to IR CEC IR 1.2.2 and BCSEA 1.3.1 for discussion related to the
5 social perspective evaluation.

6 While the Guidelines have given the term “externalities” a specific meaning in this context, it
7 remains the case that the broader public interest is in play when the MX Test is being
8 considered by the Commission. Key aspects of the public interest are reflected in the Guiding
9 Principles from the stakeholder workshops. The Company’s proposal to change some of its
10 parameters was made in consideration of the Guiding Principles from the stakeholder
11 workshops, which factored in the objectives of providing energy choice, supporting government
12 objectives and recognizing First Nations (which are external “Societal” or “Social”
13 considerations). The effect of this consideration is an MX Test that lowers barriers (particularly
14 required CIACs) to accessing natural gas services.

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18 2.3 What criteria should the Commission consider in the ‘reasonable consideration of
19 externalities’?

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21 **Response:**

22 Please refer to the response to CEC IR 2.2.2.
23

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1 **3. Reference: Exhibit B-6, CEC 1.32.1 and Exhibit B-3, BCUC 1.32.5**

Response:

For clarity, the Company's reference to the norm is with respect to the reporting requirements of some of the other utilities. The EES Report attached as Appendix A to the Application contains the results of a utility survey which found that the Company's reporting requirements are the most stringent out of all the utilities surveyed. For instance, in BC, neither BC Hydro nor PNG is obligated to provide the annual reporting that is required of FEI. Further, ATCO Gas is in the process of eliminating any reporting requirements as part of their PBR (Performance Based Ratemaking).

In total, the Company estimates the MX Report, excluding extraneous activities, requires approximately 500 labor hours, costing approximately \$100,000 annually to produce. Please refer to the response to BCUC IR 1.32.2.

2

32.5 Please explain how the costs of FEI's proposed changes to the reporting regime would affect PBR.

Response:

FEI does not anticipate any incremental O&M savings as a result of the reporting changes being proposed. Savings will be in the form of reduced unpaid overtime, and an ability to focus the existing resources on other value added projects.

Under the PBR, the Company is encouraged to find efficiencies. If there were any O&M savings they would properly be the subject of earnings sharing under the PBR framework. As such, no changes to the PBR are required.

3

4 3.1 Are any of the costs associated with producing the MX report flowed through
5 under PBR, or are they all O&M expenditures?

6

7 **Response:**

8 All of the costs associated with producing the MX Report are O&M costs which are part of the
9 O&M that is under the PBR formula, and are therefore not flowed through outside of the
10 formula.

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14 3.1.1. If there are flow-through savings, please describe and quantify where
15 possible.

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1 **Response:**

2 As described in the response to CEC IR 2.3.1, there are no flow-through savings.

3
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6 3.2 Please identify any prospective savings that could accrue to customers from the
7 proposed changes in reporting.

8

9 **Response:**

10 As stated in the response to BCUC IR 1.32.5 quoted in the preamble, there are no incremental
11 savings that FEI anticipates during the current PBR term, and therefore no savings would
12 accrue to customers from the proposed changes in reporting during the PBR term. If any
13 unanticipated savings are realized, they will be shared 50/50 with customers under the earnings
14 sharing mechanism under FEI's PBR Plan and result in lower O&M after the PBR term is over.

15
16

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18 3.3 What are the 'extraneous' activities referenced in the Company's estimate of the
19 cost of producing the MX Report. Please identify and quantify.

20

21 **Response:**

22 The "extraneous" activities were defined by the Commission in BCUC IR 1.32.2 to be "EES
23 reports, the consultation activities for this application and these application costs." The estimate
24 of MX report costs that was provided in response to that IR did not include the "extraneous"
25 costs, as per the Commission's request. However, the amount and nature of these costs can
26 be found in response to BCUC IR 2.27.10.

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29

30 3.4 Please explain why the MX Report costs approximately \$200/hour to produce.

31

32 **Response:**

33 Please refer to the response to BCUC IR 2.27.7.

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4 3.5 Please identify whether or not the cost to produce the MX Report, being
5 \$100,000 include actual cost and/or whether or not unpaid overtime is part of the
6 costing and so at what rate it is included.

7

8 **Response:**

9 Please refer to the response to BCUC IR 2.27.7.

10

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1 4 **Reference: Exhibit B-6, CEC 1.7.1**

7.1 Please provide a summary of the rationale for matching revenue forecast to the
IRP planning time frame.

Response:

The following response answers CEC IRs 1.7.1 and 1.7.2.

The use of the 20 year DCF to align with the 20-year planning horizon applied in the Company's Long Term Resource Plan (referred to as Integrated Resource Plan at the time) was at the direction of the Commission. The Commission noted at page 30 of the decision accompanying Order G-101-93 :

The Commission is of the view that a consistent set of evaluative criteria should be generally applied to BCGUL investments, be these main extensions, an LNG plant, transmission lines, DSM programs or appliance marketing. Therefore, the Commission directs BCGUL for the next revenue requirement hearing to align its main extension test more explicitly with the criteria applied in its IRP.

The Company does not believe that the 20-year IRP planning time frame is appropriate for establishing a revenue forecast for main extensions as it does not reflect the full economic impact of a main, and thus has proposed a 40-year DCF term.

2
3 4.1 Do transmission lines, LNG plants, DSM programs or appliance marketing share
4 similar life expectancies? Please explain and provide the life expectancy of FEI's
5 investments that might reasonably be included in the above statement.
6

7 **Response:**

8 FEI notes that the assets referenced in the question (transmission lines, LNG plants, DSM
9 programs) all have life spans that differ from the 20 year IRP planning time frame. FEI no
10 longer participates in appliance marketing.

11 Transmission lines and LNG plants have life expectancies that exceed the IRP planning
12 timeframe. DSM programs and associated costs are amortized over 10 years. It is not clear to
13 FEI how the timeframe considered in the IRP (20 years) relates to the lifespan of the assets
14 under consideration in the MX Test.

15 The lives of FEI's distribution mains are evaluated through a Depreciation Study, as are the
16 lives of FEI's other physical assets. FEI provides the following information on the lives of the
17 depreciable assets listed in the quote.

18 According to FEI's most recent Depreciation Study which was filed with the Annual Review for
19 2016 Rates, Transmission pipelines have an average life expectancy of 65 years. Different

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components of LNG Plant have different life expectancies. For the Mt. Hayes LNG Plant the Depreciation Study recommends the following:

- 15 years for the Control Room;
- 25 years for Structures and Pre-Treatment Equipment;
- 36 years for LNG Measuring and Regulating Equipment;
- 40 years for Piping, Liquefaction Equipment, Send Out Equipment, Substation and Electrical Equipment;
- 60 years for Equipment; and
- 65 years for Mains.

FEI considers the distribution mains that are the subject of the MX Test to have similar life characteristics to its transmission mains (65 years) and also the LNG mains (60 years).

4.2 Are transmission lines, LNG Plants, DSM programs or appliance marketing equivalent in absolute dollar terms for the FEI utility spending?

Response:

No. Please see the table below which provides the last five years additions to rate base for FEI/FEVI combined each of the categories requested in CEC IR 2.4.3, excluding CPCNs. Amounts shown are in \$ thousands. FEI does not have a projection of 2015 actual plant additions for the categories shown.

	Actual				
	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Transmission Mains	8,857	18,910	6,035	15,611	15,206
LNG Plant	529	388	2,511	254	461
EEC Expenditures	12,654	15,486	14,879	14,911	31,618

Based on this summary, it can be seen that these amounts are not equivalent in absolute dollar terms.

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1
2 4.3 Please provide the dollar amount expended on each of transmission lines, LNG
3 Plants, DSM programs and appliance marketing for each of the last five years,
4 including estimates through to the end of 2015.

5
6 **Response:**

7 Please refer to the response to CEC IR 2.4.2.

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1 5 **Reference: Exhibit B-6, CEC 1.9.1**

9.1 Please provide FEI's O&M per customer.

Response:

Please refer to the table below for the O&M per customer included in FEI's 2015 MX Test parameters by customer type.

Customer Class	O&M/Customer
Residential	\$77
Small Commercial	\$81
Large Commercial	\$150
Industrial	\$737

2

3 5.1 Please confirm that the O&M per customer is an annual figure.

4

5 **Response:**

6 Confirmed.

7

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1 **6 Reference: Exhibit B-6, CEC 1.9.4 and BCUC 1.39.1**

9.4 Would FEI agree that to the extent that a new customer contributes to fixed and semi-variable costs in the O&M beyond their incremental variable costs, they are benefiting existing ratepayers?

Response:

FEI agrees that to the extent that customers contribute more than their incremental variable costs, other customers benefit because the fixed costs are spread out over a larger customer base. Please see also the response to BCUC IR 1.39.1.

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.

Response:

Confirmed.

As measured by the MX Test, the proposed policies will continue to encourage additions where the forecast revenues exceed the forecast costs in aggregate, and therefore the additions lead to fixed costs being spread among a greater number of customers.

6.1 Would FEI agree that where the forecast revenues are equal to the forecast costs in aggregate, there is an overall benefit to the public in that there is no harm, and is arguably an incremental benefit, to existing ratepayers, and new ratepayers benefit from receiving service? Please explain why or why not.

Response:

There is an overall benefit to the public when actual revenues are equal to actual costs. New rate payers are able to attach to the system for a reasonable cost and therefore benefit from the utility service. Existing customers benefit when actual revenues are equal to or greater than actual costs (as demonstrated in the Rate Impact Analysis). Please also see section 3.2.4 of the Application and responses to CEC IR's 1.16.1 and 1.18.1.

The MX Test, as an ex ante mechanism, uses forecast revenues and costs in order to make a determination on the attachment of a customer. However, the same principle applies in that so long as forecast costs equal forecast revenues, there is a forecast benefit to the public.

6.2 Please provide FEI's views as to why forecast revenues should exceed forecast costs in aggregate for incremental costs, rather than being equivalent or better.

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Response:

The Company historically proposed 1.1 as the aggregate PI threshold and an individual PI equal to 0.8 in order to have a conservative approach to its system extension policies. FEI notes that in light of the information provided in response to BCUC IR 1.3.1, the 1.1 threshold could be seen as being overly conservative as customers continue to add to mains long after the initial 5 year window considered in the Test. FEI believes an aggregate PI threshold equal to 1.0 is a more fair and reasonable approach to balance the interests of new and existing customers and to realize the incremental benefits referred to in CEC IR 2.6.1.

6.3 Please provide a brief discussion of how BC Hydro determines the appropriateness of extending electrical service in an analogous situation as that being tested in the MX test.

Response:

BC Hydro's method of assessing the appropriateness of extending electrical service is less complex than that of FEI. Unlike FEI, BC Hydro does not consider the consumption of individual appliances in their main extension policies in determining whether a CIAC is required. Note that for electrical service there are many more potential appliances and with the exception of a refrigerator/freezer or heating and cooling equipment it would be difficult to take the approach that FEI uses with appliance consumption. Rather, BC Hydro provides a maximum flat contribution towards an extension that is deducted from the expected cost for the connection. Any residual amount that results would constitute the applicant's required CIAC in order for the electrical extension to proceed.

The flat contribution provided by BC Hydro is derived from a 20-year NPV calculation based on the distribution related capital costs assigned to residential customers in the cost of service study. The allocation of these costs is predominately based on the residential class' aggregate load profile relative to other classes.

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1 7 **Reference: Exhibit B-6, CEC 1.9.6**

9.6 Please provide the methodology used to calculate the SI Charge per GJ.

Response:

A levelized SI Charge per GJ is used in the MX Test and is calculated based on a five year period as follows:

- a) Sum the ensuing five years of distribution system improvement (SI) forecast capital costs;
- b) Divide (A) by the increase to peak day demand over the same 5 years resulting in an SI cost per peak day GJ;
- c) Divide (B) by 365 multiplied by the 5 year average load factor resulting in an SI capital cost per GJ of annual capacity; and
- d) Multiply (C) by the levelized revenue requirement per dollar of capital¹ and the result is the SI charge per GJ.

2
3 7.1 Please confirm that the SI charge per GJ is calculated for the utility as a whole,
4 and not specifically for the customers in question in the main extension test.
5

6 **Response:**

7 Confirmed.
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11 7.1.1 If confirmed, does FEI derive its forecast capital costs from formula
12 under PBR, or does it separately forecast its distribution system capital
13 costs? Please explain.
14

15 **Response:**

16 FEI has derived its capital costs for the SI charge calculation from formula while under PBR.
17 FEI's intention is to manage its capital spending to at or near formula while under PBR so FEI
18 believes it is logical to use the same capital spending in the SI calculation.
19

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1 8 **Reference: Exhibit B-1, page 21 B-6, CEC 1.12.1**

17 **2.2.1.2.2 OVERHEAD**

18 Overhead is a proxy for the incremental overhead that is allocated to an individual project.

19 Overhead is calculated by multiplying mains, services and meter costs by the overhead rate.

20 The overhead rate is updated annually.

2
3

Response:

FEI's 2015 overhead rate included as an MX test parameter is 23.3%.

The annual overhead percentage is a combination of direct and indirect overheads as they relate to capital additions. The direct overhead percentage largely reflects planning costs for main extensions that have not been charged to a specific project. That is, the capital cost for adding a customer can include costs such as planning, drafting, staking, supervision, clean-up and paving. If the customer addition is carried out, these costs are typically charged to the job; however, there are circumstances where these costs are not directly capitalized into the job. For example, if after planning, the customer addition is not performed, the planners time, and any other overhead that would have accumulated until such time that the job is cancelled falls into the category of direct overheads. These overhead costs are added up each year and are divided by the mains and services additions in the year, to calculate a percentage of direct overhead costs applicable to mains and services additions.

The indirect overhead percentage reflects a portion of the general overhead of FEI and is calculated using the following steps:

1. Divide the total capitalized overhead dollars (12% of Gross Operating and Maintenance Expense) that are allocated to services, mains, house regulators and meters (asset classes 473, 474, 475) by the capital additions in those same categories to calculate a percentage.
2. Determine an incremental percent of indirect overheads applicable to mains extensions by using the most recent overhead capitalized study and the overhead capitalized pool represented by Distribution Operations. The Distribution Operations portion represents the portion that is directly attributable (incremental) to mains extensions.
3. Apply the percentage calculated in Step 2 to the percent as determined in Step 1.

The sum of the direct overhead percentage and the indirect overhead percentage is used as a parameter in the MX Test.

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8.1 Please provide an approximation of the ratio that is attributable to direct overhead and indirect overhead.

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Response:

For FEI's 2015 MX Test direct overhead is estimated at 8% and indirect overhead is estimated at 15.3% for a total of 23.3%.

8.2 Please confirm that the 'direct overhead' as outlined above is essentially a sunk cost that is not directly attributable nor incremental to the customer addition in question, but rather an allocation based on past expenses incurred from non-customers.

Response:

Confirmed.

8.3 Are there any direct overhead costs that are directly attributable and incremental to the customer addition in question?

Response:

No, there are no direct overhead costs that are directly attributable and incremental to the customer addition in question.

As described in the preamble to the question, traditionally, direct overhead costs have been treated as those costs that have not been charged to a specific project.

8.3.1 If so, please discuss and provide an estimate of these costs.

Response:

Please refer to the response to CEC IR 2.8.3 where FEI confirms there are no such costs.

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8.4 Please provide the rationale for why capital costs for a customer addition that was not carried out should be included in the economic test for a different prospective customer.

Response:

Generally, the capital costs incurred (a planner's time for example) for an addition that is not carried out would not have occurred if FEI was not adding customers. To that extent, one could consider those costs incremental and caused by customer growth. Consequently, the Company has traditionally considered them an incremental cost of adding customers and accounted for them in the Test.

8.5 Would FEI agree that allocating overhead that is non-incremental to a prospective new customer can theoretically create an increasingly perverse outcome by creating an overly high barrier for the new customer and potentially eliminating their contribution to overhead, such that if fewer and fewer new customers connected due to the costs associated with covering non-incremental and previously existing overhead, then the overhead would be spread over fewer and fewer customers, resulting in a higher and higher barrier?

Response:

Yes, please also refer to the response to CEC IR 2.8.4.

8.5.1 If not, please explain why not.

Response:

Please refer to the response to CEC IR 2.8.5.

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1 8.6 Please confirm that if customer additions were defined as those customers who
2 followed through on their requests, had an aggregate portfolio PI of 1.1 that did
3 not include a calculation of overhead costs, it would result in a portfolio that
4 contributed to overhead costs that would otherwise be borne by existing
5 ratepayers.
6

7 **Response:**

8 Confirmed, although the referenced PI is calculated on a forecast basis.
9
10

11
12 8.6.1 If not confirmed, please explain why not and identify those costs that
13 would not otherwise be borne by existing ratepayers.
14

15 **Response:**

16 Please refer to the response to CEC IR 2.8.6.
17

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1 **9 Reference: Exhibit B-6, CEC 1.28.1 and 1.28.2**

28.1 Please provide an overview of how the overhead costs are calculated and computed annually.

Response:

Overhead is calculated by multiplying an overhead rate by the forecast mains, services and meter costs associated with the extension. Please refer to the response to CEC IR 1.12.1 for discussion on the determination of the overhead rate.

2

28.2 Please provide the annual overhead rates between 2004 and 2014.

Response:

The overhead rates FEI used for the MX test are provided in the table below.

Year	Overhead Rate
2004	32.0%
2005	32.0%
2006	32.0%
2007	32.0%
2008	32.0%
2009	32.0%
2010	32.0%
2011	30.0%
2012	27.4%
2013	27.0%
2014	26.3%

3

4 9.1 What is causing the overhead rates to decline over time? Please explain.

5

6 **Response:**

7 As demonstrated by the table, prior to 2011 FEI had not updated the calculation of the overhead
8 rate within the MX test since 2004. In 2011, FEI began to update the overhead rate parameter in
9 the MX Test on an annual basis. The overhead rate calculation method as described in
10 response to CEC IR 1.12.1 has been updated annually since 2011. From 2011 through 2014
11 FEI has been reducing its capitalized overheads in relation to its direct capital spending;
12 consequently the overhead rate in the MX Test has followed this decline.

13

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1 **10 Reference: Exhibit B-6, CEC 1.14.5**

Year	Total Expenditures on Main Extensions	Total Expenditures on Main Extensions that Required CIAC's
2008	\$ 18,854,976	\$ 366,394
2009	\$ 8,652,598	\$ 308,824
2010	\$ 6,947,390	\$ 302,157
2011	\$ 7,994,503	\$ 125,015
2012	\$ 8,055,730	\$ 325,606
2013	\$ 6,932,818	\$ 407,998
2014	\$ 8,114,041	\$ 482,931
Total	\$ 65,552,056	\$ 2,318,924

*Costs presented are excluding all customer contributions

2
3 10.1 Why were expenditures on main extensions so much higher in 2008 than in any
4 of the following years?

5
6 **Response:**

7 Expenditures on main extensions were much higher in 2008 due to 40% to 50% more mains
8 installed in that year compared to the following years. For instance, the average number of
9 mains installed from 2009 to 2014 was approximately 700 per year compared to nearly 1,300
10 mains installed in 2008.

11
12
13
14 10.2 Please provide the CIACs for the above table.

15
16 **Response:**

17 The requested data is provided below. In 2012 for example, FEI's expenditures were \$325,606
18 and the remaining \$639,581 was paid by customers in the form of CIACs, such that the total
19 costs (company paid and customer paid) to install all main extensions that required CIACs was
20 \$965,187.

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Year	Total Expenditures on Main Extensions*	Total Expenditures on Main Extensions that Required CIAC's*	CIAC
2008	\$ 18,854,976	\$ 366,394	\$ 539,951
2009	\$ 8,652,598	\$ 308,824	\$ 479,393
2010	\$ 6,947,390	\$ 302,157	\$ 394,528
2011	\$ 7,994,503	\$ 125,015	\$ 629,518
2012	\$ 8,055,730	\$ 325,606	\$ 639,581
2013	\$ 6,932,818	\$ 407,998	\$ 525,679
2014	\$ 8,114,041	\$ 482,931	\$ 686,714
Total	\$ 65,552,056	\$ 2,318,924	\$ 3,895,364

*Costs presented are excluding all customer contributions

1

2

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1 11 **Reference: Exhibit B-6, CEC 1.18.1**

Response:

The following response addresses CEC IRs 1.18.1 to 1.18.3.1.

Yes, FEI believes that stakeholders have expressed perceived value for having choice amongst alternatives regardless of perceived costs and benefits. Pages 31 to 32 of the Application provided a summary of the need for greater customer choice and the challenges and opportunities stakeholders face in having access to this choice.

The Commission has also identified the benefits of customer choice in energy through the AES Inquiry proceeding, which was highlighted by FEI in its Final Submissions in the Creative Energy Platforms Inc. for a Low Carbon Energy System Application:

“The Commission recognized in the AES Inquiry Report that choice and competition at the developer level ultimately benefit end users. It concluded that competition should be preferred and not be hindered where competition is feasible.”⁵

2
In addition to the inherent benefits of choice, and the competitive benefits customers enjoy as a result of the ability to choose between a variety of energy providers, there are a number of benefits of using gas including reliability, comfort and convenience. In FEI's experience, customers value the reliability and comfort provided by natural gas for heat and hot water applications. Moreover, customers express a preference for natural gas appliances such as barbeques, cooktops and fireplaces. Stakeholders identified that there are environmental benefits of using natural gas, compared to higher GHG fuels such as heating oil and propane and compared to wood in terms of particulate matter savings. Lastly, customers have expressed that the price of energy is a key factor in making a decision on energy. Customers who choose gas will benefit from access to an energy form that is one-third the price of electricity.

3
4 11.1 Is it appropriate for the Commission to address the value of choice in a test of the
5 public interest for a specific application before it? Please explain why or why not.

6
7 **Response:**

8 FEI considers that it is appropriate for the Commission to consider the value of choice in the
9 context of this Application. The value of choice is a public interest consideration and the test to
10 be applied in approving the MX Test involves a consideration of the public interest.

11 Further, the Company believes that the outcomes of the stakeholder consultation should be
12 taken into account by the Commission since they were intended to inform the Company's
13 recommendations in the Application. Since the issue of the value of choice was captured in
14 “Provide Energy Choice,” one of the Guiding Principles developed with stakeholders, the extent
15 to which the Company's recommendations help to provide energy choice should be considered
16 by the Commission.

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11.1.1 If yes, should the Commission incorporate the value of choice in its evaluation of the appropriateness of the MX test? Please explain why or why not.

Response:

Yes, for the reasons described in the response to CEC IR 2.11.1.

11.1.2 Please confirm that renewable natural gas from the biomethane program is incorporated into the natural gas system as a whole, and is paid for by the biomethane customers, except to the extent that there is excess supply over and above what biomethane customers buy.

Response:

Currently, all costs associated with the Biomethane Program are captured in the Biomethane Variance Account (BVA) and embedded in the Biomethane Energy Recovery Charge (BERC) and applied to customers who choose Renewable Natural Gas. The BCUC also provided a mechanism (in Order No. G-210-13) whereby unrecovered BVA costs can be transferred to the MCRA. Interconnection costs that were approved prior to Order G-210-13.² are also embedded in delivery rates.

In an application filed on August 28, 2015, FEI proposed changes to the BERC methodology which, if approved, will set out the mechanism for how otherwise unrecovered costs will be recovered through both Storage and Transport and Delivery rates.

11.1.3 Please confirm that all customers who connect under the MX test will have the opportunity to purchase renewable natural gas except in Revelstoke.

² BCUC Letter L-10-14 Response to Request for Clarification.

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1

2 **Response:**

3 Confirmed. Customers who connect to the natural gas system and qualify to take service under
4 Rate Schedule 1B, 2B, 3B, 5B or 11B are eligible to purchase renewable natural gas.

5

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1 12 **Reference: Exhibit B-1, Pages 37 and 55 and Exhibit B-6, CEC 1.25.1**

4.1.2.1 Recommendations for Customer Addition Estimate

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. The eligibility for the use of a 10 year customer addition forecast in the MX Test will be limited to developers and municipalities on a case by case basis. Requests will be evaluated throughout the year by FEI. FEI 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.

2

3.3.1.3 Customer Forecast Period

A second area where FEI believes that there is room for improvement in the existing MX Test is the customer forecast period. For the majority of main extensions, the current 5 year horizon for customers may be sufficient; however, for projects with a longer horizon, a longer term would be appropriate.

As discussed in Section 2, the MX Test currently allows for a five year window in which to consider the customers added to a main extension and the scope of the build out of the main extension itself. As a result, the PI of a project is contingent upon the number of customer attachments expected to occur in the first five years of a main extension and any customers added beyond the first 5 years have no consideration in the MX Test revenue calculation.

3

- 25.1 Please confirm that the current 5 year horizon for the majority of main extensions is sufficient because there will be enough customers so that a CIAC would not be required.

Response:

FEI confirms that the current 5 year horizon is sufficient for the majority of main extensions. However, this expectation is not predicated upon a CIAC not being required. FEI believes there will continue to be main extension projects where a 5 year forecast is appropriate and a CIAC will be required.

4

- 5 12.1 What, if any, difficulties would arise if the company used a 10 year planning
6 horizon for all its customer attachments subject to an MX test?
7

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1 **Response:**

2 FEI does not foresee any difficulties if it were to use a 10 year planning horizon for all its
3 customer attachments subject to an MX Test. FEI notes that this practice is currently followed
4 in other jurisdictions without any special compliance reporting. Consequently, FEI would be
5 supportive if the Commission were to decide that the Company should use a 10 year forecast
6 for all projects requiring an MX Test.

7 In the Application, the Company addressed a specific gap whereby customers who could
8 demonstrate that there was a plan for attachments beyond the five year window were not able
9 to use these attachments in the MX Test. The Company has also proposed to provide
10 compliance reporting specific to the use of a 10 year forecast in an effort to allow the
11 Commission greater oversight of this change in policy than would be the case in Ontario where
12 there is no equivalent reporting.

13

14

15

16 12.1.1 If there are difficulties, please explain why they are difficulties.

17

18 **Response:**

19 There are no difficulties. Please refer to the response to CEC IR 2.12.1.

20

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1 **13 Reference: Exhibit B-6, CEC 1.25.1.4**

25.1.4 Please explain whether or not there is a maximum period or whether really the period is variable by extension and dependent significantly on the size and complexity of the development requiring the main extension.

Response:

The customer forecast period is variable by each extension and depends significantly on the size and complexity of the development requiring the main extension. Consequently, FEI is proposing to use a 10 year forecast on a case by case basis to respond to the unique circumstances of each main extension project.

2

3 13.1 Would it be reasonable for FEI address all extensions on a case by case basis so
4 that the forecast period is always dependent upon the anticipated project life?
5 Please explain why or why not.

6

7 **Response:**

8 FEI believes that it is important to have a base number of years that attachments should be
9 considered in the context of the MX Test. Currently the maximum number of years that
10 attachments can be considered in the MX Test is five years. FEI has requested approval to
11 increase this to ten years where there is evidence that attachments may occur after the five year
12 window. In practical application, FEI currently looks at each main extension and inputs the
13 number of attachments up to the five year window, however this may result in there only being
14 attachments for one or two years as that is all that the developer has planned. In this case the
15 FEI is already doing what the question asks. The request in the Application would extend this
16 window to ten years. This would allow for all the attachments in a development that had an 8
17 year build out, for example, to be considered in the MX Test.

18 The proposal by FEI to increase the attachment window to 10 years is consistent with the
19 Commission's Guidelines that suggest system extension policies should have a term long
20 enough to consider the full impact of the revenue and costs over the life of the extension.

21

22

23

24

25 13.2 If no, would it be reasonable to provide forecasts for projects based on type of
26 project or other criteria, such that certain types are subject to five year forecast

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1 period, certain project types are subject to a 10 year forecast period and others
2 are subject to a longer period? Please explain why or why not.

3
4 **Response:**

5 Please refer to the response to CEC IR 2.13.1.

6
7
8
9 13.3 If it would be useful to provide forecasts based on project types, what would be
10 the most logical criteria by which to group projects? Please provide an
11 explanation.

12
13 **Response:**

14 As noted in response to CEC IR 2.13.1, it would be possible to match the projected forecast
15 period to the anticipated project life. However, as every project is different it is not possible to
16 group forecasts into project types. There are unique circumstances with every project, and
17 there are inherent difficulties in grouping projects into a finite number of logical criteria.

18
19
20
21 13.4. Please confirm that on a case by case basis some project lives would exceed 10
22 years and could do so by a significant margin, of perhaps double or triple or more
23 than the proposed 10 years.

24
25 **Response:**

26 Confirmed.

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1 14 **Reference: Exhibit B-6, CEC 1.33.2**

Response:

It is reasonable to expect a forecast to even out over time. This is particularly true with main extensions as more customers will attach to a main throughout the useful life of the main. As shown in the response to BCUC IR 1.3.1, a significant portion of actual customer attachments happen beyond a five or even 10 year forecast, suggesting that the actual number of customer attachments at end of the life of the main extension could exceed the original forecast.

2

3 14.1 Please confirm that a 5 or even 10 year time horizon may result in a skewed
4 result if there is an economic downturn or other event that results in an
5 unexpected shift in the circumstances of the project.

6

7 **Response:**

8 Confirmed.

9 Regardless of the time horizon used in the MX Test, an economic downturn or other event
10 outside the control of the Company may skew results over the short term. However, in FEI's
11 experience, even delayed attachments, such as those following the global financial crisis of
12 2008 that negatively impacted the B.C. housing market, materialize over a longer time frame.

13

14

15

16 14.2 Would a forecast that considered the entire life of the main extension be more
17 accurate than one that considered only 5 or 10 years? Please explain why or
18 why not.

19

20 **Response:**

21 Since attachments occur well beyond a 5 or 10 year horizon, as shown in the response to
22 BCUC IR 1.3.1, FEI believes that a forecast that considered the entire life of the main would
23 appropriately capture the impact of customers attaching to the system over the life of the asset.
24 However, FEI notes that there would be practical challenges forecasting customer attachments
25 out as far as 64 years.

26

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1 **15 Reference: Exhibit B-6, CEC 1.36.2**

36.2 Please provide further details as to why FEI selected 40 years as the appropriate term when the service life of a main is considerably longer.

Response:

This answer responds to CEC IRs 1.36.2 to 1.36.3.2.

FEI considered a DCF term as long as 65 years, which would be consistent with the life of a distribution main, and performed certain analyses (Tables 4-2 and 4-3 of the Application) using DCF terms as long as 50 years. Although an argument could be made for increasing the DCF term to 50 years or greater, the Company selected a 40 year DCF for the following two main reasons:

- Extending the DCF term to 40 years will not unduly burden existing customers as it will have a minimum impact on rates of \$0.002/GJ, with a reduction of \$2.0 million in CIAC; and
- Consistency with other utilities surveyed.

3

4 15.1 Please explain whether or not a DCF of 50 to 60 years would ‘unduly burden
5 existing customers’ and explain why.

6

7 **Response:**

8 A DCF of 50 to 60 would not unduly burden existing customers. First, these terms have a similar
9 impact on rates as a 40 year DCF as seen in Table 4-3 of the Application that shows a 50 year
10 rate impact of \$0.002/GJ, all else equal. Second, it is possible that by extending the DCF term
11 to 50 to 60 years, the CIAC barrier will decrease such that more incremental customers may
12 attach than with a 40 year DCF. Thus, the rate impact on existing customers may be lower with
13 a 50 to 60 year DCF.

14 FEI notes an error in the response to CEC IR 1.36.1 in the following sentence: “...will not unduly
15 burden existing customers as it will have a *minimum* impact on rates of \$0.002 GJ, ...”
16 [emphasis added]. The response should have read “...*maximum* impact...”. In other words, the
17 worst case scenario is \$0.002/GJ because it does not take into account the possibility that
18 extending the DCF will add incremental customers that wouldn’t have attached in absence of a
19 longer DCF.

20

21

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1
2 15.2 What is the value of consistency with other utilities?
3

4 **Response:**

5 FEI believes that there is value in understanding the practices being followed by other utilities.
6 In so doing, FEI is able to learn from research and practical efforts other utilities undertake and
7 therefore FEI can make more informed decisions on its own applications or practices.
8

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1 **16 Reference: Exhibit B-6, CEC 1.36.2 and 1.36.4**

FEI considered a DCF term as long as 65 years, which would be consistent with the life of a distribution main, and performed certain analyses (Tables 4-2 and 4-3 of the Application) using DCF terms as long as 50 years. Although an argument could be made for increasing the DCF term to 50 years or greater, the Company selected a 40 year DCF for the following two main reasons:

Response:

The Company is not able to forecast the number of customers that would change their decision to install natural gas due to the DCF term being extended and thus cannot provide the expected CIAC contribution if the 40 year DCF were approved. However, it is forecast that the frequency of the CIAC will decrease from 10% of the total main extensions to 4.8% as seen in Table 4-3 of the Application (all else equal).

16.1 Please provide an estimate of the decrease in the frequency of the CIAC for terms of 50 years, 60 years and 65 years.

Response:

The Company has provided the requested updates to the DCF analysis. Table 4-3 from the Application is included below with additional analysis for DCF terms of 55 and 60 years. The Company's MX test model is currently designed to analyze DCF terms of up to 60 years. Therefore, the Company is not able to provide estimates for a 65 year DCF term within the time frame available.

DCF Term	20	30	35	40	45	50	55	60
Present Value of Revenue ('000)	\$9,128	\$11,573	\$12,399	\$13,053	\$13,550	\$13,944	\$14,251	\$14,493
Total Contributions Received ('000)	\$3,860	\$2,392	\$2,104	\$1,913	\$1,779	\$1,689	\$1,621	\$1,572
Decrease In Contributions ('000)	\$0	(\$1,468)	(\$1,756)	(\$1,947)	(\$2,081)	(\$2,171)	(\$2,238)	(\$2,288)
Change in Delivery Cost per GJ	\$0.000	\$0.001	\$0.002	\$0.002	\$0.002	\$0.002	\$0.002	\$0.002
Total Number of Contributions	551	338	291	261	245	236	229	220
% Contributions	10.0%	6.2%	5.3%	4.8%	4.5%	4.3%	4.2%	4.0%

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1 As seen in the table above, an increase in a DCF term from the current 20 year term to a 60
2 year term would result in a 6% decrease in the number of contributions received and would
3 have had a rate impact of \$.002/GJ based on all mains installed from 2008 to 2014, not
4 accounting for any additional offsetting benefit from load that might be expected to have come
5 on the system due to having a lower CIAC requirement. The Company notes that the rate
6 impact or Change in Delivery Cost per GJ in the table above remains relatively consistent for a
7 40 year DCF term as compared to a 60 year. This is due to the discounting of additional years
8 of revenue from the DCF term. The change in revenues is small enough that the rate impact
9 remains unchanged at the thousandth of a penny.

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1 **17. Reference: Exhibit B-6, CEC 1.37.4**

37.4 If the average annual consumption for all FEI customers is not 84.2 GJ, please explain why FEI selected this figure to represent an existing customer.

Response:

The average annual consumption for a residential customer is 84.2 GJ. FEI used a residential customer in its sensitivity analysis since the majority of its main extensions are for residential customers.

2

3 17.1 Please provide the breakdown of main extensions by rate class.

4

5 **Response:**

6 The Company does not have a breakdown of main extension by rate class because rate class
7 data is tracked at the customer level only. A main extension is generally not rate specific and
8 can serve a mix of residential, commercial and industrial customers.

9

10

11

12 17.2 Are CIAC requirements almost always for residential customers or do
13 commercial customers also need to provide CIAC?

14

15 **Response:**

16 Residential and commercial customers are subject to the same main extension test. If the test
17 determines that a CIAC is required based on the forecast costs, consumption and assigned rate
18 schedule, then a CIAC would need to be provided before construction begins.

19 For service line connections, residential (Rate Schedule 1) and commercial (Rate Schedule 2)
20 customers both receive the SLCA (Service Line Cost Allowance) as a credit toward the cost of
21 their service line. A CIAC is required if the cost exceeds the SLCA. Note that the existing SLCA
22 is based only on residential volumes.

23

24

25

26 17.2.1 If commercial customers are also subject to CIAC, please provide the
27 approximate proportion of customers subject to CIAC by rate class.

28

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1 **Response:**

2 The Company is not able to determine the proportion of CIACs by rate class for main
3 extensions. Please refer to the response to CEC IR 2.17.1.

4

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1 **18 Reference: Exhibit B-6, CEC 1.37.5**

37.5 Please explain how FEI selected 68.3 GJ as the figure to represent a new customer.

Response:

The normalized average actual consumption for all new residential customers that connected to the Company's system from 2008 to 2014 is 68.3 GJs. Multiple years of data were used to calculate the average because a larger base of customers helps to ensure a more realistic and balanced average consumption value that reflects all FEI regions and weather years.

2

3 18.1 Did FEI consider commercial customers? Please explain why or why not.

4

5 **Response:**

6 68.3 GJs is reflective of residential customers only. The current SLCA methodology approved
7 by the Commission includes the average cost for all main extensions and assesses an SLCA
8 based on all residential and commercial service line costs, using residential consumption only.

9 For the 2008 to 2014 commercial customers included as part of the Rate Impact Analysis in the
10 Application, the average annual consumption for Rate Schedule 2 was 356.5 GJs per year.
11 Please refer to the response to BCUC IR 2.30.5 for the calculation details.

12 Given that some customers that request service lines are commercial customers and that those
13 customers may consume substantially more than 68.3 GJs, the volume used to calculate the
14 SLCA should be considered conservative. The Company would be open to exploring a
15 commercial customer SLCA (Service Line Cost Allowance), or to include commercial
16 consumption levels in calculating the existing SLCA, if directed to do so by the Commission.

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20 18.2 What would be an appropriate consumption figure to represent new commercial
21 customers? Please provide and explain why. (Given the variability across the
22 commercial customers, please provide the average and median for the rate
23 class)

24

25 **Response:**

26 Please refer to the response to BCUC IR 2.18.1.

27