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September 16, 2019

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. and FortisBC Inc. (collectively FortisBC)

Project No. 1598996

Application for Approval of a Multi-Year Rate Plan for 2020 through 2024 (Application)

Response to the Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2

On March 11, 2019, FortisBC filed the Application referenced above. In accordance with the British Columbia Utilities Commission Order G-156-19 setting out the Regulatory Timetable for the review of the Application, FortisBC respectfully submits the attached response to CEC IR No. 2.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Doug Slater

Attachments

cc (email only): Commission Secretary
Registered Parties

51. Reference: Exhibit B-7, CEC 1.1

> customer amount. FortisBC will therefore continue to pursue productivity improvements during the term of the proposed MRPs, with a focus on the efficient allocation of resources and "doing more with what we have".
>
> This, combined with the incentive in O&M, will encourage the Companies to continue to be focussed on cost efficiencies in both capital and O&M spending.

51.1 Please state whether or not FortisBC would continue to seek efficiencies if the Commission denied the utilities application for the company's shareholder to receive incentives.

Response:

FortisBC will continue to seek efficiencies.

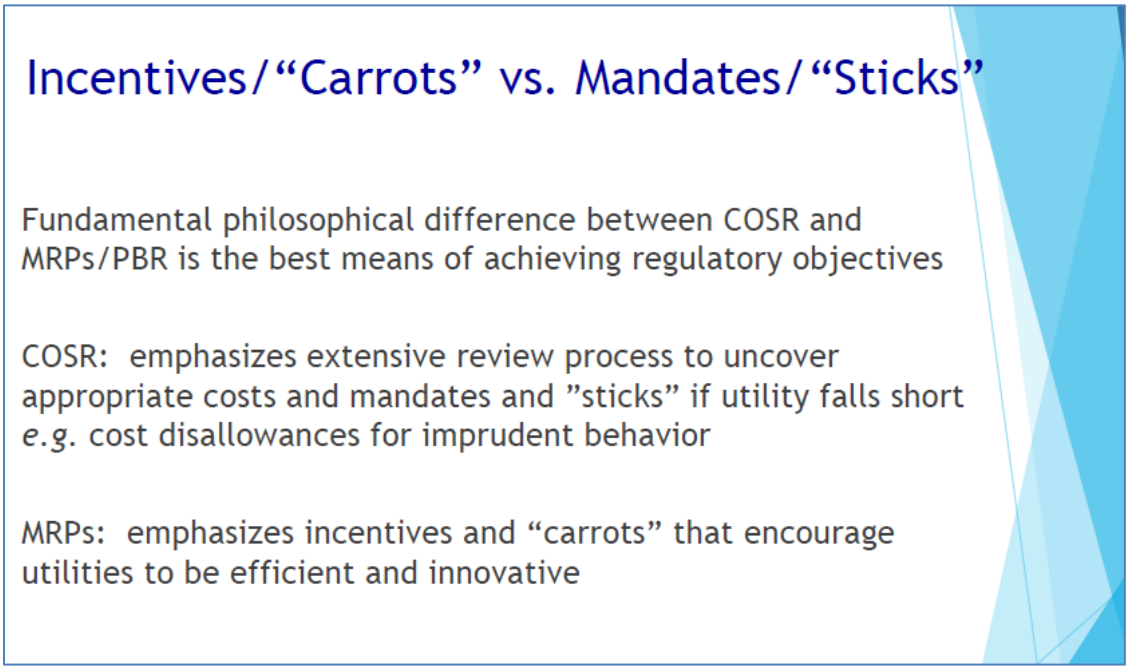
FortisBC agrees that a utility should strive to be efficient whether under cost of service regulation or performance based incentive regulation. However, as explained by Wiseman and Pfeifenberger (2003) in their paper titled "Efficiency as a discovery process: Why enhanced incentives outperform regulatory mandates", incentives are generally superior to mandates for eliciting efficiencies and a firm cannot knowingly disavow or withhold efficiencies it has yet to discover. The following is an excerpt from the referenced paper:

> ...it is not uncommon in regulatory proceedings to encounter opposition to incentive regulation on grounds that utilities already have a "statutory obligation" to be efficient and, therefore, should not require additional rewards through incentive plans. At the crux of this argument are two key misconceptions. The first misconception is that a "mandate" to be efficient will produce the same long-term benefits as properly structured "incentives" to be efficient. The second misconception is the belief that regulated firms may knowingly and strategically disavow opportunities to increase operating efficiency under traditional regulation in order to profit from such innovation under incentive regulation.
>
> …
>
> What this view fails to recognize, however, is that (1) the incentives requisite to the 'discovery' of superior methods by which to augment efficiency are not sufficiently pronounced under cost-of-service regulation; and (2) the regulated firm cannot knowingly disavow what it has yet to discover.

> It is the recognition of efficiencies as a "discovery process" that largely explains the long-term benefits that incentive regulation offers over traditional cost-of-service regulation.

A similar view in support of performance based incentive regulation was discussed by Dr. Larry Kaufmann at the December 14, 2018 workshop on the Review of Multi-Year Plans and Cost of Service Regulation. At the workshop, Dr. Kaufmann discussed the fundamental difference between an incentive ("Carrots") vs. cost of service mandate ("Sticks") approach

Slide 27 from workshop slides – Appendix C3



In addition, Dr. Kaufmann noted (taken from Slide 28):

> Extensive experience shows that competition – driven by the profit motive – is more successful than central planning and mandates in promoting efficiency, innovation and customer benefit.

52. Reference: Exhibit B-7, CEC 2.1

> 5. Index-based O&M which is rebased using 2018 actuals (with adjustments) is the only major element that would otherwise be prepared differently under Cost of Service. Using 2018 Actuals (with adjustments) is reasonable given that it reflects multiple years of cost efficiencies achieved under the Current PBR Plans. FortisBC has also identified cost pressures that it has not incorporated into its proposed Base O&M, but instead proposes to manage within the indexed-based amount. If FortisBC were to prepare a cost of service forecast of O&M for 2020, FortisBC would incorporate those cost

52.1 Please provide an analysis of cost of service data for the utilities, and in particularly for the portion represented in 5 above, that is different than the other data provided.

Response:

Please refer to the response to BCUC IR 2.161.3.

53. Reference: Exhibit B-7, CEC 2.2, Page 4

> Although FEI and FBC have had cost-of-service revenue requirements applications between PBR plans, both utilities have had significant extension periods added to initial PBR terms without a cost-of-service review. The Utilities' experience with PBR prior to the Current PBR Plans is described in Appendix C1. FEI's 1998-2000 plan was extended to 2001 and its 2004-2007 plan was extended to 2009, without a cost-of-service period before the extensions. FBC's 1996-1998 plan was extended four times for a total term of 9 years. FBC's 2007-2008 formula-based plan was extended by three years to 2011. Again for FBC, there was no cost-of-service period before the extension periods for these two PBRs. These examples of extensions to previous rate plans demonstrate that the transition between rate plans does not require a cost of service review.

53.1 Please confirm that during the extension periods Fortis BC received that Fortis did not provide a rebasing of costs in favour of its customers.

<u>Response:</u>

FortisBC did not rebase costs when extending the terms of the previous PBR Plans. FortisBC notes that rebasing could increase or decrease the "going-in" cost base for the next MRP/PBR depending on the circumstances at the time. The degree to which customers benefit from rebasing depends on many factors including the balance of savings achieved versus emerging cost pressures.

54. Reference: Exhibit B-7, CEC 3.2, Page 8

> FortisBC believes that the savings and efficiencies achieved to date have been driven in full or in part by the incentive mechanisms and other features of the Current PBR Plans, including the six-year test period. However, the Utilities cannot speculate what they would have done in the hypothetical situation in which they were under a series of forecast cost of service ratemaking plans over the same time period. As such, FortisBC cannot identify the portion of savings and efficiencies achieved to date (e.g., O&M productivity improvements that could have or would have normally been undertaken under prudent management absent the Current PBR Plans) that would not have been achieved in the absence of the incentive mechanisms and other features of the Current PBR Plans.

54.1 Please identify and quantify the investment made by the FortisBC shareholder over the prior PBR for which it would not have recovered costs under a cost of service arrangement in which it projected adequate funding for initiatives to be undertaken and on which for capital investments it would not have earned a return on investment had it projected adequate capital investment and additions.

Response:

As the question is requesting counter-factual information, FortisBC is not able to respond.

FortisBC can confirm that, to the extent that costs are fully anticipated and accurately forecast, and that the BCUC approves the requested funds, then the approved return on investment is received over the time frame of a cost of service application. However, the purpose of a longer term performance based plan is not to ensure adequate recovery of costs or to guarantee a particular return. It is to incent efficiency and result in better outcomes for ratepayers than that achieved under cost of service ratemaking. Please also refer to the responses to CEC IRs 1.3.2, 1.6.3 and 1.6.6 which provide discussion of the benefits of a longer term performance based plan.

55. Reference: Exhibit B-7, CEC 5.3, Page 15

Table 1: FEI Utility Income, 2014-2018 ($000s)

	2014	2015	2016	2017	2018	Total
After-Sharing	$ 96,988	$128,987	$131,379	$129,767	$151,045	
Before-Sharing	100,645	133,585	136,541	132,711	152,040	
Difference	$ (3,657)	$ (4,598)	$ (5,162)	$ (2,944)	$ (995)	$ (17,356)

Table 2: FBC Utility Income, 2014-2018 ($000s)

	2014	2015	2016	2017	2018	Total
After-Sharing	$ 44,457	$ 46,336	$ 48,093	$ 48,072	$ 49,121	
Before-Sharing	44,789	46,817	48,820	48,597	49,254	
Difference	$ (332)	$ (481)	$ (727)	$ (525)	$ (133)	$ (2,198)

55.1 Please describe what FEI's and FBC's shareholder has earned over this period relative to its allowed return on any capital investment from customers and relative to capital investments required to generate these additional benefits for the shareholder.

Response:

FortisBC is unclear what is being asked in the question regarding "relative to capital investments required to generate these additional benefits" as it is not possible to isolate specific capital investments that resulted in the achieved earnings sharing. However, FortisBC confirms that in the response to CEC IR 1.5.3, the "difference" amounts provided in the tables (as shown in the preamble to this question) are the additional positive benefits, above the Productivity Improvement Factors, provided to customers during the Current PBR Plan term. Since the amounts are shared 50/50 with customers, then FEI's and FBC's shareholder has retained the same "after-sharing" amounts shown in the tables above for 2014 through 2018.

Relative to the allowed return on capital, the Utilities' achieved versus approved ROEs are provided in the tables below.

FEI	2014	2015	2016	2017	2018
Achieved after-sharing ROE	9.20%	9.19%	9.28%	9.04%	8.93%
Approved ROE	8.75%	8.75%	8.75%	8.75%	8.75%
Variance	0.45%	0.44%	0.53%	0.29%	0.18%

FBC	2014	2015	2016	2017	2018
Achieved after-sharing ROE	9.22%	9.26%	9.38%	9.31%	9.29%
Approved ROE	9.15%	9.15%	9.15%	9.15%	9.15%
Variance	0.07%	0.11%	0.23%	0.16%	0.14%

FortisBC has also provided the following which shows the Utilities' achieved versus approved ROEs before earnings sharing was returned to customers.

FEI	2014	2015	2016	2017	2018
Achieved before-sharing ROE	9.54%	9.51%	9.65%	9.25%	8.99%
Approved ROE	8.75%	8.75%	8.75%	8.75%	8.75%
Variance	0.79%	0.76%	0.90%	0.50%	0.24%

FBC	2014	2015	2016	2017	2018
Achieved before-sharing ROE	9.29%	9.35%	9.52%	9.41%	9.32%
Approved ROE	9.15%	9.15%	9.15%	9.15%	9.15%
Variance	0.14%	0.20%	0.37%	0.26%	0.17%

55.2 Please provide the actual return on capital investment earned and the allowed return on capital investment for each year (excluding the above additional PBR returns).

Response:

Please refer to the response to CEC IR 2.55.1.

55.3 Please confirm that all operating costs for achieving the above benefits have been recovered by FEI and FBC from customer revenues for each of the above years.

Response:

As stated in the response to CEC IR 2.55.1, it is not possible to isolate specific operating (or capital) costs that resulted in the earnings sharing amounts.

As far as recovery of operating costs generally, FEI and FBC set their revenue requirements (customer rates) to recover all forecast operating costs. To the extent there are variances between actual and forecast formula O&M amounts, the variance is shared equally with customers through the earnings sharing mechanism. To the extent there are variances between actual and forecast flow-through O&M amounts, the variance is fully recovered from or returned to customers in a subsequent year.

56. Reference: Exhibit B-7, CEC 6.9, Page 20 & BCUC 1.8.4

6.9 Please confirm that the Utilities have costs for managing the Utilities which are fixed over time and/or are partially fixed.

Response:

Please refer to the response to BCUC IR 1.17.7 which discusses why the proposed Index-Based formulaic approach is reasonable and appropriate for determining allowed O&M funding for the proposed MRPs.

8.4 Please calculate the correlation coefficients for actual and formula O&M and explain all inputs and assumptions.

Response:

FEI presumes that the question asks for the correlation of the actual and formula O&M against the O&M formula cost driver (average number of customers). With this assumption, the correlation coefficient numbers and related input data are provided below. The results indicate a strong linear association between the cost driver and both actual and formula O&M.

Variables	2014	2015	2016	2017	2018	2019P	Correlation Coefficient
Avg number of customers	959,196	968,766	983,807	997,380	1,016,353	1,024,962	0.95
Actual formula O&M ($ millions)	223,967	225,380	225,925	232,503	238,693	246,939	

Variables	2014	2015	2016	2017	2018	2019P	Correlation Coefficient
Avg number of customers	959,196	968,766	983,807	997,380	1,016,353	1,024,962	0.97
Formula O&M ($ millions)	233,712	235,619	238,068	240,412	243,585	248,939	

56.1 Please provide the full formula definition used to generate the data in the 2nd data set and compare that to the formula proposed in the MRP.

Response:

FEI provides the O&M formula and definitions of formula components for the Current PBR Plan below. This is the formula used to generate the second data set as referenced in the preamble and has been used through the Current PBR Plan term to derive approved formual O&M.

OM t = OM t-1 * [1 + (I - X)] * (1 + G/2)

- t is the test (or forecast) year.
- X is the X-Factor and is equal to 1.1 percent.
- G is the percentage growth in average number of customers and is lagging by one-half year. The half-year lag is accomplished by comparing the most current July to June period with twleve months prior July to June period. G is derived dividing the average[1] number of customers from the most current July to June period with twleve months prior July to June period.
- I is the inflation factor and is lagging by one-half year. The I-factor is a composite inflation factor including 45 percent BC-CPI plus 55 percent BC-AWE. The half-year lag is accomplished by comparing the most current July to June period with twleve months prior July to June period.

Approved O&M started with a 2013 approved[2] base and has been recalculated each year of the Current PBR based on the above formula and definitions.

FEI provides the O&M formula and definitions of formula components for the Proposed MRP below.

OM t = UCOM t-1 * (1 + I) * AC_t

- t is the test (or forecast) year.
- I is the inflation factor and is lagging by one-half year. The I-factor is a composite inflation factor including 45 percent BC-CPI plus 55 percent BC-AWE. The half-year lag is accomplished by comparing the most current July to June period with twleve months prior July to June period.
- UCOM is the Unit Cost O&M and equals the 2019 Base O&M divided by 2019 projection of the average number of customers.
- AC is the average[3] number of customers.

FortisBC has proposed to use the same I-factor in the proposed MRPs[4] as in the Current PBR Plans. The Companies have proposed to eliminate both the lag from the growth factor and the reduction of the growth factor by one half[5], which effectively means that the Companies propose

[1] Twelve-month average.
[2] Order G-138-14.
[3] Twelve-month average.
[4] Section 1.3.
[5] Section 1.4.2.

to use a forecast of average customers[6] to determine annual O&M including a true-up of average customers to eliminate any forecast variances from O&M funding.

Finally, instead of escalating a Base O&M amount by G and I, the Companies propose to escalacate the Unit Cost O&M (O&M per customer) by I and multiply by a forecast of average customers. As illustrated in the response to BCUC IR 1.21.1, using O&M per customer as proposed in the Application or applying a growth factor to total O&M as in the Current PBR Plan produces the same resulting total O&M since the variable that determines the total O&M is average customers in both cases.

[6] Section 1.4.3.

57. Reference: Exhibit B-7, CEC 8.1, Page 32

For FBC, the predictability and flexibility provided by the longer term of the Current PBR Plan has enabled it to achieve greater capital efficiencies. For example, by having the ability to enter into multi-year agreements with vendors/contractors that may not otherwise be possible under a shorter term rate making agreement, FBC has been able to achieve cost efficiencies. An example of this was discussed at the FBC Annual Review for 2018 Rates Workshop on the topic of Capital Efficiencies[5] where Mr. Marshall explained:

> I'd also like to share the following example regarding FortisBC's distribution condition assessment program, as it shows the benefits of leveraging the predictability offered by PBR. In 2016, FortisBC was presented with an opportunity to seek proposals from vendors for their distribution condition assessment program for a three-year period spanning from 2017 to 2019. Following the RFP process, FortisBC entered into an agreement with one of its contractors for the three-year period. In addition, the agreement included the two one-year optional extensions for 2020 and 2021. By providing the contractor with a multi-year commitment, the contractor was willing to make investments that it would not otherwise had. This resulted in annual savings of approximately $300,000, or 25 percent annually, until the end of the PBR period, and potentially in to 2021 [dependent] on whether or not those optional extensions are taken.

57.1 Please discuss whether or not the Utilities are prevented from entering into long-term multi-year contracts with suppliers under cost of service regulation and provide any evidence that the Commission has restricted the Utilities contracting time frames.

Response:

The Utilities are not restricted by the BCUC from entering into long-term, multi-year contracts with suppliers under regulation, whether cost of service regulation or performance based rate-making.

The Utilities may enter into long-term, multi-year contracts with vendors for a number of reasons including:

- Financial benefits (i.e., cost savings);
- Certainty of supply of the goods and services; and
- Specific business and/or project needs.

The supply/supplier alternatives and the terms and conditions available in the marketplace also influence the Utilities' decision to enter into multi-year contracts.

Another consideration for the Utilities when deciding whether to commit to a multi-year contract is the term of the contract in relation to the length of the test period under the regulatory ratemaking approach in place at the time. For the Utilities, certainty in the funding available and the recovery of its costs are important. Under a short-term (i.e., one to two years) cost of service ratemaking approach, there is less certainty on what activity levels for certain types of expenditures are going to be approved. Under a longer-term ratemaking framework, where costs are managed at a portfolio level, the Utilities have the flexibility to determine the activity levels for various items and consider the optimal mix to achieve the best cost outcomes. This flexibility allows the Utilities to enter into longer term contracts, as the Utilities will have greater control over the cost drivers.

Using the example described in the response to CEC IR 1.8.1, the multi-year (3-year) commitment made coincided with the remaining term of the Current PBR Plan and the features of the Current PBR Plan. As mentioned in the response, FBC may not have entered into the multi-year contract if it was under a short-term ratemaking approach, which is traditionally associated with cost of service regulation (i.e., one or two-year test periods). The funding available under short-term, cost of service regulation is subject to change from test year to test year, potentially affecting the program funding and the recovery of costs. For example, funding for the Distribution Condition Assessment program in the example described may be affected (i.e., limited, reprioritized) by rates set in the next test period during the term of the multi-year contract such that the value of the multi-year agreement is negatively impacted. Under a longer-term ratemaking framework, the Utilities would have greater certainty in the funding available and the flexibility to prioritize its activities as part of an overall portfolio such that it can commit to the multi-year contract.

57.2 Please provide a list of all contractors that either of the Utilities has provided an arrangement where the vendor can earn half of any savings made under a contract with the Utilities and the details of any such arrangements.

Response:

The Utilities have not entered into any contracts with arrangements which allow for the contractor to earn half of any savings made under the contract. The Compugen contract which was discussed in the response to BCUC IR 1.4.4 from FEI's Annual Review for 2016 Rates has a sharing of savings (but not half)[7]. While in some cases, such as the Compugen contract, it may be beneficial to add an incentive structure, generally FortsBC's service providers operate in

[7] The Compugen contract expires December 2019; the new contract will not have a sharing of savings.

competitive markets and FortisBC relies on contracting practices such as requests for proposals to ensure competitive pricing under its contracts.

57.3 Please provide a list of all contracts the Utilities have with incentives for vendor performance and provide the terms for the same, with a limit of providing the 20 with the highest incentives.

Response:

As a general practice, FortisBC does not offer performance incentives to vendors. In rare circumstances in the past, FortisBC has included incentives in contracts with vendors based on cost certainty, scheduling and ability to exceed specific performance metrics; however, the specific contractual terms of these contracts are subject to confidentiality obligations and contain commercially sensitive information.

The Utilities' decision to enter into contracts with performance incentives is not impacted by whether the Utilities are subject to cost of service regulation or performance based rate-making. Regardless of the type of regulation, the Utilities seek to ensure they get the best quality products and services from vendors at the lowest reasonable cost.

58. Reference: Exhibit B-7, CEC 11.3, Page 44

> 11.3 Please explain and identify the metrics that ratepayers can utilize to understand whether or not capital spending is cost-efficient on a cost-benefit basis during the proposed MRP.
>
> **Response:**
>
> FortisBC interprets the reference to "capital spending is cost-efficient on a cost-benefit basis" as meaning incurring capital expenditures that result in financial payback/return to ratepayers and not necessarily capital expenditures that are considered cost efficient by comparing expenditures to a reference point (i.e., allowed funding, historical spending, other utilities spending).

58.1 Assuming that the CEC intended that benefits for capital spending projects would include financial benefits and non-financial benefits, would FortisBC agree that virtually all of its capital expenditures would have net aggregate benefits in excess of the capital spending cost or investment?

Response:

FortisBC agrees that its capital expenditures have non-financial benefits, including customer access to supply, the reliability of supply, legislative compliance, and public and employee safety, among other benefits. It is generally difficult or not possible to objectively quantify the non-financial benefits of capital projects on the same basis as the financial benefits. For that reason, FortisBC frequently characterizes the need for capital projects as mandatory, essential, or flexible on the basis of non-financial benefits, and quantitatively evaluates projects and alternatives based on financial analysis.

58.2 Would FortisBC agree that under the above assumptions if it deferred capital expenditures for good reasons it would defer both the costs and the benefits derived from making the capital investment.

Response:

Yes. The benefits of capital investments are derived from the investments themselves and will not accrue in the absence of the associated investment.

59. Reference: Exhibit B-7, CEC 2.1

> 5. Index-based O&M which is rebased using 2018 actuals (with adjustments) is the only major element that would otherwise be prepared differently under Cost of Service. Using 2018 Actuals (with adjustments) is reasonable given that it reflects multiple years of cost efficiencies achieved under the Current PBR Plans. FortisBC has also identified cost pressures that it has not incorporated into its proposed Base O&M, but instead proposes to manage within the indexed-based amount. If FortisBC were to prepare a cost of service forecast of O&M for 2020, FortisBC would incorporate those cost

59.1 Please provide a 3-year Cost of Service Summary of all relevant data in this application that would be the same, including a version for the parts that are not the same that would qualify as a cost of service approach (please provide assumptions used).

Response:

Please refer to the response to BCUC IR 2.161.3.

59.2 Please provide the revenue requirements for 3 years and the proposed rates required.

Response:

Please refer to the response to BCUC IR 2.161.3.

59.3 Please provide any of the proposed initiatives in this application that the Utilities would choose not to undertake under cost of service and explanations for why it would not undertake them (please assume that the costs for carrying out the initiatives can be included in the cost of service forecast and provide the Utilities best estimates for those costs included in the cost of service revenue requirements and proposed rates).

Response:

FEI and FBC have provided forecasts of the majority of their capital for the proposed 5-year term of the MRPs, so they assume that the question is not referring to capital "initiatives". The only other proposals in this Application that could be described as "initiatives" are the Clean Growth Innovation Fund and, perhaps, the Targeted Incentives. Under a cost of service rate setting regime, these would be restricted to the shorter test period of the cost of service application and FortisBC is unable to speculate on how they may have differed in those circumstances. As this Application is for a rate-setting framework only, the Utilities have not proposed any efficiency initiatives in the Application and cannot speculate on what efficiency initiatives may be undertaken in the upcoming MRP term. Please also refer to the response to BCUC IR 2.164.8.

59.4 If such a scenario were set to formulas for O&M for the 3 years and the Commission rejected the MRP process, would the Utilities' have any reason to suggest that this would be a decision that would be outside of the Commission's jurisdiction in this proceeding?

Response:

Given the CEC's other questions in this series, FortisBC interprets this question as asking whether it would be within the BCUC's jurisdiction to deny FortisBC's proposed MRPs and instead approve rates on a cost of service basis for a three-year test period.

It is within the BCUC's jurisdiction to deny FortisBC's proposed MRPs. As FortisBC has not prepared a three-year forecast of all the elements of its revenue requirements, the BCUC will not have sufficient information on the record in this proceeding to approve cost of service rates for a three-year test period. If the BCUC denied FortisBC's proposed MRPs, FortisBC expects that it would analyze the BCUC's reasoning and directions to determine what further filings would be required to have rates set for the coming year(s).

60. Reference: Exhibit B-7, CEC 32.1

Does FortisBC have any specific direction from government or the BCUC that it must develop a Clean Growth Innovation Fund or equivalent? Please explain.

Response:

No. The Clean Growth Innovation Fund is one of FortisBC's strategic responses to specific climate policy direction from government such as the CleanBC's renewable gas content target of 15 percent by 2030. As also stated in Section C6.2.3 of the Application, advancing clean growth innovation is a shared responsibility between utilities, regulators and policy makers.

60.1 FBC states it is responding to "specific climate policy direction from government." Why does FBC require a fund to be created to incent it to comply with specific policy direction?

Response:

The Clean Growth Innovation Fund does not provide any incentives for FBC to comply with specific policy direction. Rather, the Clean Growth Innovation Fund is aligned with, and is a strategic response to, specific climate policy direction from government.

60.2 Does CleanBC's renewable gas content target refer to the overall proportion of renewable natural gas, or does it refer to the 10% blend currently supplied by FBC?

Response:

CleanBC's renewable gas content target of 15 percent by 2030, which is referred to in the response to CEC IR 1.32.1, is specific to the overall proportion of renewable gas in the natural gas stream, not the various blends currently supplied by FEI to its customers. However, the details of the CleanBC 15 percent renewable gas target have yet to be determined by the BC Government. Please also refer to the response to BCUC IR 2.222.1 which explains that the BC Government has just begun the consultation process around its 15 percent renewable gas target.

1 **61. Reference: Exhibit B-7, CEC 43.1 & CEC 43.2**

43.1 Please provide quantitative evidence that the infrastructure as a whole is aging to a degree that significantly affects its maintenance requirements. Please demonstrate how these have changed over the last 10 years.

Response:

Generation infrastructure such as concrete structures and auxiliary systems including cooling systems, valves, piping, pumps, cranes, hoists and gates have been in service between 78 to 110 years. While the 15 major generating units in operation have undergone upgrades in the past, plant auxiliary systems have not. As concrete structures and auxiliary systems age, they require additional maintenance. The following examples illustrate the nature of maintenance activities that have increased over the last 10 years as FBC infrastructure ages:

- Major generating unit Inspections require more in depth condition assessments and testing to ensure that the units and auxiliary systems are functioning as required. FBC has had to implement a variety of asset management tools such as condition assessments, 3D scanning and advanced testing methods (such as bearing clearance checks) to improve maintenance practices and equipment condition knowledge. Due to the absence of detailed drawings of the existing generating units, FBC needs to implement a program to 3D scan the unit, parts and pieces and use the 3D model as an engineering tool to develop drawings and disassembly and assembly instructions that will help provide for safer work practices.
- Customized tooling, jigs and fixtures are required to safely jack the unit shafts around to determine bearing clearances and to lower and remove the guide bearing housings safely.

2

- Equipment such as drop stops, audible alarms, hook latches, load limiters, rail sweeps, load capacity markings are required to be installed and maintained on cranes and hoists. These items were not required when the cranes and hoists were commissioned. Each FBC plant has a variety of cranes and hoists which have components that have not been upgraded since first installed. Today's standards for this type of equipment are more stringent than when they were first commissioned.
- The intake gates and tailrace gates used to isolate the generating units from the water flow require additional sealant to eliminate leaks. Due to their style (metal to metal) and age, the seals on the gates are not effective in stopping the water entering the unit water passage and FBC needs to place ash between the gates and the embedded seals to obtain an adequate seal.
- Concrete spalling is present on some concrete structures. The spalling is a result of corrosion on the reinforcing bars used in the concrete. More frequent inspections and maintenance is required to manage the structure.

61.1 As requested in CEC IR.1.43.1, please provide quantitative evidence that the infrastructure as a whole is aging to a degree that significantly affects its maintenance requirements.

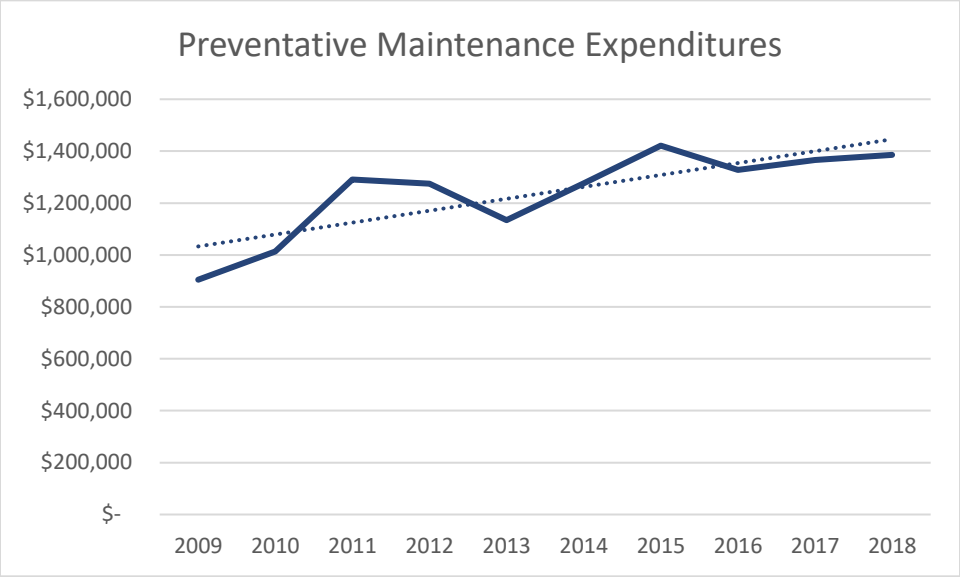
Response:

The response to CEC IR 1.43.1 was referencing FBC's statements regarding Generation infrastructure in particular, and FBC provided the response on that basis. In the response to CEC IR 1.43.1, FBC highlighted, as set out in the referenced preamble, several generation projects which demonstrate that infrastructure as a whole is aging to a degree that significantly affects its maintenance requirements. In addition, and as shown in response to CEC IR 2.61.2, FBC generation maintenance expenditures are increasing at a rate greater than inflation which is indicative of an increase in equipment failures, which points to an aging infrastructure.

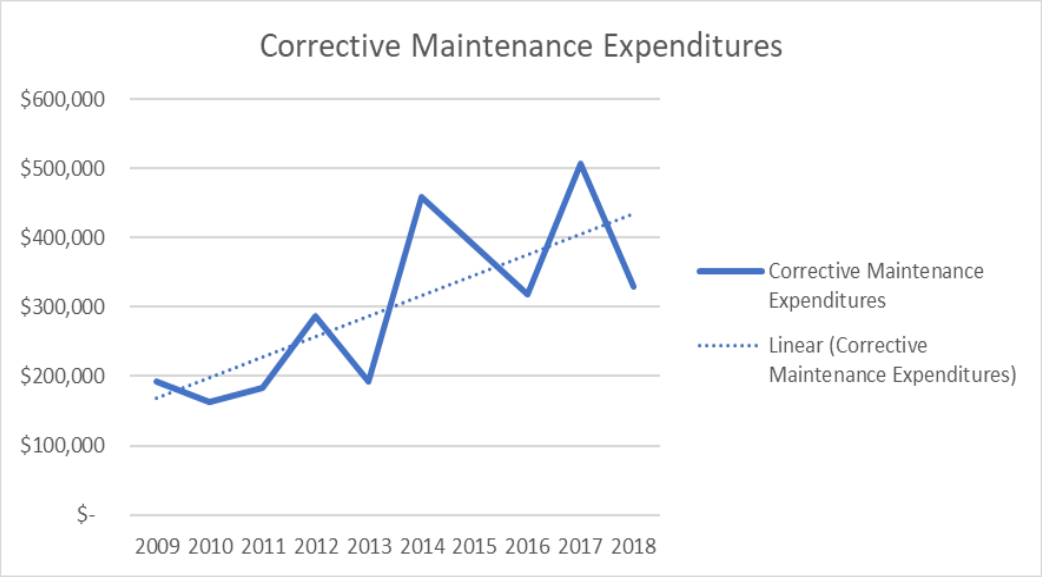
61.2 Please provide quantitative evidence of increases in maintenance expenses over the last 10 years that would support the contention that infrastructure is aging is significantly affecting maintenance requirements.

Response:

FBC provides below quantitative evidence of increased maintenance expense over the last 10 years. The actual preventative maintenance expenditures incurred by FBC Generation between 2009 and 2018 are presented in the following graph:



In addition to increased preventative maintenance expenditures, FBC Generation is incurring additional corrective maintenance expenses. The actual corrective maintenance expenditures incurred by FBC Generation between 2009 and 2018 are presented in the following graph:



The preventative and corrective maintenance expenditures trends are increasing at a rate greater than inflation which is indicative of an increase in equipment failures, which point to an aging infrastructure.

43.2 Please provide forecasts of the increases in maintenance that FBC anticipates over the next five years

Response:

FBC is proposing an Index-Based approach to determine overall O&M funding for the MRP period. As a result, FBC has not prepared a five-year forecast for the term of the proposed MRP.

61.3 Please provide quantitative evidence of the impact the proposed increases in maintenance costs will have on ratepayers.

Response:

In the context of proposed MRP, the impact of specific components of O&M Expense on rates cannot be determined. Base O&M Expense is determined at the aggregate level and indexed based on inflation and customer growth. Cost pressures in a given function or area of the business will be required to be offset by efficiencies in other areas. FBC illustrated in its response to BCUC IR 1.34.1, showing the derivation of 2019 Base O&M, the specific adjustments to the Current PBR Plan Base O&M. The higher maintenance costs described in the response to CEC IR 1.43.1 were not included as an upward adjustment, indicating that FBC intends to manage these costs in conjunction with aggregate O&M expense.

62. Reference: Exhibit B-7, CEC 47.1 & CEC 47.2 & CEC 47.3

47.1 Please confirm that it is in the Utilities' best interests to pursue projects which address its strategic and other challenges.

Response:

It is in the best interest of customers, the Utilities and society for the Utilities to pursue projects which address strategic and emerging issues, serve customer needs, and maintain the long-term health of the Utilities. In this regard, FortisBC believes its interests are aligned with its customers.

62.1 Please confirm that it is specifically in the Utilities' best interests to pursue projects which address its strategic and other challenges.

Response:

In its response to CEC IR 1.47.1, FortisBC confirmed that it is in the best interest of the Utilities to pursue projects which address their strategic and other challenges. FortisBC's response indicated that the benefits of doing so are not exclusive to FortisBC.

47.2 Is it the Utilities' position that they would not continue the work being done, or on the challenges and opportunities it faces in the absence of incentives? Please discuss.

Response:

Please refer to the response to BCUC IR 1.96.3.

62.2 In the referenced response to BCUC IR 1.96.3, FBC confirms it would pursue each of the targets in the absence of approval (of incentives). The CEC notes that the costs of making effort and investment of resources can already be recovered in rates. Please describe the impact on rates the proposed incentives would have and the additional costs to which ratepayers would be subjected.

Response:

FortisBC has calculated the rate impact associated with the achievement of the targeted incentives in the response to BCUC IR 1.96.6. The rate impact is based only on the cost of the

incentive payment which FortisBC interprets the CEC to be asking for in this information request.

Further, FortisBC has provided a detailed analysis of each targeted incentive in its response to BCUC IR 1.96.7 to demonstrate its associated costs and benefits. The response includes a summary of the results and Attachment 96.7, which contains all of the calculations. The results of the analysis are presented and discussed in the response.

47.3 Does the BCUC have the authority to direct the Utilities to conduct such initiatives without offering incentives to do so or not? Please explain and provide reference links to any authorities cited.

Response:

The BCUC cannot direct FortisBC to achieve the proposed targets. As context for the discussion below, assuming such a direction were valid, the utility would be liable for administrative penalties or other sanctions if it failed to achieve the direction.

By their nature, FortisBC's proposed targets are not something that can be directed by the BCUC. The proposed targets are designed to be stretch targets that will require significant effort to achieve and may not be achievable over the term of the proposed MRPs. The targets for Renewable Natural Gas, for example, require agreements with third party suppliers, while achieving growth in Natural Gas for Transportation requires businesses to agree to convert their fleets and become customers of FEI. The purpose of the proposed targeted incentives is to provide an incentive for FortisBC to engage in the extraordinary efforts required to achieve the proposed stretch targets, which will in turn provide benefits to customers. It would not be

62.3 Please clarify exactly how achieving the proposed stretch targets will benefit FBC ratepayers.

Response:

FortisBC has performed a detailed cost-benefit analysis for its response to BCUC IR 1.96.7. Contained within this response is an explanation of the qualitative and quantitative benefits associated with achieving each target.

62.4 Please describe and quantify the effort expected to be undertaken and classify the effort into (a) capital investment, (b) operating costs, and (c) FortisBC shareholder investment.

Response:

FortisBC has prepared a detailed cost-benefit analysis in its response to BCUC IR 1.96.7 in which it has presented the capital and operating costs associated with the achievement of each quantifiable targeted incentive (i.e., customer engagement has been excluded). The details of this analysis are found in Attachment 96.7 provided in the response to BCUC IR 1.96.7.

62.5 Does FortisBC expect the costs for achieving the proposed stretch targets will be borne by FBC ratepayers, though the benefits will potentially accrue to a wider group?

Response:

FortisBC expects that the costs and benefits associated with achieving the proposed stretch targets will accrue to FortisBC's ratepayers. However, FortisBC has highlighted that the benefits flowing from the achievement of the targets are not exclusive to ratepayers. For example, the reduction in emissions associated with an increase in the supply and use of renewable gas will also benefit society in general.

62.6 What will be the effect on rates for those who have to pay for the program?

Response:

Please refer to the response to BCUC IR 1.96.7.

More generally, such a direction would intrude about the zone of utility management. The case of *British Columbia Hydro and Power Authority v. British Columbia Utilities Commission*, [1996] B.C.J. No. 379, 71 B.C.A.C. 271, 20 B.C.L.R. (3d) 106, put it this way:

> 58 Taken as a whole the *Utilities Act*, viewed in the purposive sense required, does not reflect any intention on the part of the legislature to confer upon the Commission a jurisdiction so to determine, punishable on default by sanctions, the manner in which the directors of a public utility manage its affairs.

62.7 Please clarify how the Commission's setting of rates based on the Utility selection of stretch targets might intrude on utility management.

Response:

FEI and FBC did not state, and does not believe, that the BCUC's setting of rates based on the utility selection of stretch targets might intrude on utility management. The response cited in the preamble was to the question of whether the BCUC could simply direct FEI and FBC to achieve the targets.

63. Reference: Exhibit B-7, CEC 50.1

> 50.1 Please confirm that FortisBC has always maintained that it works to the best of its ability to manage Power supply as cost effectively and safely as possible.
>
> **Response:**
>
> FBC continues to manage power supply costs effectively and safely. FBC is proposing the PSI to incent FBC to increase efficiency, reduce costs and enhance performance in the area of power supply, which will further align the interests of the customer and FBC. Customers benefit when FBC exerts substantial effort on power supply optimization, and further alignment of these interests will provide additional benefits to the customer.

63.1 Please explain how ratepayers will directly benefit from incentives provided to FBC, if the Commission determined that incentives were not required.

Response:

FortisBC does not understand this question, but offers that ratepayers are unlikely to benefit directly or indirectly from an incentive framework that the BCUC determines is not required, and therefore, is not approved.

63.2 Please explain why the Utility would not conduct power supply optimization, increase efficiency, reduce cost and enhance performance in regard to power supply for the revenue requirements it could apply for in a normal rate setting process.

Response:

FBC is currently optimizing its power supply portfolio to the benefit of its customers. The optimization of the power supply portfolio continues to be a complex operation in an evolving market. The proposed PSI would help ensure sufficient resources to maximize performance, and create an incentive for FBC to find new opportunities and strategies to create additional value for the customer regardless of the rate setting approach. It is expected that with the PSI, over the term of the MRP, FBC will achieve outcomes which it might not achieve otherwise.