



Diane Roy
Vice President, Regulatory Affairs

Gas Regulatory Affairs Correspondence
Email: gas.regulatory.affairs@fortisbc.com

Electric Regulatory Affairs Correspondence
Email: electricity.regulatory.affairs@fortisbc.com

FortisBC
16705 Fraser Highway
Surrey, B.C. V4N 0E8
Tel: (604) 576-7349
Cell: (604) 908-2790
Fax: (604) 576-7074
Email: diane.roy@fortisbc.com
www.fortisbc.com

October 3, 2017

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 Inc. (FBC)

Project No. 1598920

**Multi-Year Performance Based Ratemaking Plan for 2014 through 2019
approved by British Columbia Utilities Commission (Commission) Order G-139-
14 – Annual Review for 2018 Rates (the Application)**

**Response to the Commercial Energy Consumers Association of British
Columbia (CEC) Information Request (IR) No. 1**

On August 10, 2017, FBC filed the Application referenced above. In accordance with the Commission Order G-116-17 setting out the Regulatory Timetable for the review of the Application, FBC respectfully submits the attached response to CEC IR No. 1.

If further information is required, please contact Joyce Martin at 250-368-0319.

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 1

1 **1. Reference: Exhibit B-2, page 1 and page 4**

The PBR Plan approved by the Decision attached to Order G-139-14 (PBR Decision) increases FBC's incentives to seek out savings while maintaining service quality.¹ Pursuant to the earnings sharing approved by the Commission, savings in formula-driven O&M and capital expenditures achieved by the Company are shared equally with customers, as discussed in Section 10 of the Application.

Under the PBR Plan, FBC projects savings in 2017 due to a continuation of its ongoing productivity focus, including a broad-based Company-wide effort to seek alternate solutions to the filling of vacancies and a number of initiatives that result in net O&M and capital savings. Overall, FBC proposes to distribute \$0.831² million in earnings sharing to customers in 2018. FBC has achieved these savings while maintaining a high level of service quality as indicated by meeting the Service Quality Indicators (SQIs) approved in the PBR Decision.

The 2017 projected O&M savings of \$1.2 million have been achieved with the Company's continued broad-based focus on productivity. While some of the savings are one-time in nature, some of the savings are the result of efficiencies which are expected to continue into the future, recognizing that cost pressures in the future may offset such savings. Upcoming costs related to cyber security are an example of such cost pressures.

- 1.1 Please confirm that seeking the most cost-effective opportunities to manage vacancies and a broad-based focus on productivity are considered key elements of prudent decision-making.

Response:

Within the context of the Company's PBR Plan, seeking the most-cost effective opportunities to manage vacancies and a broad-based focus on productivity are important elements of FBC's strategy to manage rates for customers. However, they are not necessarily elements of a general definition of "prudent decision-making", which includes elements such as understanding the problem, reviewing available options and taking action.

- 1.1.1 If not confirmed, please explain why not.

Response:

Please refer to the response to CEC IR 1.1.1.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 2

1 **2. Reference: Exhibit B-2, page 2**

2. The creation of five non-rate base deferral accounts, as described in Section 12.4.1 of the Application:

- Multi-Year DSM Expenditure Schedule, to be financed at the Company's weighted average cost of debt (WACD);
- Community Solar Pilot Project application, to be financed at the Company's short term interest (STI) rate;
- Tariff Applications, to be financed at the Company's STI rate;
- 2020 Revenue Requirements application, to be financed at the Company's WACD; and
- 2018 Joint Use Pole Audit, to be financed at the Company's WACD.

2

3 2.1 Please provide the rationale for the financing for each deferral account and why
4 they differ amongst themselves.

5

6 **Response:**

7 The rationale for determining the financing for FBC's deferral accounts is provided on page 113
8 of the Application. Consistent with the Commission's direction in Order G-110-12 regarding
9 FBC's 2012-2013 RRA, FBC finances its new deferral accounts at the STI rate where recovery
10 is over a one-year period or at the WACD for longer-term deferrals.

11 In determining amortization periods for its deferral accounts, FBC's first consideration is the
12 appropriate period to match the costs and benefits. FBC also considers the expeditious
13 recovery or return of the deferred costs or benefits and possible rate impacts of the amortization
14 periods. The three accounts that are proposed to be financed at the WACD have benefit
15 periods that extend beyond a single year (the 2020 Revenue Requirements Application is
16 assumed to be a multi-year rate setting plan), and therefore FBC has proposed amortization
17 periods longer than one year for these accounts. In the case of the Community Solar Pilot
18 Project and the Tariff Applications accounts, the costs of the proceedings are small relative to
19 the benefit period (the duration of the ensuing tariff), and therefore FBC proposes to amortize
20 the accounts over a single year and to finance them at the STI rate.

21

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 3

1 **3. Reference: Exhibit B-2, page 4-5**

The cyber security landscape is changing at a rapid pace, contributing to incremental cost pressures as the Company responds to the evolving risks. While causing only moderate pressure in 2017, O&M costs for cyber security are expected to increase in 2018 by approximately \$0.2 million, along with additional and related capital expenditures. The incremental O&M funding is for third party services and additional headcount required to protect the Company's systems.

Cyber security is a collection of technologies, processes, practices and controls designed to protect networks, computers and data from attack, theft, damage or unauthorized access. FBC focuses on securing its systems and educating users on identifying different types of cyber-attacks. In order to ensure cyber security controls are adequate, there are annual cyber

security audits and assessments on the overall system architecture, user awareness, as well as project specific vulnerability testing.

The use of technology, and particularly mobile technology, in every business area is increasing. This drives the need to continually review and update security practices and procedures. The cyber security environment is changing at a rapid pace and it is unknown what the next vulnerability will be. Ransomware has become a billion-dollar industry which requires awareness training to be constantly updated to match this trend and the techniques used by criminals seeking to take advantage of IT system vulnerabilities. New tools, training and tests need to be built and executed to keep our employees informed and aware.

FBC takes a risk-based approach to cyber security, using industry proven methodologies and technologies to ensure an appropriate balance between cost and effective protection.

3.1 What is the current level of cyber security costs that will be increasing by \$0.2 million? Please provide the cyber security costs for the last 3 years.

Response:

Approximately \$0.6 million was embedded in the Formula O&M base for cyber security and spending over the past three years has been approximately the same. The \$0.2 million increase is necessary to adequately maintain cyber security levels at FBC.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 4

1 **4. Reference: Exhibit B-2, page 5**

2 **2. Interactive Voice Response Enhancements**

3 In 2017, new functionality will be introduced into the Interactive Voice Response (IVR) in
4 support of self-service channel options for customers. Basic transactions including
5 obtaining the due date and the balance due as well as the amount and date of last
6 payment will be available for customers 24 hours a day, 7 days a week without the need
7 to speak to a representative. Not only will this new channel be more convenient for
8 customers, but it is also expected to reduce operating costs in the contact centre starting
9 in 2018 with estimated annual savings of approximately \$0.075 million.

3 4.1 Are the Interactive Voice Response Enhancements being considered
4 commonplace in utilities of any kind, or should this be considered new
5 functionality in the industry? Please explain.

6 **Response:**

7 These IVR enhancements are not new to the industry and are relatively commonplace.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 5

1 **5. Reference: Exhibit B-2, page 5 -6**

2 **3. SAP Integration**

SAP Integration is an initiative to integrate the FBC and FortisBC Energy Inc. (FEI) SAP systems, moving towards a common SAP platform for both companies. It will primarily include the integration of the Human Resources, Supply Chain, and Finance systems in

SAP. The benefits will include a simplified support model, alignment of processes, simpler business processes (i.e. employee expense processing and single sign-on), reduced licensing costs and integrated payroll. Reduction in support costs will be achieved through reduced annual contractor costs because internal resources will be able to displace the contractor support due to the simplified support requirements.

The project has started with completion expected in the third quarter of 2018. The total cost of the project is estimated at \$4.5 million. Based on the number of employees between the two companies (75% FEI, 25% FBC), approximately \$3.4 million of the implementation costs will be allocated to FEI with the remaining \$1.1 million to FBC. Total O&M savings for the project are expected to be approximately \$0.9 million annually, with \$0.6 million expected in FEI and \$0.3 million in FBC. The savings will be realized beginning in 2019.

3
4 5.1 Please provide the number of employees in each company.

5
6 **Response:**

7 As at December 31, 2016, FBC's reported headcount was 488 and FEI's reported headcount
8 was 1,667 which results in an allocation of costs as 77 percent to FEI and 23 percent to FBC.
9 The reference to a 75 percent FEI and 25 percent FBC allocation in the Application is an
10 approximation. The final cost allocation between the two companies will be calculated based on
11 an updated employee headcount on the completion of the project.

12
13
14
15 5.2 Please explain why the number of employees is the appropriate allocation for
16 SAP integration costs instead of other allocators, such as the level of savings,
17 (which would create an allocation of 66%/33%), or the relative costs included in
18 HR, Supply Chain and Finance systems that would be affected.
19

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 6

1 **Response:**

2 Please refer to the responses to BCUC IRs 1.6.5.

3

4

5

6 5.3 Please identify any other allocation methods that FBC considered, and why they
7 were not selected.

8

9 **Response:**

10 Please refer to the response to BCUC IR 1.6.5.

11

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 7</p>

1 **6. Reference: Exhibit B-2, page 6**

2 **4. Advanced Distribution Management System**

3 This project is to implement an Outage Management System (OMS) and to replace the
4 existing Dispatch system with a Mobile Workforce Management System (MWM). This
5 will enable the Company to improve its outage response through fault location prediction
6 using customer calls and AMI meter messages, as well as update outages from the field
7 using the MWM. Customers will be provided access to an outage map that will be
8 updated automatically from the OMS. The project is currently underway and expected to
9 be complete in 2017. The project benefits include streamlining of the manual outage
10 management processes and the manual dispatch processes, with estimated annual
11 savings of \$0.2 million starting in 2018.

12 6.1 Are the OMS and MWMS dependent upon the AMI infrastructure, or could they
13 be implemented without the AMI infrastructure? Please explain.

14 **Response:**

15 Yes, the FBC OMS is dependent on the AMI infrastructure. The following excerpt from the AMI
16 Project CPCN outlines how the near real-time data is used to support outage management. In
17 the case of non-AMI connected customers, they will still need to contact FBC to report their
18 power being out if their outage is not otherwise reported by adjacent meters that are AMI
19 connected.

20 **6.3 Outage Management**

21 With the near real-time operational data provided by the AMI system, FortisBC
22 will be able to react to power outages more effectively. There were nearly 1,200
23 outages in the FortisBC service territory in 2011. Due to the limited visibility
24 currently available to the System Control Center on the status of the distribution
25 network downstream from distribution substations, current processes rely
26 primarily on customers contacting the Company to advise of local outages in their
27 area. This method determines a rough geographic location of the outage but
28 does not provide the exact timing or scale of the outage. Crews must be
29 dispatched to patrol feeders and identify the specific sections affected by the
30 outage (for example blown fuses, damaged infrastructure, etc). The time-
31 consuming nature of this process can be further impacted by the occurrence of
32 multiple outage events due to weather conditions, as well as the time of day as it
33 is difficult to visually verify the status of infrastructure during a night time outage
34 event. When an outage occurs during the night, the Company may not even
35 receive notification from customers until the following day, further delaying the
36 timely restoration of service. Outage data from the AMI system can be used to

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 8

1 map outages and determine location and number of customers without service.
2 Disruptions in power delivery can be detected at specific transformers, down to
3 individual metering endpoints with full visibility provided back to the System
4 Control Center. This information will facilitate improved identification of the
5 scope of the outage and assist with prioritizing the restoration of service.

6 With respect to the MWMS, the field workforce will receive outage work orders on their MWMS
7 field tools. These outages, or power out events, are initiated within the AMI system, which in
8 turn will feed the MWMS field tools via the OMS.

9 In general terms, it is possible to implement an OMS and/or MWM system without an AMI
10 system; however, these systems would be dependent on customer calls as the detection source
11 for customer outages and therefore would be less timely, less accurate and more labour
12 intensive than using the AMI outage data.

13

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 9

1 **7. Reference: Exhibit B-2, page 8**

2 FBC has sought to mitigate the impact of the above factors through a combination of seeking out efficiencies in capital spending and re-prioritizing projects for further evaluation. Examples of efficiency initiatives undertaken to date include comprehensive pre-construction planning, combining transmission and distribution sustainment work into larger programs and resourcing through a competitive bid process, and a focus on reducing design costs across various information system applications. For 2017, FBC is continuing its capital productivity focus on a number of projects, by commencing engineering and procurement sooner than in previous years in order to better assess and schedule resourcing requirements for design and construction. This will allow FBC to effectively schedule construction with internal and external resources and execute earlier in the calendar year to allow for more flexible and efficient capital spending.

3 FBC manages its capital investment plan to maintain a safe and reliable electric system with an acceptable risk profile, to optimize resources and spending, and to achieve efficiencies and cost savings. The capital plan contains a mix of projects, some of which are time-sensitive and others that have some flexibility in timing. This is done with the understanding that conditions change and the plan must be capable of adapting. This plan flexibility allows FBC to manage and execute typically expected levels of unforeseen urgent work that come up throughout the year within the resource and budget constraints of the capital plan. Apart from this routine capital plan management, FBC would not consider deferring any significant capital spending to after the PBR period. FBC believes that deferring any significant capital spending to after the PBR period would result in increased risk exposure to the system and would ultimately result in higher costs to execute the work. Furthermore, deferral of projects to after the PBR period could lead to an accumulation of work that could exceed FBC's ability to execute in a timely manner.

4 7.1 Please provide FBC's definition of 'significant' with regard to the capital spending
5 that it would not consider deferring to after the PBR period.

6
7 **Response:**

8 In this context, FBC considers "significant" to be a combination of both the volume and nature of
9 the work. In general terms, this includes capital spending related to mandatory or essential
10 projects or deferral of sufficient quantities of flexible work that would present execution
11 challenges due to the accumulated volume of work and/or that would result in negative impacts
12 on safety or reliability.

13
14
15
16 7.2 Has FBC already deferred any capital spending to the after the PBR period?
17

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 10

1 **Response:**

2 Please refer to the response to BCUC IR 1.11.1.2.

3

4

5

6 7.3 If yes, please provide the total value (\$) of the projects deferred, and provide a
7 breakdown by project.

8

9 **Response:**

10 Please refer to the response to BCUC IR 1.11.1.2

11

12

13

14 7.4 Please provide the reason for deferral for each project.

15

16 **Response:**

17 Please refer to the response to BCUC IR 1.11.1.2.

18

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p style="text-align: center;">Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p style="text-align: center;">Page 11</p>

1 **8. Reference: Exhibit B-2, page 8**

2 FBC has been successful in mitigating some of the cost pressures through efficiencies and work
3 prioritization. However, the cost pressures have exceeded the Company's ability to re-prioritize
4 further work within the formula capital spending envelope without incurring more risk to the
5 system. As well, previous work that was delayed is now considered essential or mandatory
6 work and cannot be deferred further. To mitigate this risk exposure, FBC has increased its
7 planned sustainment activities in 2017.

8 8.1 Please describe the now essential or mandatory work that was delayed and
9 when it was originally scheduled.

10 **Response:**

11 Following is a list of projects re-prioritized from previous years including their previously
12 scheduled dates and classifications:

- 13 • Distribution Rehabilitation scope for three distribution feeders in the Kootenay and
14 Boundary regions (Essential). These projects were deferred from 2016 to 2017 due to
15 capital cost pressures. The 2017 forecast cost is approximately \$1 million to complete.
- 16 • Condition Assessment and Rehabilitation for 38 Line (Kootenay Lake Crossing span)
17 (Essential). This project was deferred from 2015 due to capital cost pressures. The 2017
18 forecast cost is \$0.420 million to complete.
- 19 • Transmission Rehabilitation scope for the following lines: 27 Line, 72 Line, 74 Line, 32
20 Line, 19 Line, 75 Line, 55 Line (Essential). These projects were deferred from 2016 to
21 2017 due to capital cost pressures. The 2017 forecast cost is \$0.500 million.
- 22 • Distribution Line Rebuilds scope for portions of two distribution feeders in the Kootenay
23 and South Okanagan regions (Essential). These projects were deferred from 2015 due
24 to capital cost pressures. The 2017 forecast cost is \$0.450 million to complete.
- 25 • Distribution Line Rebuild scope for portion of a distribution feeder in Creston (Midgely
26 Mountain) (Essential). This project was deferred from 2016 due to capital cost
27 pressures. The 2017 forecast cost is \$0.100 million to complete.
- 28 • Underground Cable Replacement scope for a distribution feeder in Kelowna (Essential).
29 This project was deferred from 2014 due to capital cost pressures. The 2017 forecast
30 cost is \$0.150 million to complete.
- 31 • Glenmore Feeder 5 (Summit Drive) Capacity Upgrade (Essential). This project was
32 deferred from 2015 due to capital cost pressures. The 2017 forecast cost is \$0.410
33 million to complete.
- 34 • Installation of oil containment at the Keremeos substation (Essential). This project was
35 deferred from 2015 due to capital cost pressures. The 2017 forecast cost is \$0.350
36 million to complete.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 12

- 1 • Replacement of four bulk oil circuit breakers at three distribution substations (Essential).
2 This project was deferred from 2016 due to capital cost pressures. The 2017 forecast
3 cost is \$0.800 million to complete.
- 4 • Princeton Roof Replacement (Mandatory). This project was deferred from 2015 to 2017
5 due to capital cost pressures. Repairs were completed on the roof to temporarily extend
6 the life. The 2017 forecast cost is approximately \$0.250 million to complete.
- 7 • Rooftop HVAC Replacement for non-compliant refrigerant (Mandatory). This multi-year
8 project was deferred from starting in 2015 to 2016 due to capital cost pressures. The
9 2017 forecast cost is \$0.700 million.
- 10 • Vehicle replacement projects were deferred from 2014 thru 2016 due to capital budget
11 pressures. The 2017 forecast cost is \$0.200 million in 2017.

12

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 13

1 **9. Reference: Exhibit B-2, page 13**

Similarly, FBC is not recommending an increase to the annual capital formula amount for the remaining years of the PBR term. FBC does not believe that a lengthy process to review which capital items should be added into the capital formula is an efficient solution to the ongoing capital issues. By not adjusting the capital formula amount, the incentive properties of the PBR Plan remain intact and will remain consistent throughout the remainder of the PBR term. While FBC expects to continue to experience capital cost pressures, the dead band mechanism remains a reasonable way to deal with capital cost pressures by ensuring no sharing of negative earnings impacts with customers for capital expenditures in excess of 10 percent of the formula amount or 15 percent over two years.

2 **1.4.3.4 Conclusion on Capital Spending**

FBC has evaluated its alternatives and believes that it is in the best long-term interest of customers to pursue the capital spending program it has planned that will result in the dead band being exceeded, not only in 2017, but in the remaining years of the PBR term. It is clear that the capital spending is required and it is the right thing to do to limit increasing risk exposure in the system, and avoid unplanned and urgent capital work that reduces productivity and drives up project costs by reducing FBC's ability to plan and execute the work.

3
4 9.1 Does FBC expect to adjust the capital formula amount in future years of the
5 PBR? Please explain why or why not.

6
7 **Response:**

8 No. Please refer to the response to BCUC IR 1.12.9.

9
10
11
12 9.1.1 If yes, please provide quantification of any adjustments that FBC
13 expects it might make in future years of the PBR.

14
15 **Response:**

16 Please refer to the response to CEC IR 1.9.1.

17

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 14

10. Reference: Exhibit B-2, page 21

Table 3-1: Forecast 2018 DSM and Other Savings (GWh)

Line No.	Description	DSM	AMI	CIP	RCR	Rate-Driven	Total
1	Residential	(14)	9	(4)	(4)	(1)	(13)
2	Commercial	(17)				(1)	(18)
3	Wholesale	(2)				(1)	(2)
4	Industrial	(2)					(2)
5	Lighting	(1)					(1)
6	Irrigation	(0)					
7	Net	(37)	9	(4)	(4)	(3)	(38)
8	Losses	(3)	(7)				(10)
9	Gross Load	(40)	2	(4)	(4)	(3)	(48)

10.1 Are the AMI savings the same as those originally anticipated in the AMI project, or have these changed since implementation? Please explain.

Response:

The AMI savings are the same as originally anticipated, as modified by the Commission's determinations in Order C-7-13 which reduced the assumed annual energy per high load site from 151.2 MWh to 113.4 MWh.

10.2 Please confirm or otherwise explain that the AMI savings are from theft detection and do not include any additional savings.

Response:

Confirmed; the AMI savings are from theft detection and deterrence.

10.3 How does FBC measure the AMI savings from revenue protection that are attributed to AMI? Please explain.



FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 15

1 **Response:**

2 Please refer to the response to BCUC IR 1.17.5.1.

3

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 16

11. **Reference: Exhibit B-2, page 21 and 23 and Appendix A2 page 7**

¹⁶ CIP savings refer to potential savings due to the implementation of the Customer Information Portal, which allows customer to view historic billing and consumption data. The CIP was implemented in June, 2017.

Table 3-1: Forecast 2018 DSM and Other Savings (GWh)

Line No.	Description	DSM	AMI	CIP	RCR	Rate-Driven	Total
1	Residential	(14)	9	(4)	(4)	(1)	(13)
2	Commercial	(17)				(1)	(18)
3	Wholesale	(2)				(1)	(2)
4	Industrial	(2)					(2)
5	Lighting	(1)					(1)
6	Irrigation	(0)					
7	Net	(37)	9	(4)	(4)	(3)	(38)
8	Losses	(3)	(7)				(10)
9	Gross Load	(40)	2	(4)	(4)	(3)	(48)

5.3 DSM AND OTHER SAVINGS (GWh) WITHOUT LOSSES¹⁶

Energy (GWh)	2012	2013	2014	2015	2016	2017S	2018F
Demand Side Management	(30)	(28)	(14)	(12)	(11)	(23)	(37)
Advanced Metering	-	2	3	4	4	5	9
Customer Information Portal (CIP)	-	-	-	-	-	(2)	(4)
Residential Conservation Rate	(8)	(14)	(14)	(4)	(4)	(4)	(4)
Rate-Driven	-	-	(5)	(5)	(3)	(3)	(3)
Total Net	(38)	(40)	(30)	(17)	(14)	(27)	(38)

11.1 Please provide the evidence supporting the figure of 4 GWh of savings being derived from the Customer Information Portal (CIP)

Response:

Please refer to the response to BCUC IR 1.17.7.

11.2 How did FBC measure the CIP savings of 2 GWh in 2017 when the CIP was only implemented in June 2017?

Response:

Please refer to the response to BCUC IR 1.17.7.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 17

11.3 Please explain why 'losses' impact each type of saving differently.

Response:

The losses for each savings type are calculated the same way except for AMI savings. For all savings except AMI, losses are calculated by taking the before savings net load loss value and multiplying it by the savings. The before savings net load loss rate of 8.7 percent is calculated by taking the before savings losses and dividing them by the before savings net load. The before savings gross load loss rate of 8 percent is calculated the same way, except the gross load is used instead of the net load in the denominator. The table below shows the calculations for the 2018 DSM, CIP, RCR and rate driven losses. The losses for CIP, RCR and rate-driven savings are not shown in Table 3-1 since they are each lower than 0.5 GWh.

	Savings	Before-Savings Net Load Loss Value (%)	Losses
DSM	36.8	8.7%	3.2
RCR	3.6	8.7%	0.3
CIP	3.9	8.7%	0.3
Rate -Driven	2.9	8.7%	0.2

The impact of AMI is to reduce losses as explained in section 3.5.7.1 of the Application. AMI-related losses are estimates based on the year-to-year forecast change in the number of paying high load sites, multiplied by the assumed annual energy usage per high load site.

11.4 Please provide the calculation for the losses or explain why it is not applicable for each saving type.

Response:

Please refer to the response to CEC IR 1.11.3.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 18

12. Reference: Exhibit B-2, page 23

Table 3-1: Forecast 2018 DSM and Other Savings (GWh)

Line No.	Description	DSM	AMI	CIP	RCR	Rate-Driven	Total
1	Residential	(14)	9	(4)	(4)	(1)	(13)
2	Commercial	(17)				(1)	(18)
3	Wholesale	(2)				(1)	(2)
4	Industrial	(2)					(2)
5	Lighting	(1)					(1)
6	Irrigation	(0)					
7	Net	(37)	9	(4)	(4)	(3)	(38)
8	Losses	(3)	(7)				(10)
9	Gross Load	(40)	2	(4)	(4)	(3)	(48)

12.1 Please explain why the impacts of the Residential Conservation Rate (RCR) are not embedded already in the before-savings forecast.

Response:

The RCR impacts to 2016 are embedded in the actual loads. The forecast (cumulative) RCR impact of 4 GWh in 2018 as shown in Table 3-1 is the sum of the 2017 and 2018 incremental impact compared to the impact that is embedded in the 2016 actual load. The impact of the RCR, which was introduced in 2012, is assumed to be fully realized by the end of 2017. The incremental RCR impact in 2017 is 4 GWh and the incremental RCR impact in 2018 is nil.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 19

13. Reference: Exhibit B-2, page 23 and Appendix A3 page 7

Table 3-1: Forecast 2018 DSM and Other Savings (GWh)

Line No.	Description	DSM	AMI	CIP	RCR	Rate-Driven	Total
1	Residential	(14)	9	(4)	(4)	(1)	(13)
2	Commercial	(17)				(1)	(18)
3	Wholesale	(2)				(1)	(2)
4	Industrial	(2)					(2)
5	Lighting	(1)					(1)
6	Irrigation	(0)					
7	Net	(37)	9	(4)	(4)	(3)	(38)
8	Losses	(3)	(7)				(10)
9	Gross Load	(40)	2	(4)	(4)	(3)	(48)

- Rate-Driven impacts are price elasticity savings given as a percentage of the before-savings loads. The current price elasticity estimate of -0.05 is consistent the elasticity used by BC Hydro.

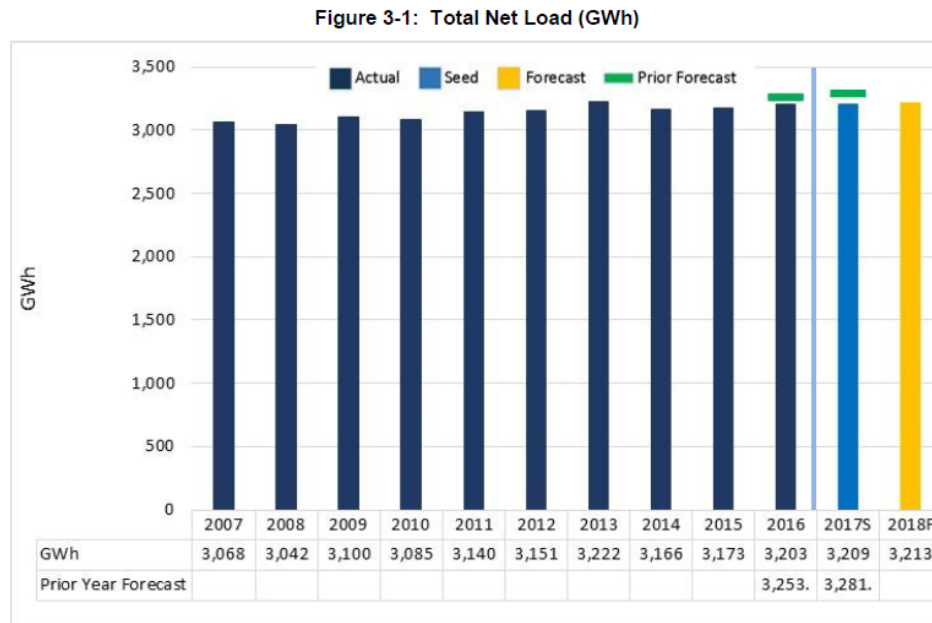
13.1 Please provide any evidence FBC has supporting the use of -0.05 as an appropriate elasticity figure for FBC.

Response:

The current price elasticity estimate of -0.05 is consistent with BC Hydro's estimate of price elasticity. Based on the assessment of similarities between the two utilities, such as geographical proximity and similarities in terms of customer mix and behavior, the BC Hydro estimate provides a good proxy for the price elasticity-driven savings for FBC.

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 20</p>

1 **14. Reference: Exhibit B-2, page 24**



2

3 14.1 Please complete the Prior Year Forecast for each year.

4

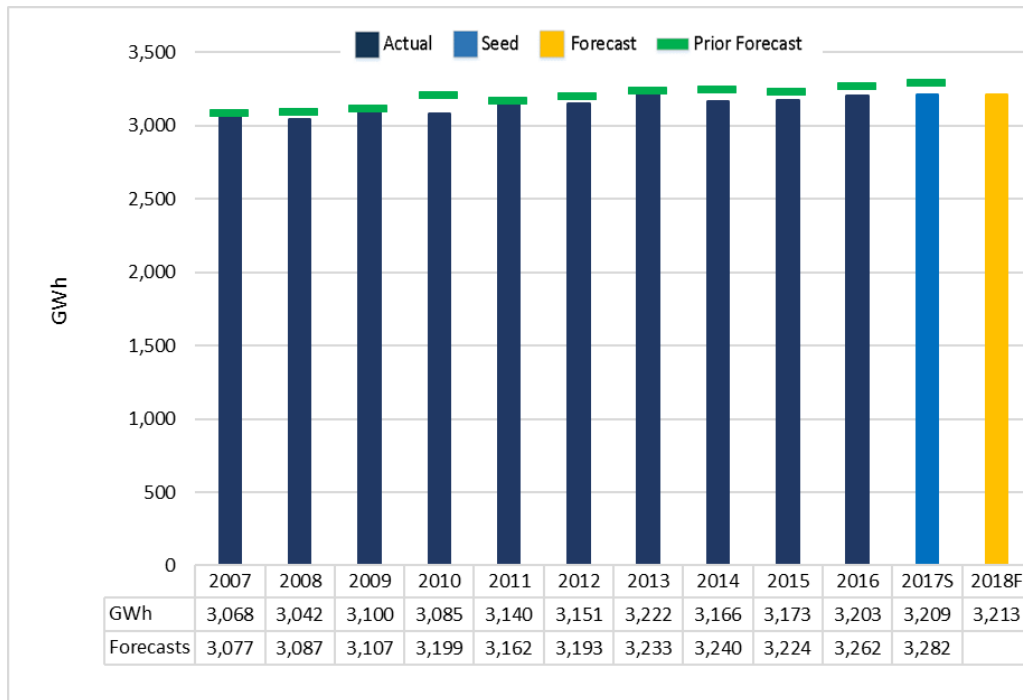
5 **Response:**

6 The revised figure is provided below.

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 21</p>

1

Revised Figure 3-1: Total Net Load (GWh) with Historical Forecasts



2

3 Please note that there is a rounding error in the above referenced exhibit. The correct approved
4 net load for 2017F is 3,282 GWh and not 3,281 GWh as shown in Figure 3-1.

5 Note: The 2013 forecast included the City of Kelowna (CoK) as a single (wholesale) customer
6 since the application for the acquisition of the CoK had not been filed at the time the forecast
7 was prepared for the 2012-2013 Revenue Requirements Application.

8

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 22

1 **15. Reference: Exhibit B-2, page 24**

Table 3-3: Normalized After-Savings Gross Load and System Peak

No.	Description	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017S	2018F
	Energy (GWh)												
1	Residential	1,165	1,196	1,239	1,242	1,249	1,229	1,353	1,296	1,298	1,296	1,290	1,280
2	Commercial	650	661	675	660	667	681	788	866	853	901	908	912
3	Wholesale	878	908	908	895	910	899	675	567	580	574	585	586
4	Industrial	314	218	216	234	271	291	352	381	380	373	370	379
5	Lighting	13	13	13	14	13	13	13	16	16	16	16	15
6	Irrigation	48	46	49	40	40	38	40	40	46	42	41	41
7	Net Load	3,068	3,042	3,100	3,085	3,140	3,151	3,222	3,166	3,173	3,203	3,209	3,213
8	Losses	346	309	315	284	307	271	278	270	272	274	275	272
9	Gross Load	3,414	3,351	3,416	3,369	3,447	3,422	3,500	3,436	3,446	3,477	3,484	3,485
10													
11	System Peak (MW)												
12	Winter Peak	704	707	704	726	702	723	698	693	685	724	710	712
13	Summer Peak	520	502	496	566	537	589	600	620	611	593	580	581

2

3 **15.1 How does FBC determine 'losses' for each year?**

4

5 **Response:**

6 In simplified terms, the normalized losses for each year are determined by taking the annual
7 normalized gross load, based on System Control Centre generation and import data, and then
8 subtracting the normalized net load, which is estimated based on CIS billing information. The
9 difference between these two values is the losses.

10

11

12

13 **15.2 Why have losses generally declined as a percentage of Net and Gross load since**
14 **2011? Please explain.**

15

16 **Response:**

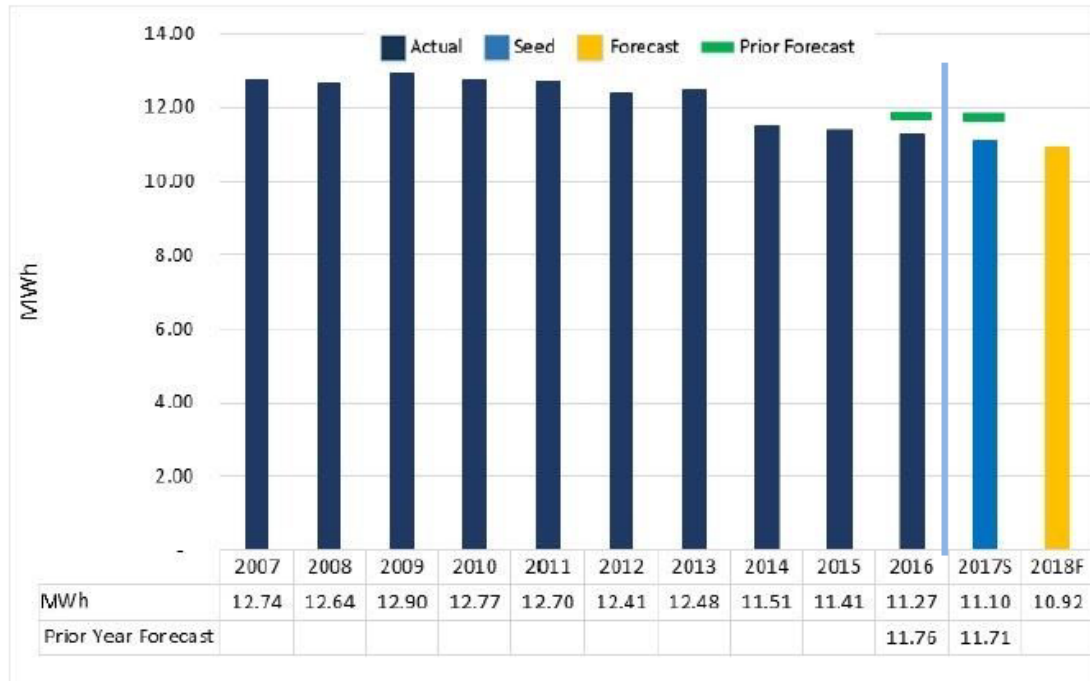
17 Losses have declined since 2011 primarily due to the completion in that year of the Okanagan
18 Transmission Reinforcement Project (OTR) which lowered losses on the system. The project
19 increased the reliability of the South Okanagan electrical system by upgrading overhead lines
20 from 161kV to 230kV, between South Vaseux Lake to Oliver and north to Penticton. It also
21 included a new substation in Oliver and upgraded existing substations in Penticton, Vaseux
22 Lake, Oliver and Kelowna.

23

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 23</p>

1 **16. Reference: Exhibit B-2, page 25**

Figure 3-2: Normalized After-Savings Residential UPC (MWh)



2

3 16.1 Please complete Figure 3-2 to show the Prior Year forecasts for each year.

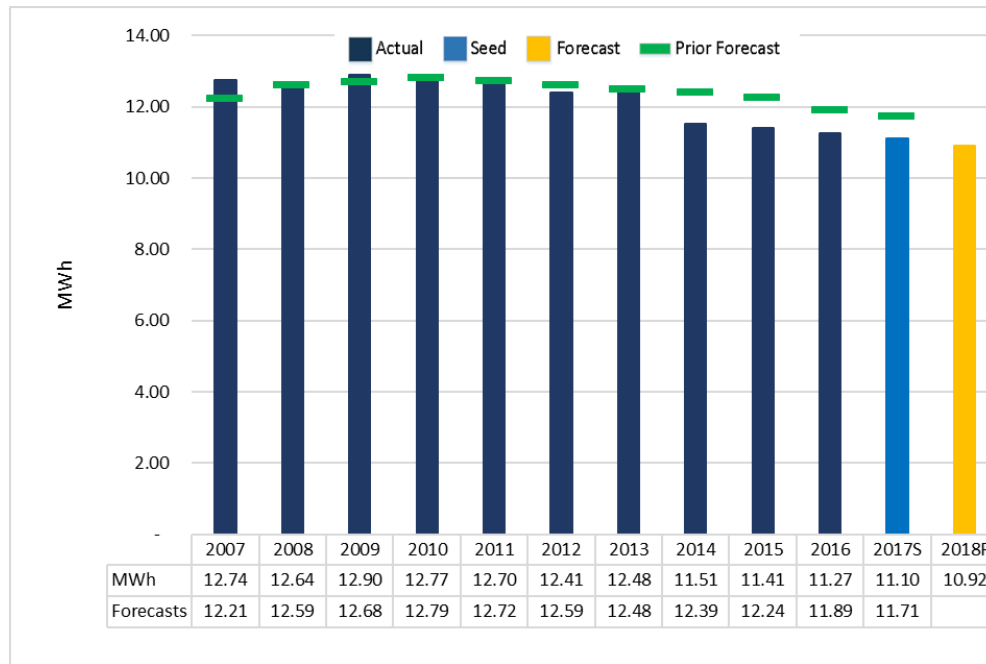
4

5 **Response:**

6 The revised figure is provided below.

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 24</p>

Revised Figure 3-2: Normalized After-Savings Residential Rate UPC (MWh) including Historical Forecasts

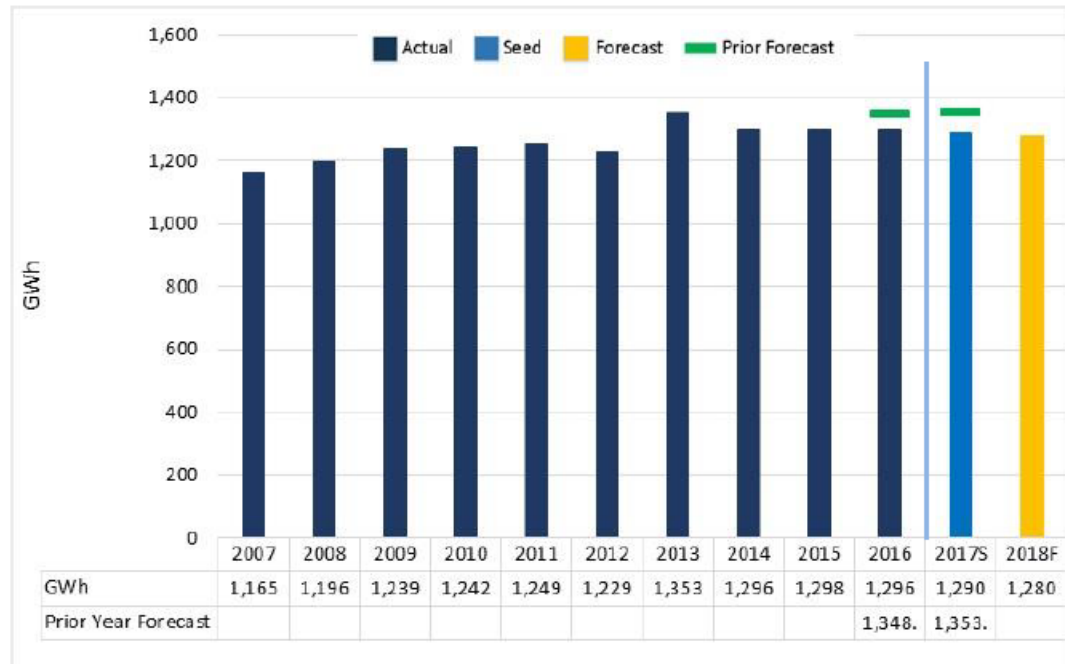


Note: The 2013 forecast included the CoK as a single (wholesale) customer since at the time the forecast was prepared for the 2012-2013 Revenue Requirements Application, the application for the acquisition of the CoK had not yet been filed.

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 25</p>

1 **17. Reference: Exhibit B-2, page 26**

Figure 3-3: Normalized After-Savings Residential Load (GWh)



2

3 17.1 Please complete Figure 3-3 to show the Prior Year forecasts for each year.

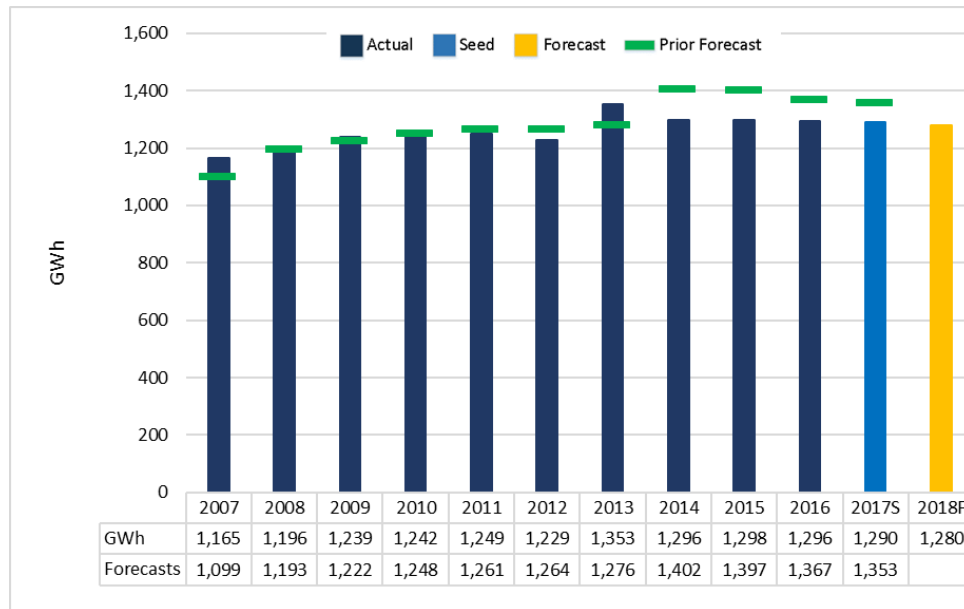
4

5 **Response:**

6 The revised figure is provided below.

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 26</p>

1 **Revised Figure 3-3: Normalized After-Savings Residential Load (GWh) with Historical Forecasts**



2

3 Note: The 2013 forecast included the CoK as a single (wholesale) customer since the

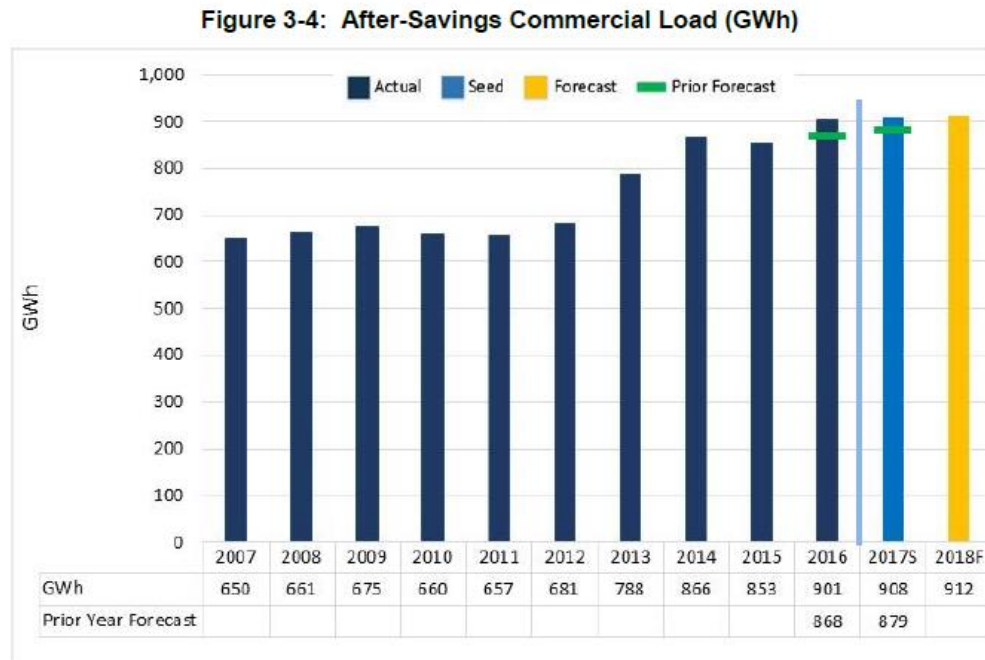
4 application for the acquisition of the CoK had not been filed at the time the forecast was

5 prepared for the 2012-2013 Revenue Requirements Application.

6

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 27</p>

1 **18. Reference: Exhibit B-2, page 26**



2

3 18.1 Please complete Figure 3-4 to show the Prior Year forecasts for each year.

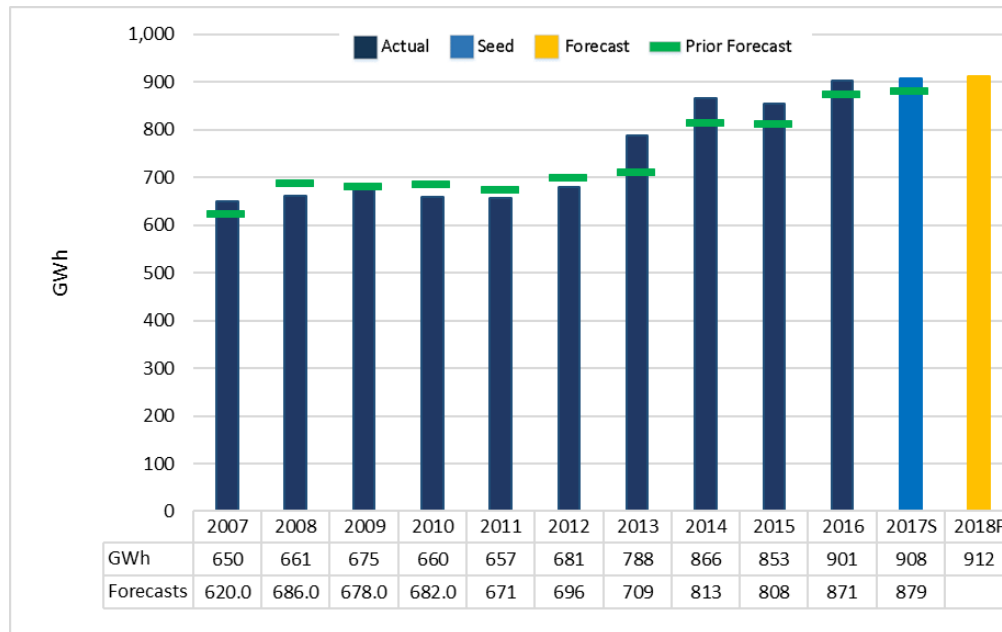
4

5 **Response:**

6 The revised figure is provided below.

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 28</p>

1 **Revised Figure 3-4: After-Savings Commercial Load (GWh) with Historical Forecasts**



2

3 Note: The 2013 forecast included the CoK as a single (wholesale) customer since the

4 application for the acquisition of the CoK had not been filed at the time the forecast was

5 prepared for the 2012-2013 Revenue Requirements Application.

6

7

8

9 18.2 Please provide FBC's views as to why there has been an increase of about 100 –

10 200 GWh from 2012 to 2016, which is being forecast to continue into 2018.

11

12 **Response:**

13 The reason for the increase in commercial load starting in 2013 is the acquisition of the City of

14 Kelowna (CoK) as of April 1, 2013. The load impacts first appear in 2013 since CoK was a

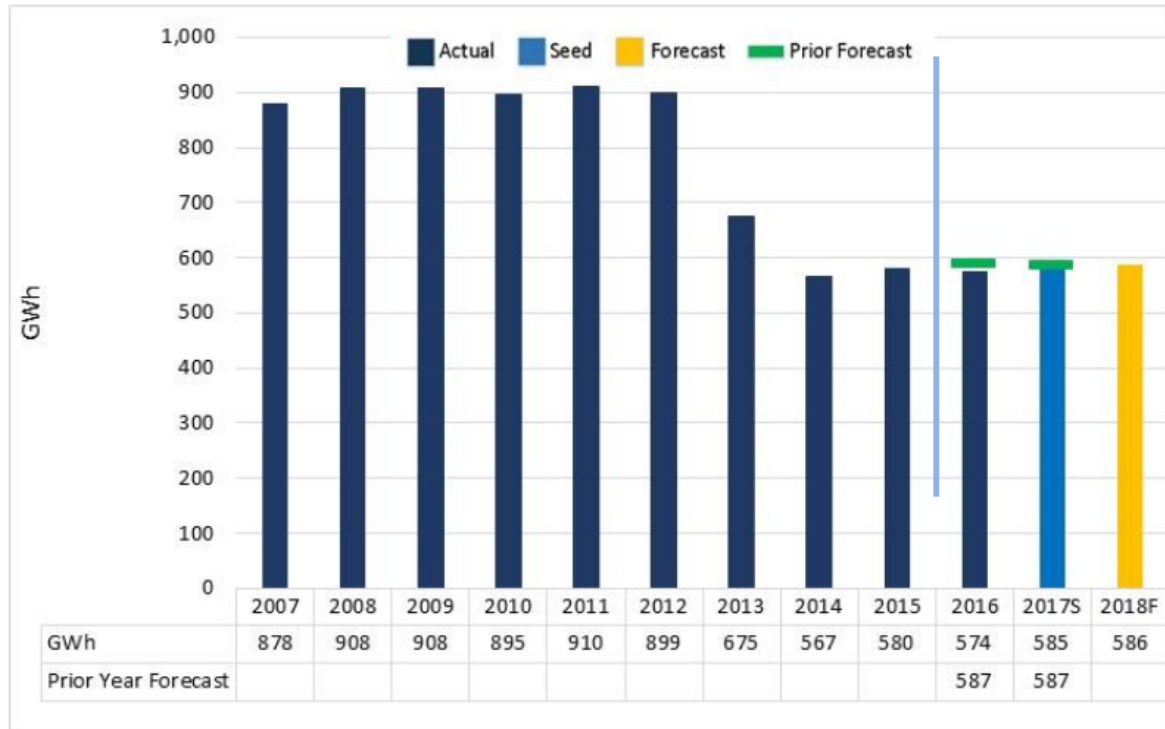
15 wholesale customer for three months of that year; the full impact is seen in 2014.

16

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 29</p>

1 **19. Reference: Exhibit B-2, page 27**

Figure 3-5: Normalized After-Savings Wholesale Load (GWh)



2

3 19.1 Please complete Figure 3-5 to show the Prior Year forecasts for each year.

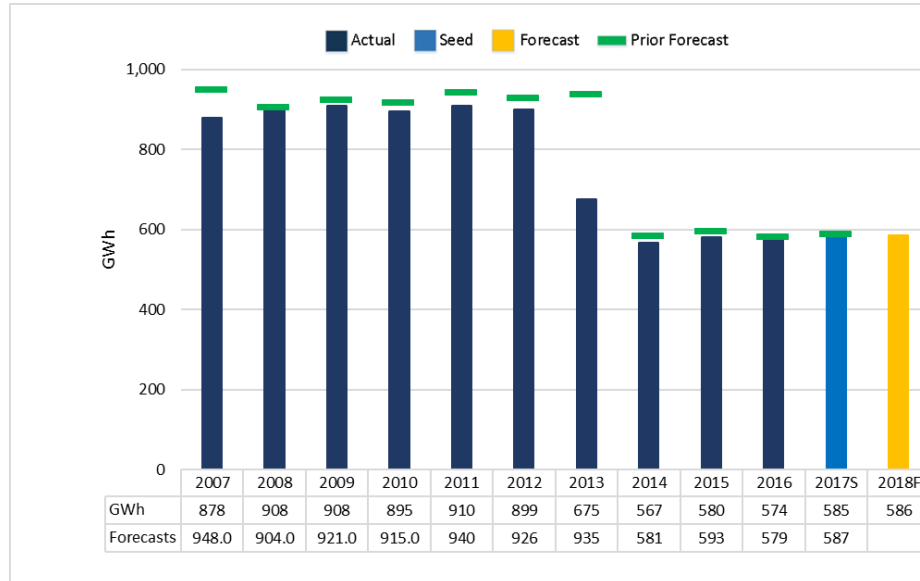
4

5 **Response:**

6 The revised figure is provided below.

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 30</p>

1 **Revised Figure 3-5: Normalized After-Savings Wholesale Load (GWh) with Historical Forecasts**



2

3 Note: The 2013 forecast included the CoK as a single (wholesale) customer since the
4 application for the acquisition of the CoK had not been filed at the time the forecast was
5 prepared for the 2012-2013 Revenue Requirements Application.

6

7

8

9 19.2 Please provide FBC's views as to the reason for the significant decrease from
10 the levels between 2007 2012 and those from 2013 through to 2016, and is being
11 forecast to continue into 2018.

12

13 **Response:**

14 The reason for the significant decrease in the wholesale load starting in 2013 is the acquisition
15 of the City of Kelowna (CoK), as of April 1, 2013. The load impact first appears in 2013 since
16 CoK was a wholesale customer for three months of that year; the full impact is seen in 2014.

17

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 31

1 **20. Reference: Exhibit B-2, page 27**

3.5.4 Industrial

Consistent with past practice, the industrial forecast is determined through a combination of customer load surveys and, when not available, escalation of the most recent annual loads by the corresponding provincial GDP growth rates for individual industries.

FBC sends all industrial customers a load survey that requests the customer's anticipated use for the next 5 years. A survey is used because individual industrial customers have the best

understanding of what their future energy usage will be. This year FBC received a response from 80 percent (40 of 50) of the surveys sent out. The responding customers represent approximately 89 percent of the total industrial load.

As shown in Figure 3-6 below, after-savings industrial load is forecast to increase by 9 GWh in 2018 compared to the 2017S.

20.1 Please provide the response rate (customer response & per cent of total load) for each year dating back to 2007.

Response:

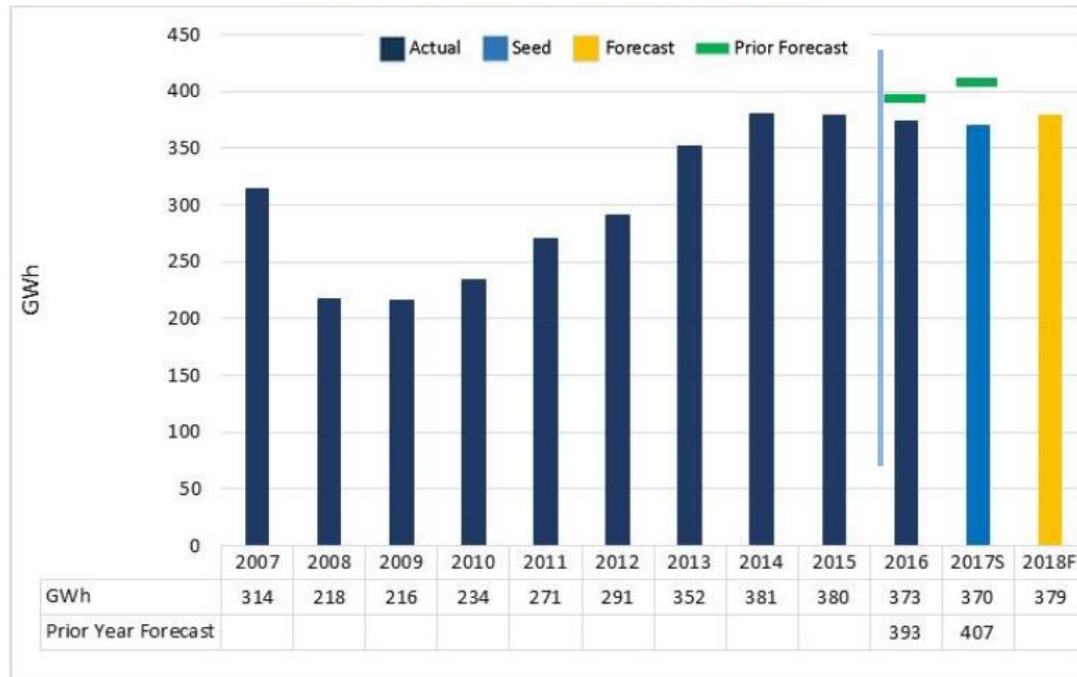
The requested information is provided in the table below.

RRA/PBR/AR Year Filing	Responders Count	Total Customers	% Customers Responded	% Responders by Volume
2007	7	39	18%	57%
2008	15	38	39%	80%
2009	18	38	47%	48%
2010	22	34	65%	89%
2011	15	33	45%	80%
2012	14	36	39%	40%
2013	14	36	39%	40%
2014	28	39	72%	79%
2015	33	39	85%	91%
2016	42	49	86%	91%
2017	44	50	88%	88%
2018	40	50	80%	89%

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 32</p>

1 **21. Reference: Exhibit B-2, page 28**

Figure 3-6: After-Savings Industrial Load (GWh)



2

3 21.1 Please complete Figure 3-6 to show the Prior Year forecasts for each year.

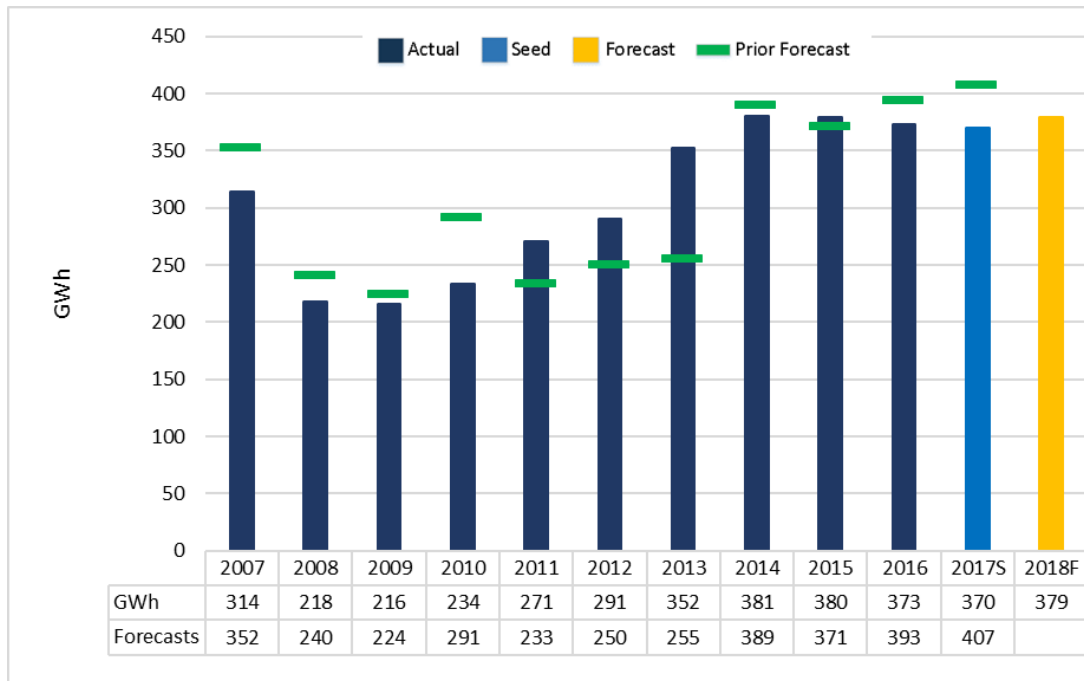
4

5 **Response:**

6 The revised figure is provided below.

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 33</p>

1 **Revised Figure 3-6: After-savings Industrial Load (GWh) with Historical Forecasts**



2

3 Note: The 2013 forecast included the CoK as a single (wholesale) customer since the

4 application for the acquisition of the CoK had not been filed at the time the forecast was

5 prepared for the 2012-2013 Revenue Requirements Application.

6

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 34

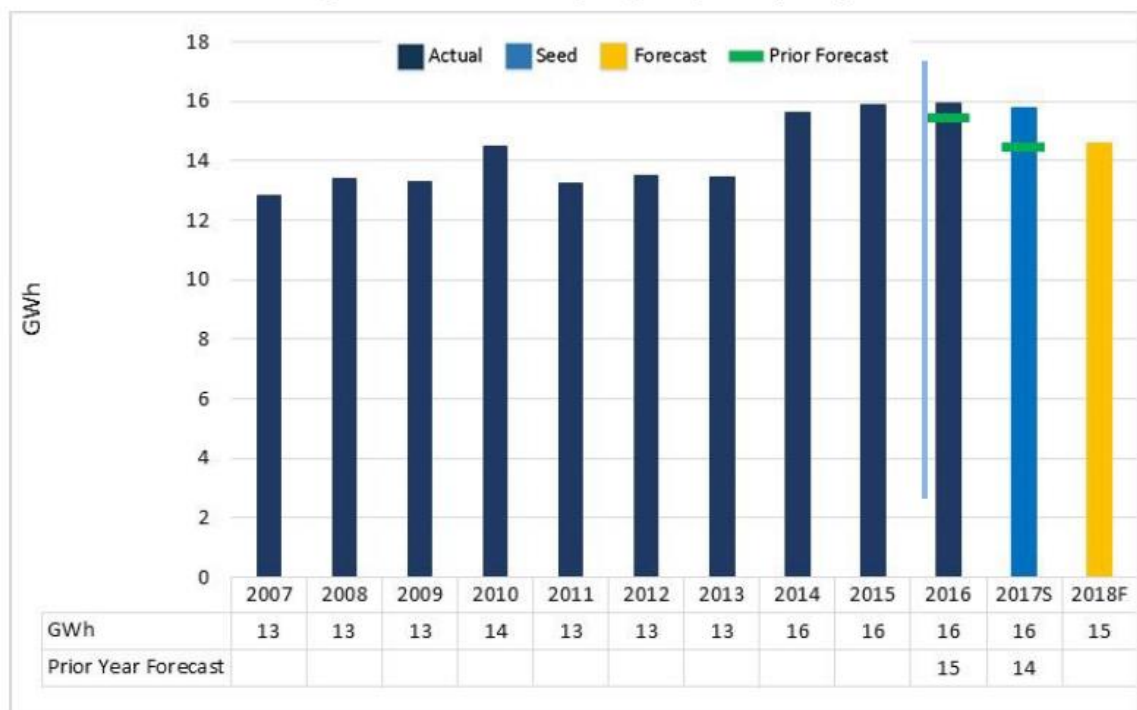
1 **22. Reference: Exhibit B-2, page 28 and 29**

3.5.5 Lighting

Consistent with past practice FBC checks for trends in the historical load data. There is a statistically significant trend for the most recent five-year period, which was used to forecast load for this class. As shown in Figure 3-7 below, after-savings lighting load is forecast to decrease by 1 GWh in 2018 compared to 2017S.

2

Figure 3-7: After-Savings Lighting Load (GWh)



3

4 22.1 Please complete figure 3-7 to show the Prior Year forecasts for each year.

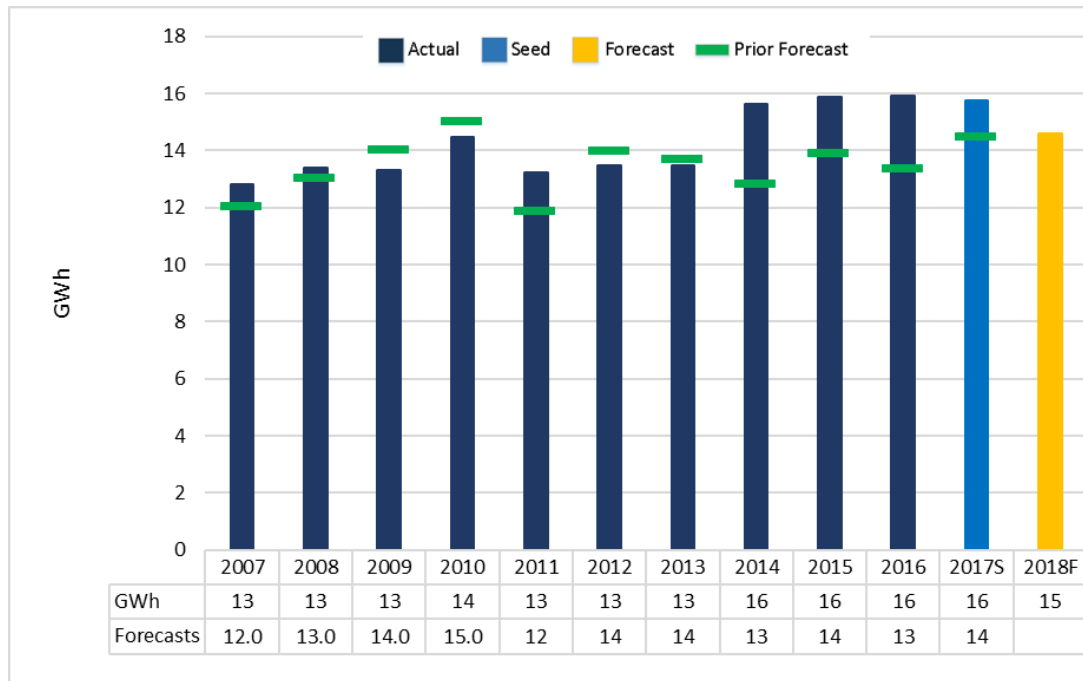
5

6 **Response:**

7 The revised figure is provided below.

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 35</p>

1 **Revised Figure 3-7: After-Savings Lighting Energy (GWh) with Historical Forecasts**



2

3 Note: The 2013 forecast included the CoK as a single (wholesale) customer since the

4 application for the acquisition of the CoK had not been filed at the time the forecast was

5 prepared for the 2012-2013 Revenue Requirements Application.

6

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 36

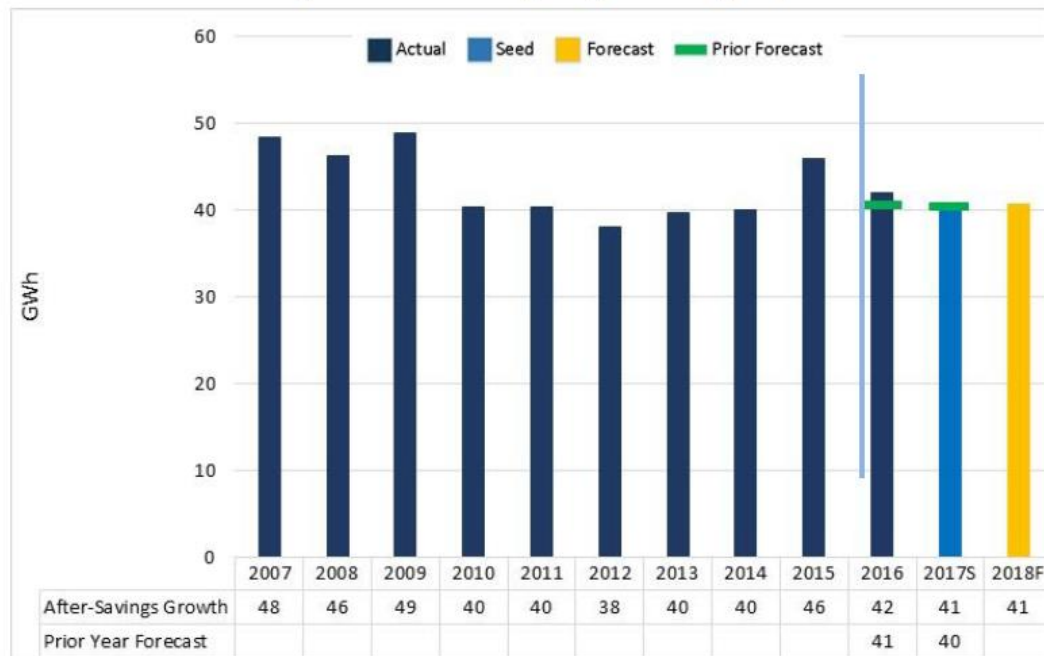
1 **23. Reference: Exhibit B-2 page 29 and page 30**

3.5.6 Irrigation

Consistent with past practice FBC checks for trends in the historical load data. No statistically significant trend was found for this class therefore an average of the most recent five-year period was used to forecast load. As shown in Figure 3-8 below, after-savings irrigation load is forecast remain constant in 2018.

2

Figure 3-8: After-Savings Irrigation Load (GWh)



3

4 23.1 Please complete Figure 3-8 to provide the actual irrigation load.

5

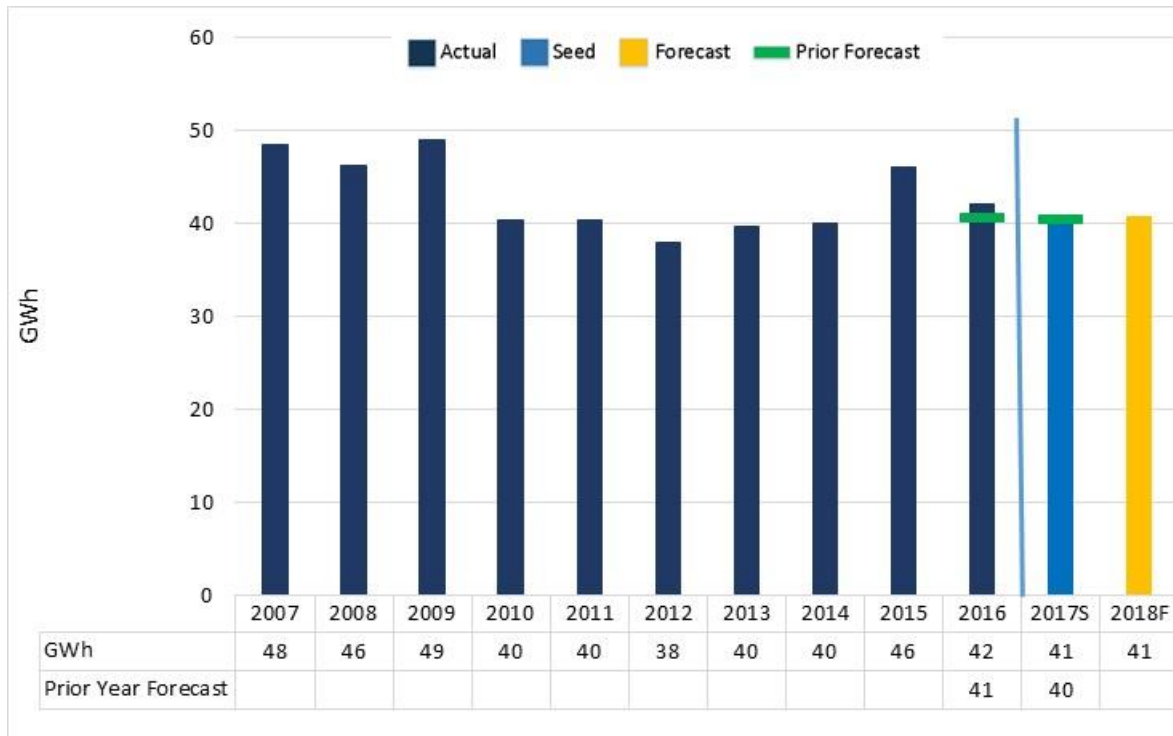
6 **Response:**

7 The historical actual irrigation loads are shown in Figure 3-8 from the years 2007 to 2016 in the
8 After-Savings Growth row. FBC notes that the legend in the table in Figure 3-8 should read
9 “GWh” and not “After Savings Growth”. An updated figure is provided below.

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 37</p>

1

Updated Figure 3-8: After-Savings Irrigation Load



2

3

4

5

6 23.2 Please complete figure 3-8 to provide the Prior Year Forecast for each year.

7

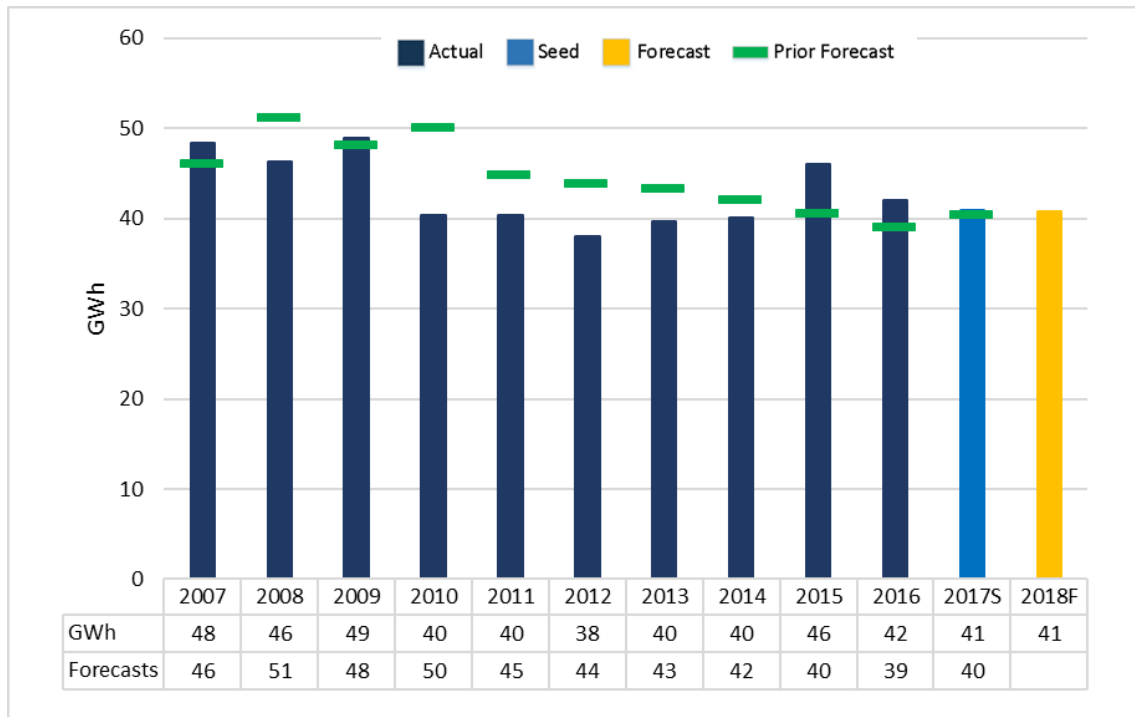
8 **Response:**

9 The revised figure is provided below.

<p>FortisBC Inc. (FBC or the Company)</p> <p>Multi-Year Performance Based Ratemaking Plan for 2014 through 2019</p> <p>Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date:</p> <p>October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC)</p> <p>Information Request (IR) No. 1</p>	<p>Page 38</p>

1

Figure 3-8: After-Savings Irrigation Energy (GWh) with Historical Forecasts



2

3

4 Note: The 2013 forecast included the CoK as a single (wholesale) customer since the
 5 application for the acquisition of the CoK had not been filed at the time the forecast was
 6 prepared for the 2012-2013 Revenue Requirements Application.

7

8

9

10 23.3 How many irrigation customers does FBC have?

11

12 **Response:**

13 As of August 2017 FBC had 1,088 irrigation customers.

14

15

16

17 23.4 Would it be reasonable for FBC to survey its irrigation customers? Please
 18 explain why or why not.

19



FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 39

1 **Response:**

2 Please refer to the response to IRG IR 1.3.1.

3

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p style="text-align: center;">Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p style="text-align: center;">Page 40</p>

1 **24. Reference: Exhibit B-2, page 30 and page 31**

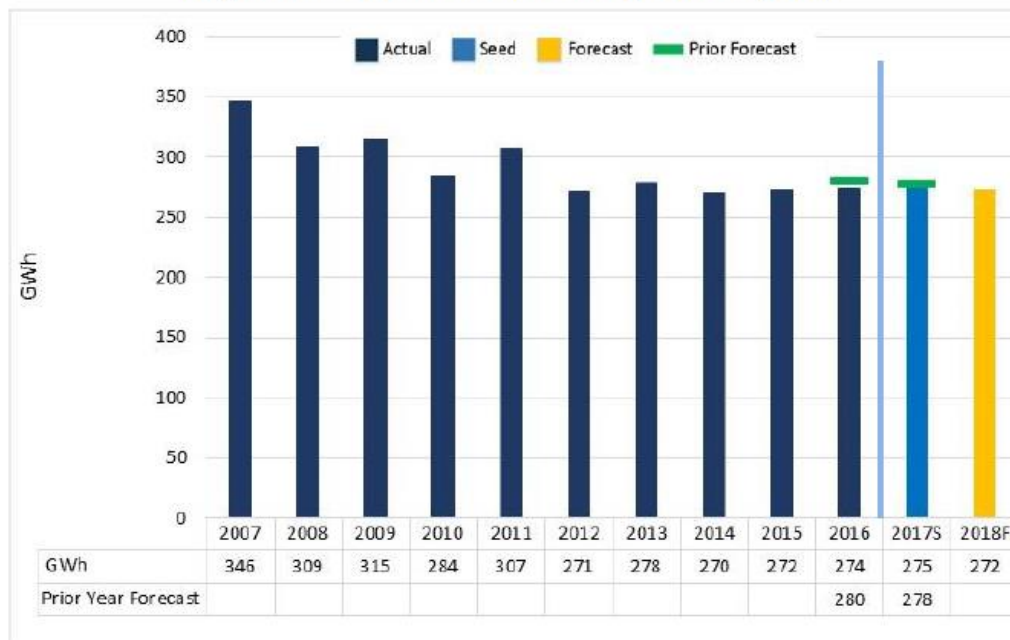
2 **3.5.7 Losses**

System losses consist of:

- Losses in the transmission and distribution system;
- Company use;
- Losses due to wheeling through the BC Hydro system; and
- Unaccounted-for energy (meter inaccuracies and theft).

Consistent with past practice FBC assumed a loss rate of 8 percent of gross load, before the AMI impact. The 8 percent loss rate was based on a loss study that was conducted in 2012, which is still in line with the loss rate that FBC is seeing on an annual basis (averaging 7.88 percent over the previous three years, after DSM and AMI impacts). AMI loss reduction is expected to further reduce the losses in the future. As shown in Figure 3-9 below, after-savings energy losses are forecast to decrease by 3 GWh in 2018.

Figure 3-9: Normalized After-Savings Losses (GWh)



24.1 Please explain why FBC considers the loss rate of 8% before AMI impact to be consistent with a loss rate of 7.88% after DSM and AMI impacts?

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 41

1 **Response:**

2 Both loss rates are consistent since they are both based on the same calculation which takes
3 the actual losses and divides it by the gross load. The 7.88 percent is based on the after-
4 savings loads while the 8 percent is based on the before-savings load.

5

6

7

8 24.1.1 What does FBC consider the impact of AMI to have been on the loss
9 rate.

10

11 **Response:**

12 FBC believes the majority of the loss reduction since 2013 is related to the detection and
13 deterrence impact of the AMI-enabled Revenue Protection program.

14

15

16

17 24.1.2 Please complete Figure 3-9 to provide the Prior Year Forecasts for each
18 year.

19

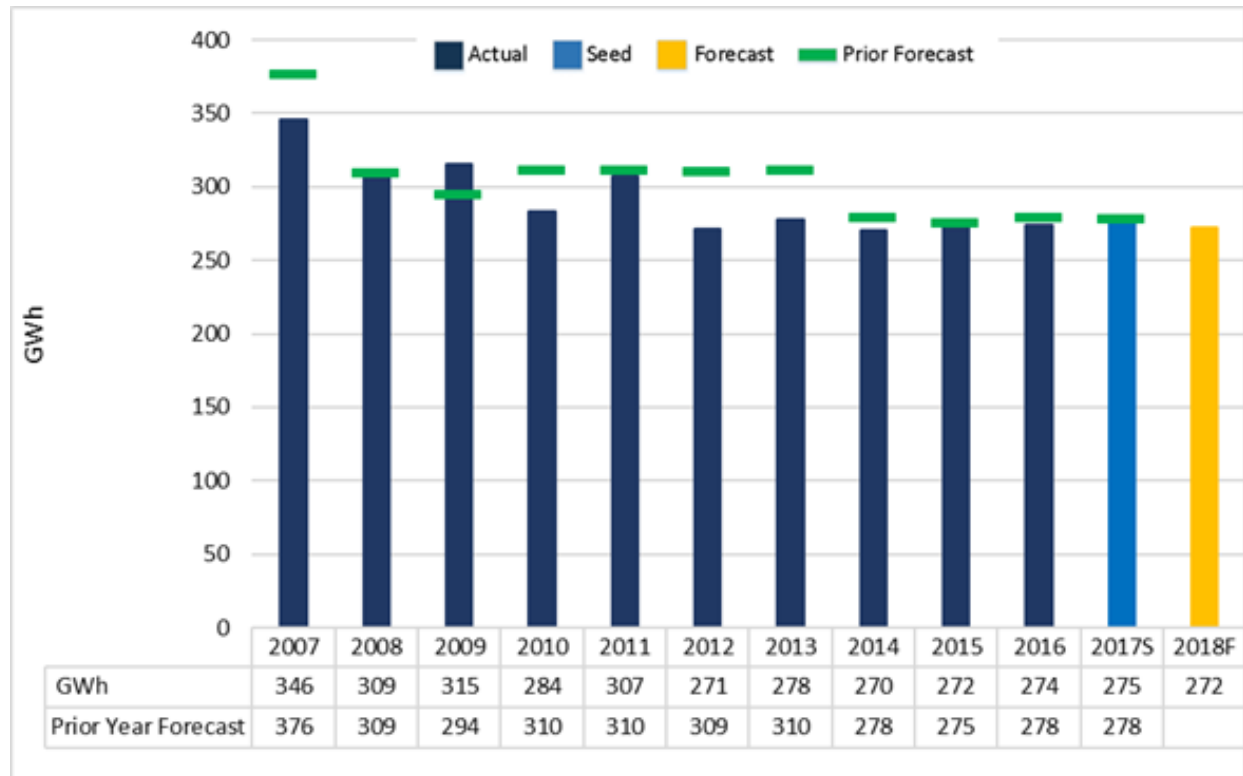
20 **Response:**

21 The requested figure is provided below.

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 42</p>

1

Revised Figure 3-9: Normalized After-Savings Energy Losses (GWh)



2

3 Note: The 2013 forecast included the CoK as a single (wholesale) customer since the
 4 application for the acquisition of the CoK had not been filed at the time the forecast was
 5 prepared for the 2012-2013 Revenue Requirements Application.

6

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 43

1 **25. Reference: Exhibit B-2, page 32**

Table 3-4: System Losses Before and After AMI, 2013 – 2019

Line No.	Year	Before AMI			After AMI		
		Actuals and Before-Savings Gross Load (GWh)	% of Gross Load	Normalized Actual and Forecast Losses (GWh)	Incremental AMI Impact (GWh)	% of Gross Load	Losses (GWh)
1	2012 Actual	3,421.7	7.92%	271.1			
2	2013 Actual	3,500.0	7.95%	278.1			
3	2014 Actual	3,436.0	7.86%	270.1			
4	2015 Actual	3,445.8	7.91%	272.4			
5	2016 Actual	3,476.6	7.87%	273.8			
6	2017 Seed	3,506.3	7.95%	278.9	(3.9)	7.84%	275.0
7	2018 Forecast	3,533.8	7.90%	279.1	(7.0)	7.70%	272.1

Note: The AMI impacts are incremental to the losses before AMI in each year, and are incorporated into the forecast for the following year (the 2018 forecast includes a 2017 forecast reduction of 3.9 GWh plus a 2018 forecast reduction of 3.0 GWh).

2

FBC is beginning to leverage the tamper detection functionality of the AMI system for theft identification and has also begun to implement its energy balancing program.

3

4 25.1 How does FBC determine the impact of AMI?

5

6 **Response:**

7 Please refer to the response to BCUC IR 1.17.5.1.

8

9

10

11 25.2 When will FBC be generating benefits from the tamper detection functionality of
12 the AMI.

13

14 **Response:**

15 FBC began leveraging the tamper detection functionality of the AMI system in the latter half of
16 2016, and has identified a number of services to date with tampered meter sockets.

17

18

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 44

1
2 25.3 Please describe the energy balancing program that FBC is beginning to
3 implement.
4

5 **Response:**

6 Please refer to the response to ICG IR 1.5.1.
7

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 45

1 **26. Reference: Exhibit B-2, page 32**

The following discussion of AMI-related O&M costs incurred in reducing electricity theft, i.e. related to the AMI-enabled revenue protection program, and their regulatory treatment is provided in this section in response to the directive cited above. The O&M expenditures incurred in reducing electricity theft that are incremental to those included in Base O&M. They relate primarily to the addition of a Revenue Protection Analyst for managing the development and operation of the AMI-enabled energy-balancing program, as well as the necessary field resources for the periodic deployment and relocation of the feeder metering devices as required. The incremental costs related to the Revenue Protection Analyst and field resources include 2018 O&M expenditures of \$0.25 million.

The AMI costs associated with FBC's Revenue Protection Program that are incremental to the Revenue Protection program costs included in formula O&M are forecast, and tracked, outside of the PBR formula. Any variances from forecast are recovered from, or returned to, customers in the following year, by way of the Flow-through deferral account, as discussed in section 6.3.

2

3 26.1 Please identify any Revenue Protection program costs that are included in
4 formula O&M.

5

6 **Response:**

7 Included in the O&M that is subject to the formula are 2017 Projected expenditures of \$0.213
8 million related to Revenue Protection. The Forecast for 2018 is \$0.215 million. All revenue
9 protection expenditures are captured within formula O&M except those expenditures related to
10 the AMI program.

11

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 46</p>

1 **27. Reference: Exhibit B-2, page 33**

3.5.8 Peak Demand

The peak demand forecast is produced using the ten-year average of historical peaks. The historical peak data is escalated by the gross load growth rate before it is averaged to account for the growth of demand on the FBC system. Normalized after-savings winter and summer peaks for 2007-2016 are shown below along with the 2017 and 2018 forecast.

2

Figure 3-10: After-Savings Winter Peaks (MW)

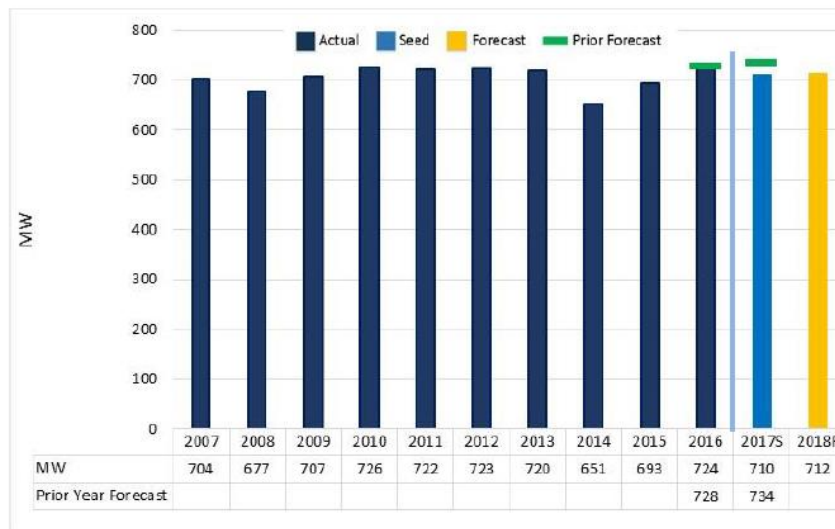
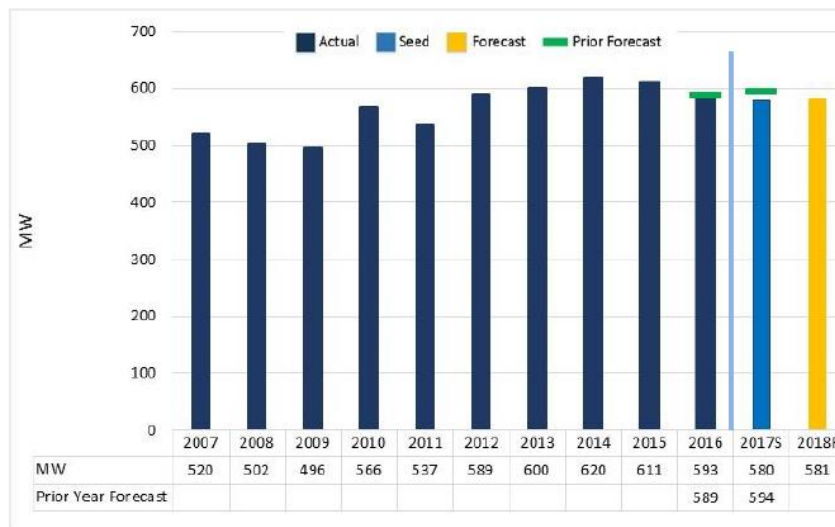


Figure 3-11: After-Savings Summer Peaks (MW)



3

4

5

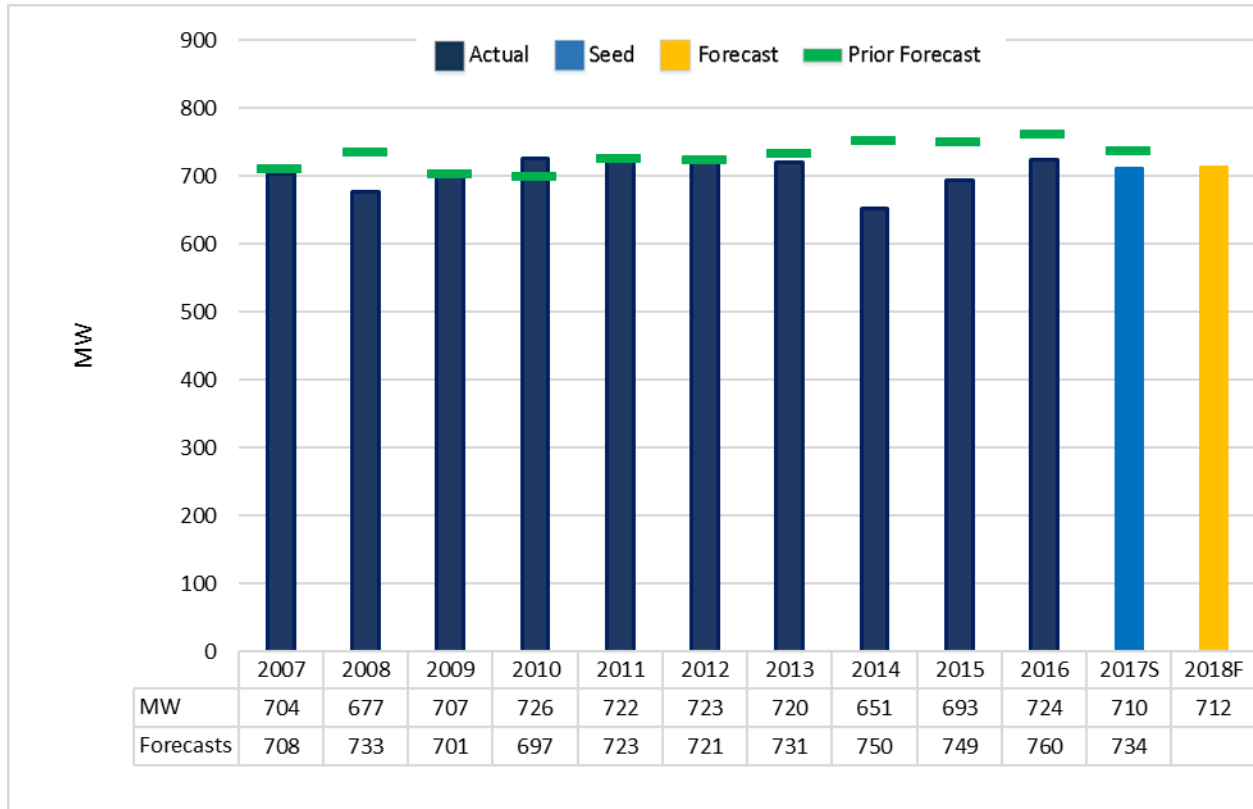
27.1 Please complete Figures 3-10 and 3-11 by adding the Prior Year Forecasts for each year.

<p>FortisBC Inc. (FBC or the Company)</p> <p>Multi-Year Performance Based Ratemaking Plan for 2014 through 2019</p> <p>Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date:</p> <p>October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC)</p> <p>Information Request (IR) No. 1</p>	<p>Page 47</p>

1
2 **Response:**

3 The revised figures are provided below.

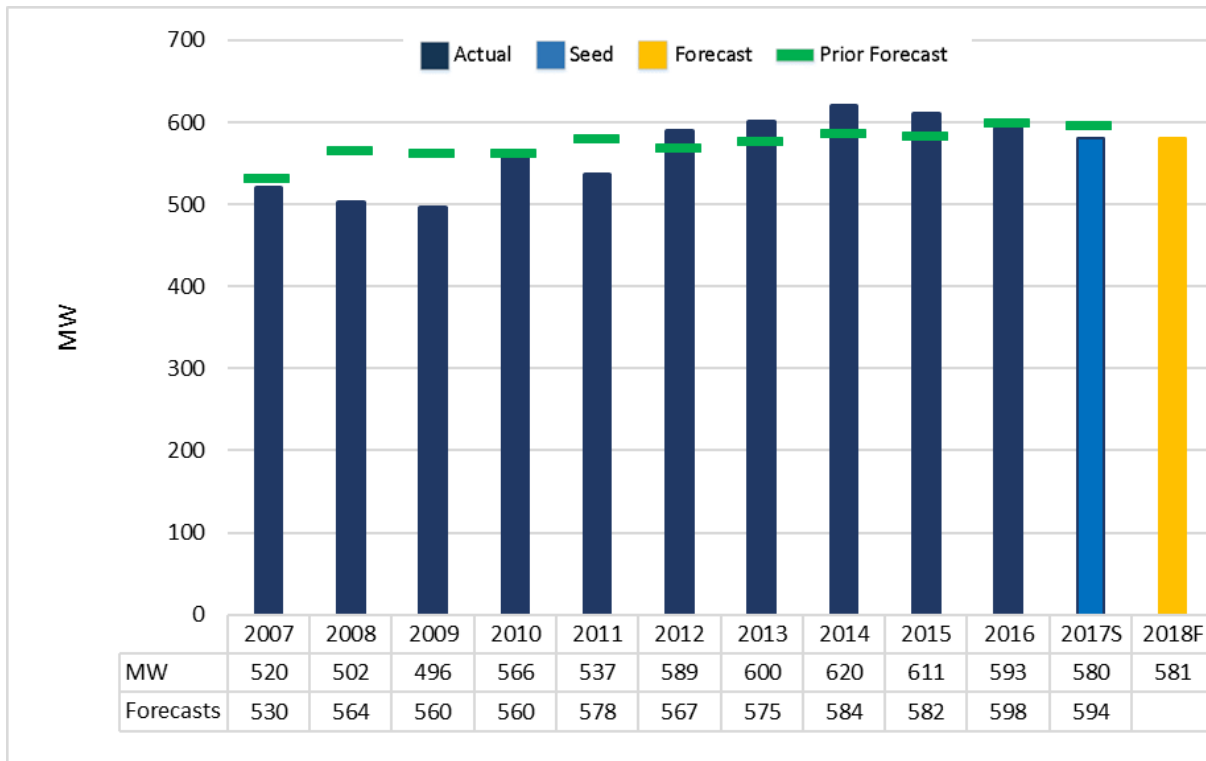
4 **Revised Figure 3-10: After-Savings Winter Peaks (MW) with Historical Forecasts**



5
6

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p>Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p>Page 48</p>

1 **Revised Figure 3-11: After-Savings Summer Peaks (MW) with Historical Forecasts**



2

3 Note: The 2013 forecast included the CoK as a single (wholesale) customer since at the time

4 the forecast was prepared for the 2012-2013 Revenue Requirements Application, the

5 application for the acquisition of the CoK had not yet been filed.

6

7

8

9 27.2 Please explain why FBC considers 10 years to be the appropriate time frame for

10 averaging, as opposed to 5 years, or 20 years.

11

12 **Response:**

13 The ten year time frame used to calculate the peak forecast reduces anomalies which could

14 result in forecast error. The purpose of the peak forecast is to forecast the greatest amount of

15 capacity that may be needed at one point in time for the system on an annual basis, such as the

16 coldest day of the year. If the forecast had a shorter time frame, such as five years, forecast

17 error could be introduced due to anomalies such as extreme weather and system growth. An

18 example of this would be the much warmer than expected winter in 2015 which would have

19 resulted in a lower winter peak forecast. Using the ten-year time frame also takes into



FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 49

- 1 consideration other factors such as customers' changing energy needs and climate change
- 2 which could possibly be negated if a longer time frame was used for forecasting purposes.
- 3

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 50

1 **28. Reference: Exhibit B-2, page 37**

During June of 2017, FBC entered into energy supply contracts (June 2017 ESCs) with Powerex under the terms of the CEPSC which provide FBC with 71 GWh of incremental market energy during the winter of 2017/18, 71 GWh during the winter of 2018/19, and 24 GWh during the winter of 2019/2020, all at a lower cost than if supplied under the PPA. The June 2017 ESCs were submitted for BCUC approval on July 28, 2017, and FBC has prepared its forecast under the assumption that they will be accepted as filed. The June 2017 ESCs and associated savings are included in the 2017 Projected PPE and 2018 Forecast PPE. As a result of these contracts, and changes to the forecast gross load, the Company submitted a PPA nomination for the 2017/18 contract year of 642 GWh on June 27, 2017, as confirmed in a letter to BCUC on July 28, 2017.

2

3 28.1 Please provide the cost and the cost differential for the 71 GWh and 24 GWh that
4 were acquired at lower cost than if supplied under the PPA.

5

6 **Response:**

7 The details of the June 2017 ESCs are confidential pursuant to Commission Order E-15-17.

8

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 51

1 **29. Reference: Exhibit B-2, page 37 and page 38**

4.5 REVIEW OF 2017 POWER PURCHASE EXPENSE

As shown in Table 4-2 below, FBC's 2017 gross load (after taking into account demand side management and other customer savings) is expected to be 17 GWh below the 2017 Approved value, while PPE is projected to be below the 2017 Approved value by \$5.776 million. The reduction in 2017 projected power purchase expense is primarily due to additional market purchases used to displace BC Hydro PPA energy and capacity purchases at a lower total cost, reduced Waneta Expansion costs resulting from increased mitigation revenue, as well as reduced load.

2

Table 4-2: 2017 Power Purchase Expense (\$ millions)

Line No.	Description	Approved 2017	Projected 2017	Difference
1	Brilliant	\$ 39.373	\$ 39.362	\$ (0.011)
2	BC Hydro PPA	46.968	38.806	(8.162)
3	Waneta Expansion	38.330	37.248	(1.082)
4	Market and Contracted Purchases	11.341	16.013	4.672
5	Independent Power Producers	0.204	0.087	(0.117)
6	Self-Generators	-	0.071	0.071
7	CPA Balancing Pool	-	(1.155)	(1.155)
8	Special and Accounting Adjustments	-	0.005	0.005
9	Total	<u>\$ 136.216</u>	<u>\$ 130.437</u>	<u>\$ (5.779)</u>
10				
11	Gross Load (GWh)	3,559	3,542	(17)

3

4 29.1 Please provide the GWh in above table for each source of supply.

5

6 **Response:**

7 Please refer to the response to BCOAPO IR 1.16.1.

8

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 52

1 **30. Reference: Exhibit B-2, page 38 and page 38 and page 39**

Table 4-2: 2017 Power Purchase Expense (\$ millions)

Line No.	Description	Approved 2017	Projected 2017	Difference
1	Brilliant	\$ 39.373	\$ 39.362	\$ (0.011)
2	BC Hydro PPA	46.968	38.806	(8.162)
3	Waneta Expansion	38.330	37.248	(1.082)
4	Market and Contracted Purchases	11.341	16.013	4.672
5	Independent Power Producers	0.204	0.087	(0.117)
6	Self-Generators	-	0.071	0.071
7	CPA Balancing Pool	-	(1.155)	(1.155)
8	Special and Accounting Adjustments	-	0.005	0.005
9	Total	<u>\$ 136.216</u>	<u>\$ 130.437</u>	<u>\$ (5.779)</u>
10				
11	Gross Load (GWh)	3,559	3,542	(17)

2

Table 4-3: 2017 and 2018 Forecast Power Purchase Expense (\$ millions)

Line No.	Description	Projected 2017	Forecast 2018	Difference
1	Brilliant	\$ 39.362	\$ 39.632	\$ 0.270
2	BC Hydro PPA	38.806	44.906	6.100
3	Waneta Expansion	37.248	37.437	0.188
4	Market and Contracted Purchases	16.013	10.951	(5.062)
5	Independent Power Producers	0.087	0.080	(0.007)
6	Self-Generators	0.071	0.066	(0.006)
7	CPA Balancing Pool	(1.155)	-	1.155
8	Special and Accounting Adjustments	0.005	-	(0.005)
9	Total	<u>\$ 130.437</u>	<u>\$ 133.071</u>	<u>\$ 2.634</u>
10				
11	Gross Load (GWh)	3,542	3,485	(57)

3

The 57 GWh decrease in gross load is due to a reduced load forecast in 2018.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 53

The \$0.270 million increase from 2017 Projected to 2018 Forecast in the Brilliant expense is due to increased rates, which are based on a forecast of the operating and maintenance cost of the plant, as well as a true-up to the prior year's actual costs compared to forecast.

BC Hydro PPA expense increased by \$6.100 million in the 2018 forecast compared to the 2017 Projected. A forecast BC Hydro rate increase of 3.0 percent on April 1, 2018²² accounts for \$1.636 million, whereas higher purchased volume (84 GWh) increases the 2018 Forecast expense by \$6.464 million. For the 2018 Forecast, and consistent with the 2017 Approved, FBC has included a \$2.000 million reduction to the forecast BC Hydro expense to account for potential real-time opportunities to displace PPA purchases with lower cost market purchases using the flexibility provided under the BC Hydro PPA. Additional market savings are possible for 2018 but will depend on actual system and market conditions at the time. For 2017, actual system and market conditions have resulted in the Company exceeding the \$2.000 million planned savings for 2017. For the 2017 Projection, FBC has included an additional \$1.356 million in net savings (above the \$2.000 million planned savings) for actual PPE through May 31, 2017, as well as savings associated with the June 2017 ESCs and a forecast of savings for the rest of the year. Any variance, including these savings, is recorded in the Flow-through deferral account and returned to or recovered from customers in the subsequent year.

30.1 Please explain why FBC is including 84 GWh of higher purchased volume from BC Hydro when gross load is forecast to decrease.

Response:

Although gross load is forecast to decrease, the 2018 Forecast includes a higher purchased volume from BC Hydro when compared with the 2017 Projected due to a lower amount of market and contracted purchases included in the 2018 Forecast. As stated in the portion of the Application quoted above, additional market savings are possible for 2018 but will depend on actual system and market conditions. Please also refer to the response to BCOAPO IR 1.17.2.

30.2 FBC states that FBC has included \$1.356 million plus \$2 million in planned savings from BC Hydro PPA for a total of \$3.356 million in savings. Please confirm or otherwise explain that these savings relate to the 2017 Projected versus the Approved?

Response:

Confirmed. The \$3.356 million in savings relate to the 2017 Projected compared with the 2017 Approved.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 54

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

30.3 Could FBC reasonably use its 2017 Projected, plus a 3% increase for the PPA expense? Please explain why or why not and any implications of doing so.

Response:

No, FBC believes that in preparing the forecast for power purchase expense that it is appropriate to update all the various components of power purchase expense rather than just the increase in PPA rates. While there may be no major changes in a particular item for any given year, that can only be determined if it is reviewed and forecast appropriately. Using an incomplete forecast would likely result in increased variances from forecast each year, and larger Flow-through Deferral account balances. While there will always be a variance in PPE forecasts due to uncontrollable changes, FBC believes that its current method of forecasting PPE will minimize annual variances from forecast over the long term.

30.4 Why is FBC not reducing its PPA forecast expenditure to be more in line with that of 2017 Projected.

Response:

Please refer to the responses to BCOAPO IRs 1.17.2 and 1.17.3.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 55

1 **31. Reference: Exhibit B-2, page 39**

2 The \$5.062 million reduction in Market and Contracted Purchases is due to a forecast reduction
3 in the volume purchased in 2018. Market and Contracted Purchases for 2017 include fixed
4 price contracted purchases, and real-time market purchases made using the 25 percent
5 flexibility of the PPA. All of the market purchases included in the 2018 Forecast are based on
6 fixed price contracts executed by the Company. As discussed above, there may be
7 opportunities for additional real-time market purchases in 2018 using the flexibility of the PPA
8 purchases and FBC has reduced its expected purchases under the BC Hydro PPA by \$2.000
9 million to account for this, consistent with the 2017 Approved PPE.

3 31.1 Why is FBC not planning to maximize the use of market and contracted
4 purchases?

6 **Response:**

7 FBC is planning to maximize the use of market and contracted purchases and will continue to
8 monitor system and market conditions for additional opportunities. Please also refer to the
9 response to BCOAPO IR 1.17.2.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 56

1 32. **Reference: Exhibit B-2, page 47**

2 **6.3.2 Insurance Premiums**

The component of insurance expense tracked outside of the PBR formula relates to insurance premium expense allocated to FBC by Fortis Inc.

The 2018 insurance premiums are forecast at \$1.265 million, a decrease of \$0.062 million or 4.7 percent from what was approved for 2017. The 2018 Forecast is calculated by taking the known annual insurance premium of \$1.102 which is applicable to the first six months of 2018 and escalating that amount by five percent for the remaining six months.²⁴ The five percent escalation is based on a combination of historical increases in premiums, increases in the value of assets year over year and the expectations of Fortis Inc.'s insurance broker on future premiums.

²⁴ $\$1.102 \text{ million} / 2 = \$0.551 \text{ million} \times 1.05 = \0.579 million . $\$0.551 \text{ million} + \$0.579 \text{ million} + \$0.135 \text{ million annual firefighting premium} = \1.265 million .

3
4 32.1 Please breakdown the component parts of the 5% escalation by the historical
5 increases, the increase in the value of assets and the expectations of Fortis Inc.'s
6 insurance broker.

7
8 **Response:**

9 The 5 percent escalation is not specifically broken down by component parts. In consideration
10 of all of the inputs, FBC uses a 5 percent escalation unless there are indications which suggest
11 significant increases are forthcoming as a result of loss history for the company or the industry
12 as a whole.

13

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p style="text-align: center;">Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p style="text-align: center;">Page 57</p>

1 **33. Reference: Exhibit B-2, page 51 and page 57**

2 **6.3.5 Annual Inspection Costs for Upper Bonnington Unit 4**

The Upper Bonnington (UBO) Old Units Refurbishment project commenced in 2017. UBO Unit 3 is being refurbished in 2017, and the refurbishment of Unit 4 will be conducted in 2018. The Company will not carry out the annual inspections on the units while out of service for refurbishment. This results in an estimated savings of \$0.040 million per unit.

The O&M reduction related to the annual unit inspections is a one-time reduction to O&M Expense in the year that a unit is refurbished. A unit will once again undergo annual inspections following refurbishment. Therefore, the level of Base O&M expenditures is not impacted on an ongoing basis. For this reason, the O&M reduction is outside of the formula O&M amount. Because these are avoided costs, there will not be a future true-up of this value.

- The UBO Project was approved by Order G-8-17 and involves the refurbishment of the more than 100 year old generating Units 1 – 4 (the Old Units), over four years at an estimated cost of \$31.783 million of which \$7.447 million will be incurred in 2018. The UBO Project Status Report is included as Appendix D.

33.1 Please confirm that the costs related to annual inspections are included in formula O&M.

Response:

Confirmed. Formula O&M includes an annual unit inspection for each of FBC's generating units, including UBO Units 1 – 4 (the Old Units) which are estimated at \$0.040 million per unit. Since the annual inspections will not be carried out on units undergoing refurbishment, savings of \$0.040 will be achieved in each of the four years in which a unit refurbishment occurs, for a total of \$0.160 million over the life of the project. Once each unit is completed it will again undergo annual inspections.

33.2 Please confirm that the costs related to the UBO Refurbishment project are not included in formula O&M.

Response:

The UBO Refurbishment is a capital project, and FBC confirms that the capital expenditures associated with this project, which were approved by Order G-11-17, are not included in the formula amounts.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 58

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

33.3 What is the total value of the savings related to the annual inspections that are not being carried out as a result of the UBO Refurbishment project.

Response:

Please refer to the response to CEC IR 1.33.1.

33.4 Please clarify to whom the savings associated with the \$0.04 million per unit in reduced inspections accrue.

Response:

Because the savings are applied as a credit to the O&M expense forecast outside the Formula (see Table 6-3), reducing revenue requirements, the entirety of the \$0.040 million per unit accrues to ratepayers. Since the savings are avoided costs, there is no future true up of this value.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 59

1 **34. Reference: Exhibit B-2, page 65 and page 66**

8.3.3 Forecast of Interest Rates

FBC uses interest rate forecasts to estimate future interest expense. Forecasts of Treasury Bills and benchmark Government of Canada Bond interest rates are used in determining the overall interest rates for short-term debt and for rates on new issues of long-term debt, respectively. The forecasts are based on available projections made by Canadian Chartered banks.

Credit spreads on forecast long-term debt issuances are based on current indicative rates, on the assumption that FBC's credit ratings of FBC are maintained and that credit spreads will remain at current levels in the future. As discussed above, FBC currently expects to issue long term debt in 2017 for the repayment of debt that matured in 2016, as well as for other capital requirements. The forecast issue rate is approximately 3.80 percent based on a 30-year GOC rate of 2.30 percent and an indicative spread of 1.50 percent.

FBC's short-term borrowing rate is based on the rate at which it issues Bankers' Acceptances (or the Canadian Dealer Offered Rate or CDOR) plus an Acceptance Fee Rate, and on the Prime Lending Rate. Since CDOR is not forecast by economists, a forecast needs to be derived by FBC. Therefore, the Company must first obtain the 3-Month T-Bill rate forecast and then convert it to a CDOR forecast. FBC does this by taking the 3-year historical spread between CDOR and the 3-month T-Bill rate. The Company then adds the Acceptance Fee Rate of 1.0 percent, based on the pricing in the Company's operating credit facility agreement based on its current credit ratings.

The forecast weighted average short-term rate, prior to including standby fees and financing fees, has increased from the 2017 projected rate of 2.09 percent to a 2018 forecast rate of 2.61 percent.

Table 8-1: Short Term Interest Rate Forecast³⁰

Line No.	Description	Projected 2017	Forecast 2018
1	3 month T-Bills ¹	0.69%	1.22%
2	Spread to CDOR	0.39%	0.39%
3	Acceptance Fee Rate	1.00%	1.00%
4	Bankers' Acceptance Rate	2.09%	2.61%
5			
6	add: Standby Fee on Undrawn Credit ²	0.12%	0.36%
7	Short-term Interest Rate applied to debt balance	2.21%	2.97%
8	add: Financing fees ³	0.28%	0.50%
9	FBC Short-term Interest Rate	2.50%	3.45%

34.1 Please confirm that FBC's methodology for forecasting interest rates is the same as that approved by the Commission for the PBR.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 60

1

2 **Response:**

3 FBC confirms that the method FBC has applied in the 2018 Annual Review for Rates application
4 to forecast interest rates is consistent with the methodology used in FBC's 2014 PBR
5 Application; however, the forecast rate in the current year does not include an allocation for
6 Prime Lending Loans. In previous years, FBC would forecast an average short-term debt rate
7 which assumed 10 percent of short term borrowing would be through Prime Lending Loans.
8 FBC is not forecasting to issue any Prime Lending Loans for the upcoming year, and therefore
9 has assumed Banker's Acceptances as the sole source of short term funding in the forecasted
10 interest rate.

11 FBC's interest expense variances are captured in the Flow-through deferral account, and are
12 not subject to the formulas approved under the PBR. As such, FBC's interest rate forecast is
13 approved each year through FBC's Annual Review for Rates applications.

14

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 61

1 35. Reference: Exhibit B-2, page 49 and page 50 and page 106 and page 108

6.3.4 MRS Incremental Operating Expense

FBC forecasts that it will incur \$1.070 million in incremental O&M expense in 2018 related to the adoption of new and revised standards in addition to a scheduled compliance audit, as summarized in Table 6-6 and described below.

Table 6-6: MRS Incremental O&M Expense (\$ millions)

Line No.	Description	Approved 2017	Projected 2017	Forecast 2018
1	Assessment Report No. 8	\$ 0.050	\$ 0.050	\$ 0.540
2	Assessment Report No. 10	-	-	0.180
3	2018 Compliance Audit	-	-	0.350
4	Forecast O&M	\$ 0.050	\$ 0.050	\$ 1.070

For 2018, the incremental MRS costs that qualify for exogenous factor treatment are forecast to be \$0.770 million, comprised of \$0.720 million in incremental O&M expense and an incremental \$0.050 million in capital expenditures. These costs continue to exceed the Commission-defined materiality threshold of \$0.301 million and satisfy the other Z-factor criteria on the same basis as accepted by the Commission in Orders G-202-15 and G-8-17. FBC has therefore forecast these costs outside of the O&M and capital formulas as described in Sections 6.3.4 and 7.2.2 of the Application.

²⁵ The Commission adopted 15 Revised Standards and 10 NERC Glossary Terms addressed in BC Hydro's Assessment Report No. 9 by (AR9) Order R-32-16A on November 9, 2016. Incremental costs for FBC to achieve and maintain compliance with standards resulting from AR9 did not meet the financial threshold for Z-factor treatment.

12.2.1 Mandatory Reliability Standards

FBC will continue to incur incremental O&M and capital requirements in 2018 and future years related to complying with the changes to BC's MRS program approved by Order R-38-15 and R-39-17. Consistent with Orders G-202-15 and G-8-17 for the costs associated with Assessment Report No 8, the 2018 costs qualify for exogenous factor treatment under the PBR Plan. The MRS costs identified in this Application for exogenous factor treatment in 2018 are for ongoing costs related to Assessment Report No. 8 and for new costs related to Assessment Report No. 10.

- The forecast O&M costs of \$0.4445 million in 2016, \$0.500 million in 2017, and \$0.425 million in 2018 and beyond, and the forecast capital expenditures of \$0.445 million in 2017 exceed the materiality threshold of \$0.301 million.

35.1 Noting that incremental costs for FBC to achieve and maintain compliance with standards resulting from AR9 did not meet the financial threshold for Z factor treatment, please explain why costs relating to meeting standards associated

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 62

1 with Assessment Report No. 10 should be provided with Z factor treatment when
2 these costs also do not meet the materiality threshold.

3
4 **Response:**

5 Please refer to the response to BCUC IR 1.24.2.

6

<p style="text-align: center;">FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)</p>	<p>Submission Date: October 3, 2017</p>
<p style="text-align: center;">Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1</p>	<p style="text-align: center;">Page 63</p>

1 **36. Reference: Exhibit B-2, page 119**

2 ***12.4.1.1 Multi-Year Demand Side Management Expenditure Schedule Application***

FBC intends to file an application for approval of a DSM Expenditure Schedule for 2018 and future years by the first Quarter of 2018. A written public hearing is anticipated for the review of this application; FBC estimates the costs at \$0.250 million (\$0.185 million after tax).

FBC is seeking approval of a deferral account attracting a WACD return, to capture costs related to the multi-year DSM Expenditure Schedule application. FBC will propose the disposition of this account in a future application.

2

3 36.1 Why does FBC intend to propose a disposition of this account in a future
4 application instead of at this time?

5

6 **Response:**

7 Since filing the Application, FBC has revised its intentions regarding the filing of the Multi-year
8 DSM Expenditure Schedule, in response to a delay in the review of the Company's Long Term
9 Electric Resource Plan (LTERP) and Long Term Demand Side Management (LT DSM) Plan.
10 The LTERP and LT DSM Plan will not be accepted in a timeframe that would permit FBC to
11 prepare and file a Multi-Year DSM Expenditure Schedule that would result in acceptance of
12 2018 expenditures prior to January 1, 2018. Therefore, FBC intends to file a DSM Expenditure
13 Schedule for only 2018 later this year. The Multi-Year DSM Expenditure Schedule will be filed
14 during 2018 for 2019 and future years.

15 FBC notes that through an error in Schedule 12.1 its financial schedules reflect the amortization
16 of the Multi-Year DSM Expenditure Schedule deferral account during 2018. In light of the new
17 timeframe for the multi-year proceeding which will include 2019 and future years, the benefit
18 period associated with this deferral account will commence in 2019 and no amortization should
19 be included during 2018. FBC has corrected this item in the Evidentiary Update.

20

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 64

1 **37. Reference: Exhibit B-2, page 125 and page 128 and page 129**

In the subsections below, FBC reports on its 2016 and June 2017 year-to-date performance as measured against the SQI benchmarks and thresholds. Both 2016 and June 2017 year-to-date SQI results indicate that the Company's overall performance is meeting service quality standards. In 2016, for the eight SQIs with benchmarks, seven performed at or better than the approved benchmarks with the remaining one, the All Injury Frequency Rate (AIFR) performing better than the threshold. For the three SQIs that are informational only, performance is generally consistent with recent years' performance.

The 2016 annual (calendar year) AIFR result was 1.15, resulting in a three-year rolling average of 1.97 in 2016, which is between the threshold and the benchmark. In 2016, there was an improved trend in the annual result with 5 recordable incidents occurring. This annual result demonstrates a continued improvement which has continued into 2017. The June 30, 2017 YTD AIFR annual result is 1.33. As of June 30, 2017, there were 3 Medical Treatment and no Lost Time injuries. The three-year rolling average of annual results including 2017 June year-to-date results is 1.34, which is better than the benchmark of 1.64. The recent AIFR results are reflective of FBC's continuing focus on safety.

Table 13-3: Historical All Injury Frequency Rate Results

Description	2009	2010	2011	2012	2013	2014	2015	2016	June 2017 YTD
Annual Results	1.41	1.72	1.48	1.72	2.82	3.21	1.54	1.15	1.33
Three year rolling average	2.00	2.00	1.54	1.64	2.01	2.58	2.52	1.97	1.34
Benchmark	n/a	n/a	n/a	n/a	n/a	1.64	1.64	1.64	1.64
Threshold	n/a	n/a	n/a	n/a	n/a	2.39	2.39	2.39	2.39

37.1 Please confirm that FBC anticipates that the 2017 annual result will remain below benchmark.

Response:

The All Injury Frequency Rate (AIFR) has been trending positively and the June 2017 YTD annual result is below benchmark. FBC is working towards achieving the benchmark of 1.64 in 2017. Annual AIFR results are difficult to predict. The Company will continue to reinforce diligence in all worker safety protocols and look for further opportunities for continual improvement.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 65

1 37.2 Please provide FBC's views as to the relative benefits of using a three year
2 rolling average instead of the annual results.

3
4 **Response:**

5 As variation in the AIFR results may occur annually, the use of a three year rolling average has
6 the benefit of smoothing out the annual results, providing for a longer term indicator of any
7 trends that may be developing.

8

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 66

1 **38. Reference: Exhibit B-2, page 133 and page 134**

Telephone Abandon Rate

The Telephone Abandon Rate, an informational indicator, measures the percent of calls abandoned by the customer before speaking to a customer service representative. Abandon rates can be due to waiting times, or due to customers receiving their required information through informational messages in the Company's Interactive Voice Response (IVR) system such that the customer no longer needs to speak to an agent.

Table 13-10: Historical Telephone Abandon Rates

Description	2009	2010	2011	2012	2013	2014	2015	2016	June 2017 YTD
Annual Results	2.2%	1.9%	1.7%	1.9%	2.0%	12.4%	2.7%	3.9%	4.4%
Benchmark	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Threshold	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

In August of 2016, FortisBC implemented a new feature where customers can retain their place in the telephone queue by entering their phone number and requesting a call back. As soon as it is their turn in line, the system dials the recorded number and connects the customer with a Customer Service Representative (CSR).

In Appendix A to Order G-8-17, the Commission Panel directed FBC to include in its Annual Review for 2018 Rates a discussion of the impact, if any, that the new call back option has had on the Telephone Abandon Rate Service Quality Indicator and to discuss whether there are other measures, such as "Time Until Call Back is Received," which may provide additional value to FBC's existing informational indicators. FBC provides the requested information below.

So far in 2017, the new call back option has been selected approximately 1,290 times, representing approximately 2 percent of the customers who called each month. It is not possible to distinguish between the average wait-time for customers utilizing the call-back feature from the wait time of those not using the feature. The requested measurement of "Time Until Call Back is Received" is therefore not available. As described above, there are many other reasons a call may be abandoned other than waiting time, the most frequent being the use of avoidance messages on the IVR during outages. Since the number and size of outages are variable from year to year, it is impossible to determine the impact that the call-back feature alone had on the abandon rate.

38.1 Please update the 2017 figure if new information is available.

Response:

The most recent August 2017 results are the same as the June 2017 results shown in Table 13-10.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 67

38.2 Please provide the total number of calls for each month for 2016 and 2017.

Response:

Below are the total number of calls received (prior to being answered or abandoned) for 2016 and up to August of 2017.

	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
Total Calls	13,743	13,459	14,965	16,326	17,280	15,684	16,480	19,608	13,838	13,323	12,423	9,683

	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17
Total Calls	12,665	12,343	13,856	12,233	15,577	13,649	12,360	13,131

38.3 Is 1290 is the total number of calls using the call back option since August 2016, or an average monthly figure? Please explain.

Response:

For the period January 1, 2017 through June 19, 2017, 1,290 represents the total call-backs. On a monthly basis the call-back figure varies; however, it generally represents approximately 2 percent of the total calls each month.

38.4 Does FBC have average telephone wait times for customers? If so, please provide for each year dating back to 2009.

Response:

FBC has defined “telephone wait times” to be the average speed of answer for all calls.

Please refer to the table below which provides the average speed of answer in seconds for 2009 to August 31, 2017:

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 68

	2009	2010	2011	2012	2013	2014	2015	2016	August 2017 YTD
Average Speed of Answer	32.7	34.8	37.4	40.6	44	225.8	49.1	48.5	48.1

1

2

3

4

5 38.5 Could FBC implement software or provide any other means that would facilitate
6 the collection of information related telephone abandon rates and the use of the
7 call back feature?

8

9 **Response:**

10 FBC is not aware of any software or other means that would facilitate the collection of this
11 information in a more meaningful way than is already reported. This is because call-backs are
12 treated the same as a call when a customer waits on the line, and therefore is already included
13 in the metrics that FBC reports.

14

15

16

17 38.5.1 If yes, please describe and provide an estimate of the costs for such
18 software or other means.

19

20 **Response:**

21 Please refer to the response to CEC IR 1.38.5.

22

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 69

39. Reference: Exhibit B-2, page 135

System Average Interruption Duration Index (SAIDI) – Normalized

SAIDI is the amount of time the average customer's power is off during the year (i.e. the total amount of time the average customer's clock would lose during a year), after adjusting for the impact of major events as described above, and is calculated as follows:

$$\frac{\text{Total Customer Hours of Interruption}}{\text{Total Number of Customers Served}}$$

During the first six months of 2017, FBC experienced two major events. The first event was an outage on February 6, 2017 caused by a heaving snowfall, which affected approximately 6,500 customers in the Kootenay area for a total of 37,000 customer hours. The second major event was an outage on May 24, 2017 caused by a windstorm, which affected 7,900 customers for a total of 48,000 customer hours.

FBC's January to June 2017 SAIDI performance was higher than the historical three-year average, while the SAIFI performance remains similar to the historical three-year average performance. The main contributor for higher SAIDI was the reliability of the transmission system in the first quarter of 2017. The normalized transmission system customer hours related to outages was over four times higher than the previous three year average mainly due to adverse weather related outages. Significant transmission outages during this time include outages in the Kootenays on February 9 that contributed 34,000 customer hours and an outage on March 18 for 20,000 customer hours. These outages did not qualify as major events.

The Company's 2009 to 2016 and 2017 year-to-date results are provided below. From 2009 to 2016, performance has generally been stable and improving. However, the results can be influenced by uncontrollable events such as storms that occur in a year.

Table 13-11: Historical SAIDI Results

Description	2009	2010	2011	2012	2013	2014	2015	2016	June 2017 YTD
Three year rolling average results	2.40	2.51	2.33	2.22	1.94	2.09	2.15	2.18	2.36
Benchmark	n/a	n/a	n/a	n/a	n/a	2.22	2.22	2.22	2.22
Threshold	n/a	n/a	n/a	n/a	n/a	2.62	2.62	2.62	2.62

39.1 Please provide the annual results for each year.

Response:

Please refer to the table below for annual SAIDI results from 2009 up to end of August 2017:

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 70

	2009	2010	2011	2012	2013	2014	2015	2016	2017 YTD
SAIDI	2.28	2.84	1.86	1.95	2.01	2.32	2.13	2.10	2.58

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

39.2 Please confirm that ‘adjusting for the impact of major events’ means removing the outages associated with them from the SAIDI calculation.

Response:

Correct, ‘adjusting for the impact of major events’ means removing any outages classified as Major Events from the SAIDI calculation.

39.3 Please explain what constitutes a ‘major event’.

Response:

FBC uses the Institute of Electrical and Electronics Engineers (IEEE) 2.5 Beta methodology to determine the Major Event threshold for use in system reliability calculations. The purpose of defining a Major Event is to remove such events from reliability calculations allowing the data to more accurately reflect the state of the system.

Major events are identified as those that cause outages exceeding a threshold number of customer-interruptions or customer-hours. Threshold values are calculated by applying the 2.5 Beta adjustment to historical reliability data.

The 2.5 Beta method for normalizing utility reliability performance is a generally accepted, statistically based methodology for identifying outlying performance and classifying reliability data into “normal” and “major event” days. Any single event that exceeds the threshold value is excluded from the reliability data. Major event days in the FBC service territory have been caused by mudslides, windstorms and wildfires.

FortisBC Inc. (FBC or the Company) Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 Annual Review for 2018 Rates (the Application)	Submission Date: October 3, 2017
Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1	Page 71

39.4 Please explain why FBC interprets the three year rolling average to be 'improving' when it has increased consistently from 2013 and is now above all but the years 2009 and 2010.

Response:

FBC's statement refers to the 3 year rolling average performance over the period from 2009 to 2016. Given that the results from the last four years are improved compared to the previous four, the interpretation that the results are 'stable and improving' over that timeframe is valid.