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September 7, 2016

VIA ELECTRONIC MAIL

British Columbia Utilities Commission
6th Floor, 900 Howe Street
Vancouver, B.C.
V6Z 2N3

Attention: Ms. Laurel Ross, Acting Commission Secretary and Director

Dear Sirs/Mesdames:

Re: FortisBC Inc. (FBC) Annual Review for 2017 Rates pursuant to the Multi-Year Performance Based Ratemaking Plan approved for 2014 through 2019 by Order G-139-14, Project No. 3698887

We are counsel to the Commercial Energy Consumers Association of British Columbia (CEC). Attached please find the CEC's first set of Information Requests with respect to the above-noted matter.

If you have any questions regarding the foregoing, please do not hesitate to contact the undersigned.

Yours truly,

OWEN BIRD LAW CORPORATION

Christopher P. Weafer

CPW/jlb
cc: CEC
cc: FBC
cc: Registered Interveners

COMMERCIAL ENERGY CONSUMERS ASSOCIATION OF BRITISH COLUMBIA

INFORMATION REQUEST #1

FortisBC Inc. (FBC) Annual Review for 2017 Rates pursuant to the Multi-Year Performance Based Ratemaking Plan approved for 2014 through 2019 by Order G-139-14 Project No. 3698887

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1. Reference: Exhibit B-2, Page 5

Gas Billing Error Corrections

In 2015, six billing analyst roles that were vacant in FEI's Burnaby office were filled by FBC in its Trail office, providing a new opportunity for the six CSRs no longer required as a result of the changes described above. These employees have been in customer service for many years handling customer service calls and billing work related to electric bills. In the ten years since the Trail contact centre opened, there have been very few development opportunities available there and the integration of this work provided a development opportunity for employees in Trail. In 2016, the Trail employees that are performing the gas billing work have been able to find efficiencies in the work and maintain service levels that were in place prior to the transition.

In total, the integration of activities is forecast to produce annual savings for FBC in the amount of $0.317 million.

1.1. Did the new positions in Trail also result in increases or decreases to the staff compensation, or were the positions primarily lateral development opportunities?

1.2. Are the forecast savings expected to be sustained through the PBR process? Please explain.

2. Reference: Exhibit B-2, Page 5

2. *Training and Development*
The Training and Development Initiative was implemented in 2015 and introduced a company-wide process that improves the ability of the Company to plan and track required training activities, ensuring skills requirements for employee training are addressed efficiently and effectively. All departments are now able to evaluate more effectively the training requirements specific to their group. Further work is being undertaken in 2016 to refine training and competency requirements for individual roles. There are no O&M savings anticipated.

2.1. Please confirm that although no O&M savings are anticipated from this initiative at the present time, it can be expected to provide long term efficiencies in the company training programs.

3. Reference: Exhibit B-2, Page 6

1.4.3 Overview of Capital Expenditures

FBC is projecting that capital expenditures will be above the formula in 2016. Projected 2016 capital expenditures excluding items forecast outside of the PBR capital formula are $3.142 million higher than the formula amount. This is primarily attributable to a forced relocation of transmission and distribution infrastructure due to the widening of Highway 97 near Kelowna by the Ministry of Transportation and Infrastructure. FBC anticipates that it will continue to be challenged to meet its capital formula for the remainder of the term of the PBR Plan.

3.1. How much of the $3.142 million above formula is attributable to the highway widening?

3.2. What were the total costs to FBC associated with the highway widening?

3.3. Does the province provide any compensation for costs associated with the highway widening?

3.3.1. If so, how much does FBC expect to receive from the province, and when will these monies be received?

3.4. Does FBC project capital expenditures to exceed the deadband threshold? Please explain.

4. Reference: Exhibit B-2, Pages 14 and 15

This section describes FBC's forecast of gross system energy load. Gross system energy load is a mix of residential, commercial, wholesale, industrial, street lighting and irrigation loads and system losses. The gross load forecast includes the impacts of forecast energy savings which include Demand Side Management (DSM) savings, and the impacts of the Residential Conservation Rate (RCR), the Customer Information Portal (CIP)[4], the Advanced Metering Infrastructure (AMI) program and future rate changes. These savings are further explained in Section 3.3 – Demand Side Management and Other Savings.

Table 3-1: Forecast 2017 DSM and Other Savings (GWh)

Line No.	Description	DSM	AMI	CIP	RCR	Rate-Driven	Total
1	Residential	(10)	12	(2)	(10)	(1)	(11)
2	Commercial	(15)				(1)	(16)
3	Wholesale	(2)				(1)	(3)
4	Industrial	(4)					(4)
5	Lighting	(1)					(1)
6	Irrigation						
7	Net	(32)	12	(2)	(10)	(3)	(35)
8	Losses	(3)	(6)				(9)
9	Gross Load	(34)	6	(2)	(10)	(3)	(43)

4.1. Please explain the difference between the 'RCR' savings and the Residential 'Rate-Driven' savings.

4.2. Please explain the positive value in the AMI residential column.

4.3. Why are there no savings attributable to Commercial or other rate classes as a result of AMI?

4.4. Is the Customer Information Portal (CIP) dependent upon the AMI technology, such that CIP savings might also be attributable to the AMI program?

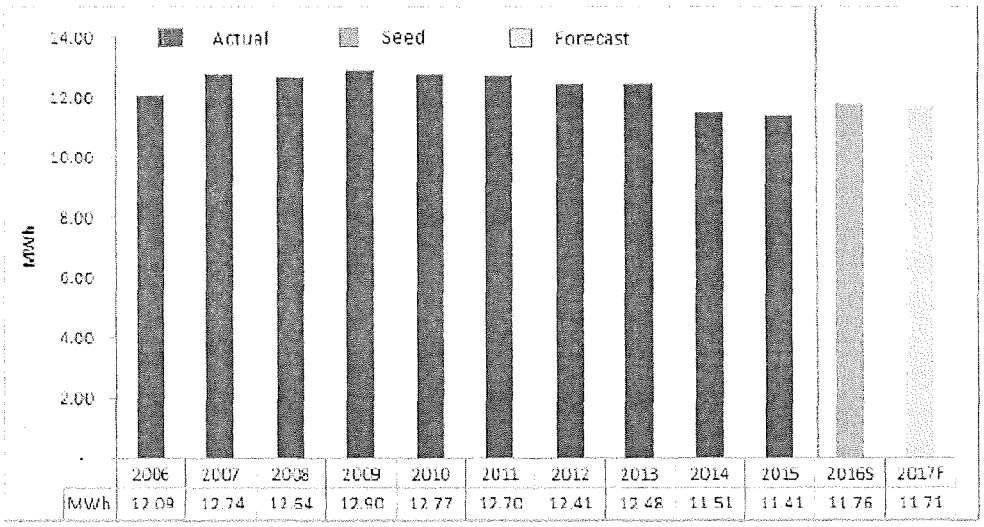
4.5. Why are there no CIP savings for the non-residential rate classes?

4.6. Please provide similar table for the previous 5 years.

5. Reference: Exhibit B-2, Page 27 and Appendix A-2, Page 10 (Customer Count Variance) and Page 11 (Load Variance)

the most recent 3 years' normalized historical UPCs (2013, 2014, 2015), and the 2017 before-savings UPC is assumed to remain constant at the 2016S level. The before-savings UPC forecast is then multiplied by the forecast average customer count to derive the before-savings load forecast. Incremental savings (that is, savings incremental to those embedded in the historical data to 2015) are then deducted from the before-savings load forecast to determine the after-savings load forecast. The 2016S after-savings UPC forecast is then computed by dividing the 2016S after-savings load forecast by the average customer count. As shown in Figure 3-2 below, the residential after savings UPC is forecast to decrease by 0.05 MWh during 2017.

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



6.1 *CUSTOMER COUNT VARIANCE*

Customer Count	2010	2011	2012	2013	2014	2015
Variance (%)						
Residential	-0.4%	-0.9%	-2.1%	-4.4%	0.2%	-0.6%
Commercial	-2.2%	-1.6%	-0.2%	-0.4%	4.3%	3.0%
Wholesale	0.0%	0.0%	0.0%	-16.7%	0.0%	0.0%
Industrial	2.9%	2.8%	7.7%	7.7%	2.0%	2.0%
Lighting	-3.2%	-1.8%	-5.2%	-11.5%	-7.5%	-1.9%
Irrigation	2.6%	1.0%	1.5%	2.0%	1.1%	-0.7%
Total	-0.6%	-1.0%	-1.9%	-4.0%	0.5%	-0.2%

6.2 *LOAD VARIANCE, NORMALIZED ACTUAL TO FORECAST*

Energy (GWh)	2010	2011	2012	2013	2014	2015
Variance (%)						
Residential	-0.5%	-1.0%	-2.9%	-0.2%	-8.2%	-7.6%
Commercial	-3.4%	-2.1%	-2.3%	-1.4%	6.1%	5.3%
Wholesale	-2.2%	-3.4%	-3.0%	-3.4%	-2.5%	-2.2%
Industrial	-24.5%	13.9%	14.1%	12.4%	-2.2%	2.3%
Lighting	-3.6%	10.4%	-3.5%	-1.5%	18.2%	12.7%
Irrigation	-23.8%	-10.8%	-14.9%	-8.7%	-4.9%	12.1%
Net	-3.7%	-0.7%	-1.4%	-0.3%	-2.4%	-1.6%
Gross	-4.2%	-0.7%	-2.4%	-1.2%	-2.4%	-1.5%

5.1. Are the recent Residential Load variances of 7.6% and 8.2% primarily attributable to the variances in the UPC? Please explain why or why not.

5.2. Please provide FBC's views on what factors contributed to the significant decline in Residential UPC in 2014 and 2015 from that in 2013 and earlier; is this related to the integration of the City of Kelowna?

5.3. Does FBC expect factors affecting load variance to continue being an influence into 2017? Please explain why or why not.

5.3.1. If yes, does the inclusion of the 2013 figure in the average calculation of the UPC for the 2016 seed year likely result in an overestimation of UPC for the 2016 seed year and 2017 forecast? Please explain why or why not.

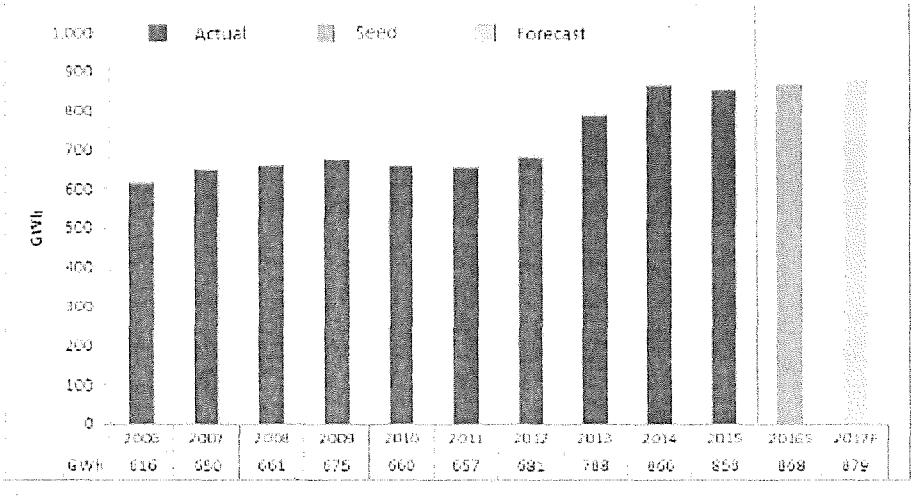
5.3.2. If yes, please provide FBC's views as to whether or not it might be appropriate to exclude the 2013 year from the average UPC calculation.

5.4. Please provide the calculation for the UPC for the 2016 seed year and 2017 forecast using only 2014 and 2015 figures.

5.5. Please confirm that the slight decline in UPC from the 2016S (11.76) to the 2017F (11.71) is likely a random variance and if not, please explain.

6. **Reference: Exhibit B-2, Page 19 and Appendix A-2, Page 8, Page 10 (Customer Count Variance) and Page 11 (Load Variance)**

Figure 3-4: After-Savings Commercial Energy (GWh)



4. NORMALIZED AFTER-SAVINGS USE PER CUSTOMER (UPC)

MWh/Customer	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016S	2017F
Residential	12.08	12.74	12.64	12.90	12.77	12.70	12.41	12.48	11.51	11.41	11.76	11.71

6.1 *Customer Count Variance*

Customer Count	2010	2011	2012	2013	2014	2015
Variance (%)						
Residential	-0.4%	-0.9%	-2.1%	-4.4%	0.2%	-0.6%
Commercial	-2.2%	-1.6%	-0.2%	-0.4%	4.3%	3.0%
Wholesale	0.0%	0.0%	0.0%	-16.7%	0.0%	0.0%
Industrial	2.9%	2.8%	7.7%	7.7%	2.0%	2.0%
Lighting	-3.2%	-1.8%	-5.2%	-11.5%	-7.5%	-1.9%
Irrigation	2.6%	1.0%	1.5%	2.0%	1.1%	-0.7%
Total	-0.6%	-1.0%	-1.9%	-4.0%	0.5%	-0.2%

6.2 *Load Variance, Normalized Actual to Forecast*

Energy (GWh)	2010	2011	2012	2013	2014	2015
Gross	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Variance (%)						
Residential	-0.5%	-1.0%	-2.9%	-0.2%	-8.2%	-7.6%
Commercial	-3.4%	-2.1%	-2.3%	-1.4%	6.1%	5.3%
Wholesale	-2.2%	-3.4%	-3.0%	-3.4%	-2.5%	-2.2%
Industrial	-24.5%	13.9%	14.1%	12.4%	-2.2%	2.3%
Lighting	-3.6%	10.4%	-3.5%	-1.5%	18.2%	12.7%
Irrigation	-23.8%	-10.8%	-14.9%	-8.7%	-4.9%	12.1%
Net	-3.7%	-0.7%	-1.4%	-0.3%	-2.4%	-1.6%
Gross	-4.2%	-0.7%	-2.4%	-1.2%	-2.4%	-1.5%

6.1. To what does FBC attribute the Commercial customer count variance of 4.3% and 3.0% in 2014 and 2015 respectively?

6.1.1. Would FBC expect these factors to continue to exist in 2016 seed and 2017 forecast? Please explain why or why not.

6.1.1.1. If yes, would it be reasonable for FBC to adjust its forecast to reflect these factors? Please explain why or why not.

6.1.1.2. If yes, please provide FBC's view of what an appropriate adjustment might be to the customer count figure.

6.2. Does FBC calculate a Normalized After Savings UPC for the Commercial class?

6.2.1. If so, please provide.

6.2.2. If no, why not?

6.3. To what does FBC attribute the Commercial load variances of 6.1% and 5.3% in 2014 and 2105 respectively? Please explain and provide quantification where possible.

6.4. Does FBC expect these factors to continue in 2016 and 2017, such that the current forecast may be too low? Please explain.

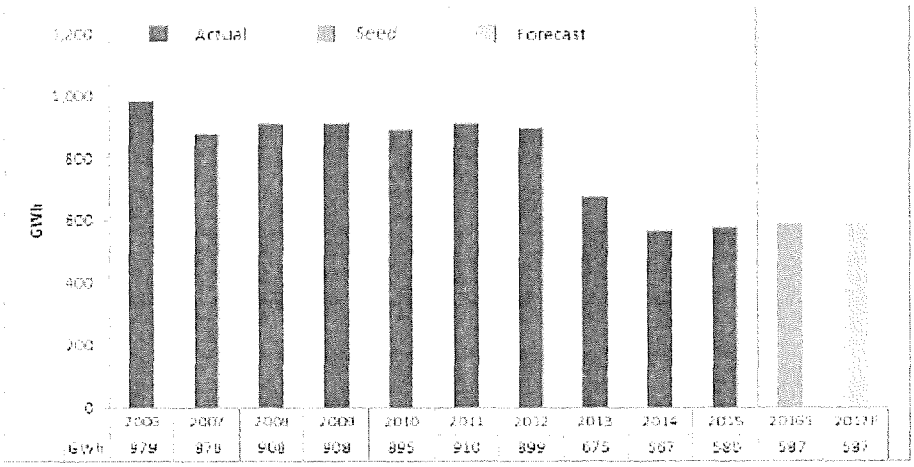
6.5. If so, would it be reasonable for FBC to adjust its forecast to reflect these factors? Please explain why or why not.

6.5.1. If yes, please provide FBC's view of what an appropriate adjustment might be to the load forecast.

7. Reference: Exhibit B-2, Page 20; Appendix A-3, Page 4 and Appendix A-2, Page 11 (Load Variance)

Consistent with past practice the wholesale class is forecast using survey information from each of the individual wholesale customers. FBC believes that the individual wholesale customers are best able to forecast their future load growth. All of the wholesale customers responded with their forecast growth projections. As shown in Figure 3-5 below, after-savings wholesale energy is forecast to remain constant in 2017.

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



1.2.3 Wholesale

The Company forecasts its wholesale load using the growth rates from load surveys from all wholesale customers. The response rate was 100 percent. FBC then summed the wholesale customers' forecasts to calculate the before-savings wholesale load forecast. This approach recognizes that in the near to medium term, the wholesale customers themselves are best able to forecast their load growth based on their knowledge of their customer mix, load behaviors, development projects with associated energy requirements, etc.

6.2 *Load Variance, Normalized Actual to Forecast*

Energy (GWh)	2010	2011	2012	2013	2014	2015
Variance (%)						
Residential	-0.5%	-1.0%	-2.9%	-0.2%	-8.2%	-7.6%
Commercial	-3.4%	-2.1%	-2.3%	-1.4%	6.1%	5.3%
Wholesale	-2.2%	-3.4%	-3.0%	-3.4%	-2.5%	-2.2%
Industrial	-24.5%	13.9%	14.1%	12.4%	-2.2%	2.3%
Lighting	-3.6%	10.4%	-3.5%	-1.5%	18.2%	12.7%
Irrigation	-23.8%	-10.8%	-14.9%	-8.7%	-4.9%	12.1%
Net	-3.7%	-0.7%	-1.4%	-0.3%	-2.4%	-1.6%
Gross	-4.2%	-0.7%	-2.4%	-1.2%	-2.4%	-1.5%

7.1. The Wholesale Load forecast has been consistently high by between 2.2% and 3.4% for the last six years. Does FBC believe it would be reasonable to adjust the Wholesale Load Forecast by 3% to account for this tendency? Please explain why or why not.

8. Reference: Exhibit B-2, Page 20 and Appendix A-2, Pages 7 and 11

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 methodology is utilized because FBC believes that individual industrial customers have the best understanding of what their future energy usage will be. This year FBC received a response from 88 percent (44 of 50) of the surveys sent out. The responding customers also represent approximately 88 percent of the total industrial load.

As shown in Figure 3-6 below, after-savings industrial energy is forecast to increase by 14 GWh in 2017.

3.1 *CUSTOMERS*

Customer Count	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016F	2017F
Residential	89,181	93,647	95,502	96,565	97,593	98,755	99,228	111,942	113,431	114,166	115,080	116,031
Commercial	10,285	11,010	11,216	11,308	11,415	11,525	11,811	13,562	14,363	14,976	15,167	15,813
Wholesale	8	7	7	7	7	7	7	6	6	6	6	6
Industrial	27	38	36	33	35	36	39	47	49	50	50	50
Lighting	1,905	1,962	1,910	1,874	1,830	1,803	1,739	1,644	1,620	1,590	1,590	1,590
Irrigation	997	1,030	1,048	1,066	1,075	1,092	1,091	1,097	1,103	1,095	1,095	1,095
Total Direct	102,413	107,724	109,719	110,853	112,249	113,258	113,915	128,319	130,572	131,883	132,988	134,585

6.2 *LOAD VARIANCE, NORMALIZED ACTUAL TO FORECAST*

Energy (GWh)	2010	2011	2012	2013	2014	2015
Gross	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Variance (%)						
Residential	-0.5%	-1.0%	-2.9%	-0.2%	-8.2%	-7.6%
Commercial	-3.4%	-2.1%	-2.3%	-1.4%	6.1%	5.3%
Wholesale	-2.2%	-3.4%	-3.0%	-3.4%	-2.5%	-2.2%
Industrial	-24.5%	13.9%	14.1%	12.4%	-2.2%	2.3%
Lighting	-3.6%	10.4%	-3.5%	-1.5%	18.2%	12.7%
Irrigation	-23.8%	-10.8%	-14.9%	-8.7%	-4.9%	12.1%
Net	-3.7%	-0.7%	-1.4%	-0.3%	-2.4%	-1.6%
Gross	-4.2%	-0.7%	-2.4%	-1.2%	-2.4%	-1.5%

Note: The 2013 forecast included the CoK as wholesale customer since at the time of the 2012-2013 Revenue Requirements the application for the acquisition of the CoK was not yet filed.

8.1. What has been FBC's response rate for the last 5 years from its surveys?

8.2. The Industrial Load Variances were significant between 2010 and 2014, and much lower in 2014 and 2015. Did FBC make changes to its forecasting procedures during this time or was the reduction in variance primarily a result of the stability in customer count?

8.2.1. If FBC made changes to the its forecasting methods, please explain the changes that FBC undertook to reduce the variance in its industrial load forecasting.

8.2.2. Does FBC undertake any efforts to maximize its survey response rate? Please explain.

9. Reference: Exhibit B-2, Page 23

3.5.7.1 Advanced Metering Infrastructure (AMI) Impact on Losses

FBC's implementation of AMI (approved by Order C-7-13) is expected to positively impact losses (unaccounted-for energy) by deterring theft of power, mainly for indoor marijuana grow sites. In Order G-107-15 in FBC's Annual Review for 2015 Rates, FBC was directed to include in its next and subsequent Annual Review materials the impact of AMI on losses through theft deterrence, including:

> (i) a comparison of the projected GWh reduction for the test year and proceeding years to the estimated GWh theft reduction assumed in the AMI decision for those years; and (ii) a description of FBC's operational activities and costs incurred in reducing electricity theft (for example, related to FBC's Revenue Protection Program) and the regulatory treatment of these costs.[8]

The following information on GWh theft reduction, costs and activities reducing electricity theft and regulatory treatment is provided in response to this directive.

The projected GWh theft reduction for the test year and subsequent years is unchanged from the estimated GWh theft reduction assumed in the AMI decision, which includes the impact of the Commission's determination to limit the number of assumed marijuana grow cycles to three per year, reducing the assumed annual energy losses downward to 113,000 kWh annually per theft site.

Current forecast loss reductions remain unchanged from those provided as part of the AMI CPCN application. Table 3-4 below provides details of the normalized losses for 2012 – 2015,

[8] Order G-107-15, page 15.

9.1. Are there other ways in which the AMI program will reduce system losses other than through theft reduction? If so, please explain and provide quantification if possible.

10. Reference: Exhibit B-2, Pages 23 and 24

> Current forecast loss reductions remain unchanged from those provided as part of the AMI CPCN application. Table 3-4 below provides details of the normalized losses for 2012 – 2015, as well as the forecast losses (both with and without the AMI impact) for 2016 – 2019. The 2015 AMI impact to losses related to theft detection and deterrence is 2.4 GWh, which is consistent with the original forecast. The 2015 loss figures are embedded in the 2016 – 2019 loss figures noted in Table 3-4.

Table 3-4: System Losses Before and After AMI, 2012 – 2019

		Before AMI				After AMI	
Line No.	Year	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 Seed	3,496.2	7.99%	279.5	(2.7)	7.91%	276.8
6	2017 Forecast	3,520.1	7.99%	281.2	(6.7)	7.80%	274.5
7	2018 Forecast	3,530.6	7.98%	291.9	(9.7)	7.71%	272.2
8	2019 Forecast	3,544.8	7.98%	283.0	(12.1)	7.64%	270.9

10.1. Please explain and provide the calculations/evidence for the 'Incremental AMI' impact.

10.2. Please confirm that the Normalized Actual losses for 2015 of 272.4 include the AMI Impact of 2.4GWh, such that otherwise the losses would have been 274.8 or 7.97% of gross load.

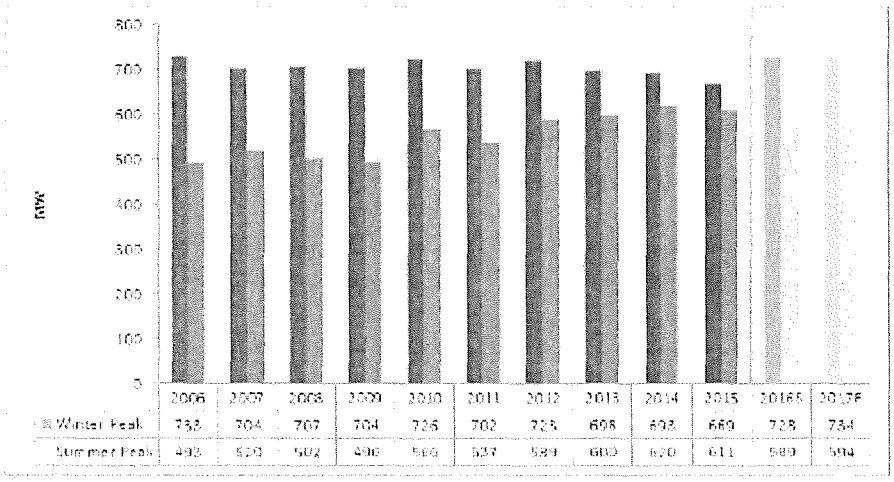
10.2.1. If not confirmed, please explain why not and provide the appropriate calculation of the losses before and after AMI.

11. Reference: Exhibit B-2, Page 25

3.5.8 Peak Demand

The peak demand forecast is produced by taking the ten year average of historical peak data. 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 2006-2017 are shown below.

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



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016F	2017F
Winter Peak	732	704	707	704	726	702	725	698	693	669	728	734
Summer Peak	493	520	502	496	566	537	589	600	620	611	589	594

11.1. Please provide FBC's views on the appropriateness of using a weighted average for its peak demand forecast, such that more recent years have a greater weighting than earlier years in order to reflect recent trends related to peak usage.

11.2. Please confirm that the Kelowna data is included for all years either as wholesale or other rate class demand.

11.3. Please explain the increasing summer peak demand and the decrease in winter peak demand.

12. Reference: Exhibit B-2, Page 27

4.1 *Introduction and Overview*

This section includes a review of the 2016 Projected and 2017 Forecast power purchase expense (PPE), wheeling expense and water fees.

As shown in Table 4-1 below, the 2017 Forecast power supply cost of $153.930 million represents an increase of 3.3 percent or $4.968 million over the 2016 Approved cost of $148.962 million. The increase in the 2017 Forecast PPE is due to increased gross load as well as increases to the Brilliant, Waneta Expansion, and BC Hydro contract rates. The increase in 2017 Forecast wheeling expense is due to increases in the wheeling nominations and wheeling rates. The 2017 Forecast water fees are consistent with 2016 Approved. Any variances to forecast in these items are recorded in the Flow-through deferral account and returned to or recovered from customers in the subsequent year.

Table 4-1: Power Supply Cost ($ millions)

Line No.	Description	Approved 2016	Projected 2016	Forecast 2017
1	Power Purchase Expense	$ 133.907	$ 128.439	$ 138.674
2	Wheeling Expense	4.764	4.779	4.928
3	Water Fees	10.291	10.187	10.328
4	Total Power Supply Cost	$ 148.962	$ 143.406	$ 153.930
5				
6	Gross Load (GWh)	3,540	3,426	3,559

12.1. Please provide the total increase that is related to the increase in gross load, as compared to the increases in the contract rates.

13. Reference: Exhibit B-2, Page 28

4.3 *Portfolio Optimization*

The primary objectives of FBC's power supply portfolio planning are to ensure that the Company has sufficient firm resources to meet expected load requirements, to ensure the availability of cost effective reliable power for FBC's customers, to prudently manage exposure to the cost and availability of market power supplies, and to optimize the value of any surplus resources that are not needed to meet load requirements.

The Company currently has long-term, firm resources from which it can supply all of its 2017 forecast annual energy and capacity requirements. The nature of FBC's contracted resources, in particular the BC Hydro PPA, provide the Company some flexibility to participate in the market when conditions are favourable, to mitigate the cost of holding those firm resources. Furthermore, although FBC's load requirements are forecast to grow over time, the amount of capacity provided under the WAX CAPA is greater than FBC's current capacity requirements in most months, and FBC sells the surplus capacity to mitigate power purchase expense. FBC has contracted to release a 50 MW block of capacity purchased under the WAX CAPA to BC Hydro under the Residual Capacity Agreement (RCA), which was approved by the Commission in Order G-161-14. The remaining surplus WAX CAPA will be sold to Powerex Corp. (Powerex) on a day-ahead basis, if and when it is not required to meet FBC load requirements, under the terms of the Capacity and Energy Purchase and Sale Agreement (CEPSA) with Powerex dated February 17, 2015, and accepted by the Commission in Order E-10-15.

13.1. Please confirm that the sale of surplus capacity is not included in the PBR ratemaking, but is accounted for separately.

13.1.1. If not confirmed, please explain how the surplus capacity sales are accounted for under PBR ratemaking and whether or not the shareholder receives a benefit from these sales.

14. Reference: Exhibit B-2, Pages 29 and 30

As shown in Table 4-2 below, FBC's 2016 gross load (after taking into account demand side management and other customer savings) and PPE are projected to be below the 2016 Approved values by 114 GWh and $5.467 million, respectively. The reduction in power purchase expense in 2016 is primarily due to decreased load from forecast, driven primarily by a warmer than forecast winter and additional market purchases used to displace BC Hydro PPA energy and capacity purchases at a lower total cost.

Table 4-2: 2016 Power Purchase Expense ($ millions)

Line No.	Description	Approved 2016	Projected 2016	Difference
1	Brilliant	$ 38.785	$ 38.775	$ (0.010)
2	BC Hydro PPA	47.545	38.256	(9.289)
3	Waneta Expansion	37.358	37.490	0.132
4	Independent Power Producers	0.195	0.186	(0.009)
5	Market and Contracted Purchases	10.023	13.014	2.991
6	CPA Balancing Pool	-	0.839	0.839
7	Special and Accounting Adjustments	-	(0.121)	(0.121)
8	Total	$ 133.907	$ 128.439	$ (5.467)
9				
10	Gross Load (GWh)	3,540	3,426	(114)

14.1. Please provide an approximation of the reductions due to the warmer than normal weather and those related to the additional market purchases.

15. Reference: Exhibit B-2, Page 31

> The $10.476 million increase from 2016 Projected to 2017 Forecast in BC Hydro PPA expense is due to a greater volume of power forecast to be purchased under the PPA in the 2017 Forecast compared to the 2016 Projected, as well as due to a forecast BC Hydro rate increase of 3.5 percent on April 1, 2017.[13] The BC Hydro rate increase of 3.5 percent as of April 1, 2017, increases the 2017 Forecast expense by $1.690 million, while higher purchased volume increases 2017 Forecast expense by $9.202 million. The volume of PPA purchases included in the 2017 Forecast is 176 GWh higher than the volume included in the 2016 Projected and 36 GWh lower than 2016 Approved. For the 2017 Forecast, and consistent with the 2016 Approved, FBC has included a $1.000 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 for under the BC Hydro PPA. The flexibility under the BC Hydro PPA has created savings of $0.515 million in the 2016 Projected PPE. The Company is required to create additional savings of $0.485 million in 2016 in order to meet the $1.0 million planned savings, which it anticipates doing by the end of the 2016. Any variance in actual savings compared to the $1.000 million planned savings included in the 2016 Approved and 2017 Forecast are recorded in the Flow-through deferral account and returned to or recovered from customers in the subsequent year.

15.1. Could FBC potentially increase its savings beyond $1.0 million in 2017?

15.1.1. If so, what activities could FBC undertake to increase its planned savings beyond $1.0 million in 2017?

15.1.2. If so, please provide an estimate of the maximum savings FBC might be able to achieve.

15.2. If an increase to the savings is possible, would FBC be averse to including these in its 2017 forecast? Please explain why or why not.

16. Reference: Exhibit B-2, Page 38

> 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 2017 insurance premiums are forecast at $1.327 million, a decrease of $0.020 million or 1.5 percent from what was approved for 2016. The 2017 Forecast is calculated by taking the known annual insurance premium of $1.162 which is applicable to the first six months of 2017 and escalating that amount by five percent for the remaining six months[13]. 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.

[13] $1.162 million/2 = $0.581 million x 1.05 = $0.611 million. $0.581 million + $0.611 million + $0.135 million annual firefighting premium = $1.327 million.

16.1. What is the $0.135 million annual firefighting premium?

16.2. What is the % allocation from FEI, and how was the percentage arrived at?

17. Reference: Exhibit B-2, Page 38

6.3.3 AMI Project

Incremental O&M costs related to the implementation of the AMI project will be offset by post-implementation savings, resulting in a net decrease to O&M Expense during the PBR period. Because of the high variability of AMI costs and savings during the implementation period, net AMI costs, including the costs of AMI-enabled billing options, are forecast and tracked outside of the PBR formula.

Table 6-5 below compares 2015 through 2017 net AMI savings to the net savings forecast in the AMI CPCN application.

17.1. Please confirm that AMI is accounted for outside the PBR ratemaking.

18. Reference: Exhibit B-2, Page 39

Table 6-5: AMI Costs and Savings ($ millions)

Line No.		2014-2015			2016			2017	
1		Actual	Approved	CPCN[1]	Projected	Approved	CPCN[1]	Forecast	CPCN[1]
2		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
3									
4	AMI Costs	2.122	2.341	2.975	1.481	1.481	1.892	1.992	1.925
5	AMI Savings	(1.239)	(1.289)	(2.493)	(2.816)	(3.281)	(3.976)	(3.118)	(3.970)
6	Net AMI Savings	0.883	1.052	0.482	(1.335)	(1.800)	(2.084)	(1.126)	(2.045)
7									
8	[1] CPCN estimates adjusted to include reclassification of software from capital pursuant to Order G-13-14								

1. The CPCN forecast was a comparison of the savings that would be achieved with the AMI project to the costs that would otherwise be incurred to support the continuation of a manual meter reading program. As such, the AMI CPCN savings were based partly on estimates of continuing with manual meter reading. These meter reading cost estimates were materially higher than actual experience in 2013 and 2014 (the last full years of manual meter reading), so savings potential was diminished; and

2. The forecast Remote Connect/Disconnect savings are lower than forecast, in part due to the discontinuation of the $100 meter connection fee for premises that are remotely reconnected following disconnection for vacancy, as accepted by Letter L-1-16.

18.1. By how much were the 2013 and 2014 meter reading costs estimates materially higher than actual?

18.2. Why were the meter reading costs estimates for 2013 and 2014 materially higher than actual when the company had ongoing experience with manual meter reading?

19. Reference: Exhibit B-2, Page 44 and Page 92

- As discussed in Section 6.3.4 and Section 12.2.2, in Order G-202-15 the Commission determined that FBC's 2016 forecast costs required for the adoption of MRS pursuant to Order R-38-15 met the criteria for an exogenous event under the PBR Plan. In 2017, FBC continues to treat its forecast cost of adopting MRS pursuant to Order R-38-15 as an Exogenous event under the PBR Plan by tracking the incremental O&M and capital expenditures associated with compliance with Order R-38-15 and flowing them through to rates outside of the O&M and capital formulas.

  MRS Incremental Capital of $1.350 million (in addition to $0.050 million in O&M Expense as described in section 6.3.4) is required in 2017 to comply with recently adopted MRS. As explained in section 6.3.4, during 2016, FBC began assessing and determining the detailed scope and strategy required to implement additions/changes to meet the effective dates of all the standards defined by Order R-38-15. The work is primarily focused on version 5 of the CIP standards.

  As a result of the 2016 effort to date, FBC has estimated a one-time capital expenditure of $1.350 million in 2017. The 2017 work includes adding hardware and software systems to current infrastructure. These expenditures are necessary to meet requirements of the new standards and are related to tasks such as continuous monitoring, change management, vulnerability assessment and cyber security controls. These additions will need to be completed in 2017 in order to manage the timing of compliance activities to minimize costs.

  Additional sustaining capital will be required beyond 2017 for ongoing support for the hardware and software additions, including annual upgrades and minor additions that may be required to the infrastructure and systems implemented as a result of version 5 of the CIP standards.

- The forecast O&M costs of $0.445 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.

19.1. What, if any savings, will be attributable to the adoption of MRS? Please identify, quantify and indicate when these savings might accrue.

19.2. For how long does FBC anticipate O&M costs to continue beyond 2018?

19.3. Please quantify the expected O&M costs known to FBC beyond 2018 by year.

20. Reference: Exhibit B-2, Pages 53 and 54

3. Changes in Tax Rates. Tax rates are based on FBC's average annual change in the tax rate applicable to FBC since 2012. On average:

   a) Municipal rates are expected to increase by 1.0 percent;

   b) School rates are expected to decrease by 0.6 percent;

   c) Rural rates are expected to decrease by 0.7 percent;

   d) Tax rates on First Nations are expected to increase 1.5 percent; and

   e) Other rates are expected to increase by 3.75 percent.

20.1. What are the "Other Rates" that are expected to increase by 3.75%?

20.2. Why are 'Other Rates' expected to exceed the increase level of all the listed items?

21. Reference: Exhibit B-2, Pages 106 and 107

The Company's 2009 to 2015 and 2016 year-to-date AIFR results are provided below.

Table 13-3: Historical All Injury Frequency Rate Results

Description	2009	2010	2011	2012	2013	2014	2015	June 2016 YTD
Annual Results	1.41	1.72	1.48	1.72	2.82	3.21	1.54	0.88
Three year rolling average	2.00	2.00	1.54	1.64	2.01	2.58	2.52	1.88
Benchmark	n/a	n/a	n/a	n/a	n/a	1.64	1.64	1.64
Threshold	n/a	n/a	n/a	n/a	n/a	2.39	2.39	2.39

FBC remains committed to maintaining its focus on safety and is investing in enhancements to its safety program as evidenced by the launch of the Target Zero safety program in 2016. FBC believes that its actions to increase the focus on safety supported by increase funding to its safety program are appropriate in the circumstances and that the year-to-date results are an encouraging sign that the program is working as anticipated.

21.1. Does FBC anticipate that it will reach or surpass the AIFR Benchmark in 2017? Please explain why or why not.

21.2. If not, when does FBC anticipate reaching Benchmark for AIFR?

22. Reference: Exhibit B-2, Pages 107 and 108

The 2015 result was 76 percent and was within the performance range with the benchmark at 78 percent and the threshold at 72 percent. June 2016 year-to-date performance is 77 percent and also within the performance range.

The Company's 2009 to 2015 annual and 2016 year-to-date results are provided below.

Table 13-4: Historical First Contact Resolution Levels

Description	2009	2010	2011	2012	2013	2014	2015	June 2016 YTD
Annual Results	n/a	n/a	n/a	n/a	73%	73%	76%	77%
Benchmark	n/a	n/a	n/a	n/a	n/a	78%	78%	78%
Threshold	n/a	n/a	n/a	n/a	n/a	72%	72%	72%

22.1. Please confirm that the 'Benchmark' represents the Commission's established target to be achieved rather than a higher bound, and that the 'Threshold' represents the lowest level of performance acceptable before the company may be assessed for the prospect of penalties rather than an approved 'Performance Range'.

22.1.1. If not confirmed, please explain why not.

22.2. When does FBC anticipate reaching Benchmark results for First Contact Resolution Levels?

23. Reference: Exhibit B-2, Page 112

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.

The 2015 result was 2.7 percent, consistent with prior years' results except for 2014. The June 2016 year-to-date result is 3.3 percent and is comparable to that achieved in the last few years.

The Company's 2009 to 2015 annual and 2016 year-to-date results are provided below. As discussed in the 2015 Annual Review, the 2014 result of 12.4 percent was negatively impacted by the first verified meter readings occurring after the IBEW labour disruption ended in December of 2013, the introduction of the Residential Conservation Rate, and the integration of the City of Kelowna customers.

Table 13-10: Historical Telephone Abandon Rates

Description	2009	2010	2011	2012	2013	2014	2015	June 2016 YTD
Annual Results	2.2%	1.9%	1.7%	1.9%	2.0%	12.4%	2.7%	3.3%
Benchmark	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

23.1. To what factors does FBC attribute the increase in the Telephone Abandon Rate for 2015 and 2016 over historical levels (excluding 2014)?

23.2. Please provide customer wait times from 2009 to 2016.

23.3. Does FBC expect the June YTD performance of 3.3% to be sustained to the end of the year?

23.3.1. If not, please explain why and provide FBC's expected year end performance.

24. Reference: Exhibit B-2, Pages 44 and 45 and Appendix D, Page 1

7.3 CPCN AND SPECIAL PROJECTS CAPITAL EXPENDITURES

Also forecast outside of the formula are any capital expenditures related to approved CPCNs.

The Ruckles Substation Rebuild Project and the Upper Bonnington Old Units Refurbishment Project (UBO Project) were also determined by Order G-80-16 to be outside of the formula capital expenditures and eligible for flow-through treatment, subject to approval of the projects in the Annual Review process preceding the commencement of the project. The project descriptions, justification and costs for the Ruckles Substation Rebuild Project and the UBO Project are provided in Appendix C and Appendix D of the Application, respectively. To facilitate the review and approval of these multi-year projects in this annual review, FBC is seeking Commission acceptance of the capital expenditures for the two projects pursuant to section 44.2 of the *Utilities Commission Act*.

Table 3-1: Summary of Options Analysis

Criteria	Option 1 Do Nothing	Option 2 Ruckles Rebuild on Existing Site	Option 3 New Station East of Highway 3
Preliminary Capital Cost Estimate ($2016, incl. Removal)[11]	$ -	$7.595 million	$8.875 million
Preliminary Capital Cost Estimate (As-spent, incl. Removal and AFUDC[12])	$ -	$8.288 million	$9.962 million
PV of Incremental Revenue Requirement (50 years)	$ -	$11.279 million	$12.370 million
Levelized % Increase on Rate (50 years)	0%	0.20%	0.22%
Addresses Station Flooding Hazards	No	Yes, civil modifications	Yes, station relocation
Addresses Arc-Flash Hazards	No	Yes, eliminates	Yes, eliminates
Addresses Obsolete Equipment Issues	No	Yes, replacement	Yes, replacement
Addresses Reliability Issues	No	Yes, additional capacity	Yes, additional capacity
Requires New Lands and Rights of Way	No	No	Yes
Constructability	N/A	More complex, must work around existing energized equipment	Less complex, site will be in a new location without existing energized equipment
Decision	Rejected	Accepted	Rejected

1. PROJECT SUMMARY

The Upper Bonnington Old Units Refurbishment Project (the UBO Project) involves the replacement or refurbishment of various components of four of the generation plant's six units, which are at end of life and can no longer be operated in a safe, reliable, and environmentally responsible manner. The four Old Units (Units 1 to 4) were not included in the Upgrade and Life Extension (ULE) program, which refurbished the remaining 11 of FBC's 15 generating units, although certain components of Unit 3 have been repaired or replaced due to failure in the last three years. The UBO Project, which will be executed over the period 2017 – 2021, will extend the productive life of the Old Units for the next twenty years or more and has an estimated total capital cost of $31.783 million (including financing and removal costs). The UBO Project is comprised of four smaller projects (one for each of the four generation units) in addition to project completion work on elements common to the four units. Capital costs for the four units range from $5.412 million to $9.579 million per unit. Additional capital expenditures beyond the initial 20-year timeframe would increase the productive life to 40 years, however FBC is not seeking approval of those expenditures at this time.

24.1. Please confirm that the expected costs of the Ruckles Substation Rebuild Project, as identified in the PBR Decision, was $5.9 million.

24.1.1. If not confirmed, please provide the estimated costs at the time of the PBR decision.

24.1.2. If confirmed, please provide a brief explanation for why the costs of the Ruckles substation rebuild are approximately $2.3 million (or over 33%) higher than originally anticipated.

24.2. Please confirm that the expected costs of the Upper Bonnington Units 1, 2, and 4 refurbishment was $21.0 million at the time of the PBR decision, and was estimated at approximately $26 million at the time of the FBC Application for Approval of Treatment for Major Project Capital Expenditures under the Multi-Year Performance Based Ratemaking Plan for 2014-2019 (March 2016) .

24.2.1. If not confirmed, please provide the estimate at the time of the PBR decision.

24.2.2. If confirmed, please provide a brief explanation, with quantification where possible, for why the costs of the Upper Bonnington refurbishment project are approximately $10 million (or nearly 50%) higher than originally anticipated and approximately $5 million higher than anticipated in March of 2016.

25. Reference: Exhibit B-2, Appendix C, Ruckles Substation Pages 3 and 15

There are four primary drivers for the Ruckles Project.

1. There are employee safety, environmental and customer supply reliability risks as a result of the location of the Ruckles Substation and the high voltage infrastructure and associated protection and control equipment within the flood zone of the Kettle River;
2. There is an employee safety and reliability risk resulting from the arc flash potential associated with the switching equipment that provides the 4kV source of supply to the City of Grand Forks municipal electric utility and the sawmill;
3. The existing substation protection, control and metering equipment is obsolete and presents safety and reliability risks in the event of failures; and
4. FBC customers in the Grand Forks area are exposed to potentially lengthy outages as the Ruckles substation does not meet FBC's planning criteria for backup during contingency operations.

1. Option 1 – Do Nothing. Under this option, no modifications would be made to the substation equipment or site.
2. Option 2 – Full Rebuild on Existing Site. This option would involve raising the existing site above the flood plain and constructing a new transformer foundation with oil containment in a new location within the existing substation site. A new 63/13 kV 40MVA transformer would be installed, along with two 13 kV/4 kV 5 MVA step-down transformers to accommodate 4kV load requirements. New high voltage equipment including circuit breakers, disconnect switches and ancillary equipment would be constructed on raised foundations above anticipated flood levels.
3. Option 3 – New Ruckles Substation on East Side of Highway 3. This option would involve constructing a new substation on the east side of Highway 3 outside of the Kettle River flood plain and preferably near the existing 9 Line and 10 Line transmission lines. A new 63/13 kV 40 MVA transformer would be installed, along with two 13/4 kV 5 MVA step-down transformers to accommodate 4 kV load requirements. This option would also require either a new interconnection between the new station and the existing City of Grand Forks switching station or the relocation of the City of Grand Forks switching station.

25.1. Please confirm that there is urgency with respect to the Ruckles project such that project deferral is not an appropriate option.

25.1.1. If not confirmed, did FBC consider project deferral as a possible option? Please explain why or why not.

25.1.2. If not confirmed, please identify for how long FBC could reasonably defer the project.

25.1.2.1. Please identify the savings that could accrue with project deferral.

25.1.2.2. Please identify the benefits that would be lost if the project were deferred.

26. Reference: Exhibit B-2, Appendix D, Page 1

1. PROJECT SUMMARY

The Upper Bonnington Old Units Refurbishment Project (the UBO Project) involves the replacement or refurbishment of various components of four of the generation plant's six units, which are at end of life and can no longer be operated in a safe, reliable, and environmentally responsible manner. The four Old Units (Units 1 to 4) were not included in the Upgrade and Life Extension (ULE) program, which refurbished the remaining 11 of FBC's 15 generating units, although certain components of Unit 3 have been repaired or replaced due to failure in the last three years. The UBO Project, which will be executed over the period 2017 – 2021, will extend the productive life of the Old Units for the next twenty years or more and has an estimated total capital cost of $31.783 million (including financing and removal costs). The UBO Project is comprised of four smaller projects (one for each of the four generation units) in addition to project completion work on elements common to the four units. Capital costs for the four units range from $5.412 million to $9.579 million per unit. Additional capital expenditures beyond the initial 20-year timeframe would increase the productive life to 40 years, however FBC is not seeking approval of those expenditures at this time.

26.1. Please provide an approximation of the additional capital expenditures that would extend the initial 20-year time frame to 40 years.

26.2. Please identify when, if ever, FBC would expect to seek approval for those expenditures.

26.3. Please confirm that pursuant to Commission Order G-80-16 FBC is directed to include information in its business case that specifically addresses the timing of the four units to be refurbished in terms of need and cost effectiveness.

26.3.1. If not confirmed, please explain why not.

26.4. Please identify where explicitly in the Business Case FBC addresses the need and cost effectiveness of the timing of the four units to be refurbished.

27. Reference: Exhibit B-2, Appendix D, Pages 31 and 32

- An unexpected increase in the delivery times or in the cost of major equipment. The risk of such occurrence is considered to be low given the current economic climate and that FBC received budgetary quotes for major materials.
- Unavailability of labour and materials. The risk of occurrence is considered to be low given the current economic climate. From a labour perspective, there is little risk given the majority of the work will be completed in-house. Any external labour requirements will likely be easily met. With respect to materials, FBC believes that the risk of financial and schedule pressures is low because the likelihood of material lead-times and prices changing significantly is low given the current economic climate. This risk has been partially mitigated by developing preliminary equipment specifications and obtaining quotations from vendors. Any residual risk will be managed through the use of project planning and contractual performance guarantees.
- Environmental risk associated with changing the oil system of the existing mechanical governor system. There is a risk associated with removing and transporting this large volume of oil for disposal. The probability of an oil spill is considered low given that FBC has well developed work procedures for transporting oil. Additionally, the impact of a spill while changing the oil is considered low given that any spill would be contained within the existing plant and recovered using FBC's standard oil spill response procedures.

- As-found submerged turbine components may be in worse condition than expected. FBC considers this risk to be moderate because the condition of many components is difficult to assess prior to disassembly and there is a risk that the condition of these components is worse than anticipated. FBC believes that the likelihood of such an event has been reduced because of the recent inspections done on Units 1 and 3 and the fact that the other two units are of a similar vintage and design.
- There is a risk that the as-found condition of some components, especially the stator core, could be in an inoperable condition on some of the Units. To mitigate the risk, FBC will conduct comprehensive testing and condition assessment prior to returning to service.

27.1. Is FBC able to assign quantification of costs to the above identified risks? If so, please provide an estimate of the costs potentially associated with each risk.