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October 5, 2016

British Columbia Public Interest Advocacy Centre
Suite 208 – 1090 West Pender Street
Vancouver, B.C.
V6E 2N7

Attention: Ms. Tannis Braithwaite, Executive Director

Dear Ms. Braithwaite:

Re: FortisBC Inc. (FBC)

Project No. 3698889

Application for Acceptance of Demand Side Management (DSM) Expenditures for 2017 (the Application)

Response to the British Columbia Public Interest Advocacy Centre representing the British Columbia Old Age Pensioners' Organization, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, and the Tenant Resource and Advisory Centre *et al.* (BCOAPO) Information Request (IR) No.1

On August 8, 2016, FBC filed the Application referenced above. In accordance with the British Columbia Utilities Commission Order G-135-16 setting out the Regulatory Timetable for the review of the Application, FBC respectfully submits the attached response to BCOAPO IR No. 1.

If further information is required, please contact Joyce Martin, Manager Regulatory Affairs at (250) 368-0319.

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties



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1 **1.0 Reference: Exhibit B-1, page 4 (lines 32-34)**

2 1.1 Please provide a schedule which identifies each of the 2015 C&EM programs
3 that FBC is not proposing to continue for 2017 and an explanation as to why.

4
5 **Response:**

6 All 2015 C&EM programs are proposed to continue for 2017 albeit with changes, e.g. measure
7 incentives, where necessary to respond to market conditions.

8
9

10
11 1.2 Are there any of the 2015 C&EM programs that are continuing for 2017 but
12 where the terms/incentives offered have changed? If so, please identify the
13 programs and the changes.

14
15 **Response:**

16 The following table lists and provides detail on each C&EM program where the terms and
17 incentives have changed.

Program	Changes
Appliances	<ul style="list-style-type: none"> • Increased rebate to \$100 for most efficient models; • Added ENERGY STAR Dryers (\$50 and \$100 rebates); and • Updated qualifying models to meet Energy Star's most efficient standards
Home Improvement (Home Renovation Rebate)	<ul style="list-style-type: none"> • Increased value of insulation rebates; and • Increased value of bonus offer
New Home	<ul style="list-style-type: none"> • Moved to ENERGY STAR performance rating – providing \$2000 rebate
Water Heating	<ul style="list-style-type: none"> • Increased heat pump water heater to \$1000 rebate
Lighting	<ul style="list-style-type: none"> • Removed rebates for A19 LED bulbs; • Added specialty LED lighting rebates; and • Added more retail partners to provide point-of-purchase rebates

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Program	Changes
Heat pumps	<ul style="list-style-type: none"> • Increased rebate values: <ul style="list-style-type: none"> ○ to \$800 for mini-split ductless heat pumps (from approx. \$600); ○ to \$400 per ton for central systems (from \$200/ton); • Reduce heat pump loan to 1.9% interest rate (from 4.9%)
Low Income and Rental	<ul style="list-style-type: none"> • Added Energy Conservation Assistance Program (ECAP); <ul style="list-style-type: none"> ○ Basic: no cost energy assessment, advice, direct installation of household measures (e.g., LED lighting, low-flow showerheads), basic draftproofing, pipe insulation, etc. and, if qualified; ○ Advanced: Energy Star refrigerators and ceiling/basement insulation and additional draft proofing upgrades. • Added Rental Apartment Program; <ul style="list-style-type: none"> ○ No cost direct installation of household energy efficiency measures (e.g., LED lighting, low-flow showerheads and advice for suites), and an assessment and rebate and equipment selection support for common area upgrades
Behavioural	<ul style="list-style-type: none"> • Will request proposals and undertake project to launch Customer Engagement Tool (CET)
Commercial Lighting	<ul style="list-style-type: none"> • Added more products to Commercial Product Rebate program (i.e., compressors, outdoor signage, irrigation and pool pumps) and expanded/changed list of lighting measures (i.e., removed rebates for T8 fluorescent lighting, added LED troffers); and • New Business Direct Installation program, which provides instant point-of-sale rebates that are provided through approved contractors



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1 **2.0 Reference: Exhibit B-1, page 1 (lines 35-36)**

2 2.1 Please confirm that the \$112/MWh value for LRMC includes both generation
3 capacity and energy costs.

4

5 **Response:**

6 Confirmed.

7



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1 **3.0 Reference: Exhibit B-1, page 5 ((lines 1-2)**

2 **Exhibit B-1, page 14 (lines 24-26)**

3 3.1 It is noted that the \$106/MWh LRMC for BC Hydro is in F2017 dollars and has
4 been grossed up for distribution losses. What would the \$106/MWh LRMC value
5 used by FBC be if expressed on a similar basis?
6

7 **Response:**

8 Please refer to the response to CEC IR 1.2.3(a).

9 FBC does not gross up its LRMC for distribution (line) losses, however FBC does gross up the
10 customers' energy savings (at the meter) by system line losses before calculating the measures'
11 avoided costs, thus incorporating the benefits of reduced line losses due to DSM activities.

12



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1 **4.0 Reference: Exhibit B-1, pages 9-10**

2 **Exhibit B-1 Appendix A, page A2**

3 4.1 Please provide a revised version of Table 4-1 that includes the approved and
4 actual savings/spending for 2015.

5

6 **Response:**

7 Table 4-1 is reproduced below with the approved and actual savings/spending for 2015.



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Program Area	2015				2016				2017		
	Approved		Actual		Approved		Projected		Plan		TRC B/C ratio
	Savings	Cost	Savings	Cost	Savings	Cost	Savings	Cost	Savings	Cost	
	MWh	(\$000s)	MWh	(\$000s)	MWh	(\$000s)	MWh	(\$000s)	MWh	(\$000s)	
1 Programs by Sector											
2 Residential	12,096	3,160	5,639	1,050	12,909	3,349	7,098	2,607	10,493	2,718	2.5
3 Commercial	12,526	2,530	5,882	1,324	12,695	2,564	11,734	2,547	13,666	3,131	2.2
4 Industrial	1,537	202	1,087	226	1,585	209	2,327	330	1,556	309	1.9
5 Subtotal Programs	26,159	5,892	12,608	2,600	27,189	6,122	21,160	5,484	25,715	6,158	2.3
6 Supporting Initiatives		725		585		675		678		674	
7 Planning & Evaluation		675		346		737		675		777	
8 Total incl. Portfolio spend		7,292		3,531		7,534		6,838		7,610	2.0

2



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3 4.2 Please provide a schedule that, for the Residential sector, sets out the Projected
4 2016 savings and costs as well as the approved and actual 2015 savings and
5 costs by Program Area.

6
7 **Response:**

8 The following table shows the approved and projected 2016 savings and costs, as well as the
9 approved and actual 2015 savings and costs for Residential programs.



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		2016 Plan	2016 Forecast	2016 Plan	2016 Forecast	2015 Plan	2015 Actual	2015 Plan	2015 Actual
		Cost (\$000s)	Cost (\$000s)	Savings (MWh)	Savings (MWh)	Savings (MWh)	Savings (MWh)	Cost (\$000s)	Cost (\$000s)
1	Program								
2	Home Improvement	884	328	3,106	436	3,106	231	884	199
3	Waterheating					850	5	387	2
4	Heat Pumps	302	311	1,618	1,087	1,618	569	302	182
5	New Home	390	49	1,179	46	1,179	356	390	111
6	Lighting	189	279	1,547	3,600	1,569	4,144	193	198
7	Appliances	96	122	288	101	288	52	96	71
8	Water Heating	430	26	948	12	-	-		
9	Low Income & Rentals	952	1,387	3,175	1,401	2,598	282	824	287
10	Behavioural	106	106	1,048	417	888	-	85	-
11	Total Residential	3,349	2,607	12,909	7,098	12,096	5,639	3,160	1,050

2

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2

3 4.3 Please explain the variance between the approved and projected savings for
 4 2016 in the Residential sector.

5

6 **Response:**

7 The explanations for the variance between approved and projected savings for 2016 are
 8 provided in the table below.

Program	Explanation
Home Improvement	<ul style="list-style-type: none"> • Lack of concurrent (stacked) LiveSmart and ecoENERGY rebate programs and associated province-wide marketing has lowered customer participation in marketplace; and • More stringent participant requirements introduced to reduce free ridership and drive deeper retrofits.
Heat Pumps	<ul style="list-style-type: none"> • Lack of concurrent (stacked) LiveSmart and ecoENERGY rebate programs and associated province-wide marketing has lowered customer participation; • Anecdotally, contractors are indicating that if an electrically heated home has access to natural gas, the homeowners are choosing a natural gas furnace instead; and • Program marketing efforts must compete with a multitude of other home retrofit purveyors in market.
New Home	<ul style="list-style-type: none"> • New ENERGY STAR for New Homes program, developed in collaboration with BC Hydro and FEI, launched in 2016 and requires time to build market awareness and interest; • New Home builders are adapting to the more stringent energy performance requirements introduced by the 2014 BC Building Code (BCBC); and • Anecdotally, the Residential Conservation Rate sends a strong price signal to not build an electrically heated home.
Lighting	<ul style="list-style-type: none"> • Many new LED controls, fixtures and specialty bulb products introduced into the market have increased participation and savings.
Appliances	<ul style="list-style-type: none"> • New higher performance ENERGY STAR standards have increased baseline; and • Program re-launched in 2015 and time is needed to rebuild market awareness and interest.
Water Heating	<ul style="list-style-type: none"> • Heat pump water heating products are not readily available in the BC marketplace, and trade allies are unfamiliar with the product.
Low Income & Rentals	<ul style="list-style-type: none"> • Launched in late 2015, requires time to build market awareness and interest; and • Momentum is building and achieved savings are anticipated to be closer to planned savings.
Behavioural	<ul style="list-style-type: none"> • Due to delays in AMI infrastructure readiness, the In Home Display pilot project will not be implemented in 2016.

9

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4.4 For those Residential sector Program Areas where the planned 2017 savings are more than 10% higher than the projected 2016 savings, please provide an explanation as to why/how the higher savings levels are viewed as achievable/will be achieved.

Response:

10 The following table sets out those programs where the planned 2017 savings are more than
11 10% higher than the projected 2016 savings, and the rationale for the planned increased
12 savings.

Program	Plan Savings Rationale
Residential Lighting	LED controls, fixtures and specialty bulbs in the point-of-sale rebates in 2015-16 surpassed projections. The increased 2017 plan savings are based on 2015 results and 2016 projection.
Behavioural	FBC, in partnership with FortisBC Energy, is planning to implement a Customer Engagement Tool that includes proven behavioural savings (customer reports with controlled studies).

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4.5 For those Residential sector Program Areas where the planned 2017 savings vary from the approved 2016 savings by more than 10%, please explain why.

Response:

20 The relevant Residential programs and an explanation for the variances in plan savings of more
21 than 10% are set out in the table below.

Program	Explanation
Home Improvement	The reduced plan savings are representative of 2015 actual and 2016 projected results of the Home Renovation Rebate program (formerly the Home Energy Rebate Offer).
New Home	The ENERGY STAR for New Home is new to BC and more stringent than the 2014 BC Building Code. Adapting to these more stringent building requirements coupled with increasing awareness and interest to the program takes time.



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Program	Explanation
Lighting	Program participation in LED controls, fixtures and specialty bulbs point-of-sale rebates have exceeded 2015-16 goals. The increased planned savings approximate 2015 actual/2016 projected savings.
Appliances	With the continued emphasis on only promoting the most efficient appliances available in the market coupled with the introduction of ENERGY STAR dryers, this program area continues to see growth and savings.
Water heating	Heat pump water heating products are not readily available in the BC marketplace.
Low income & rentals	Momentum created in 2016 will be realized in 2017.
Behavioural	FBC, in partnership with FortisBC Energy, is planning to implement a Customer Engagement Tool which will include proven savings.

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1 **5.0 Reference: Exhibit B-1, page 13 (lines 29-32)**

2 **Preamble:** The application states that “all measures pass at the 6% DR”.

3 5.1 What is meant by “all measures”?

4

5 **Response:**

6 The 2017 DSM plan includes cost-effective measures and programs for most major end-uses in
7 principal customer sectors and rate classes that acquire, over time, the achievable conservation
8 potential that was identified in the 2013 Conservation Potential Review (CPR) Update. The only
9 notable end-use exception is residential plug-loads, namely consumer electronics, which FBC
10 believes are better addressed through government regulation.

11 The 2013 CPR Update was not revisited, however the BC CPR study currently underway uses a
12 newly updated measure list, the revised Discount Rate (DR) and Deferred Capital Expenditure
13 (DCE) values, as well as an updated Long Run Marginal Cost (LRMC) and will be used to
14 inform FBC’s Long Term DSM Plan (LT DSM Plan) to be filed with the Company’s Long Term
15 Electric Resource Plan (LTERP) on or before November 30, 2016.

16

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18

19 5.2 Did FortisBC investigate whether there were other DSM measures, not included
20 in its 2015-16 Plan, that would “pass” given the revised DR and DCE values? If
21 yes, what were the results and, if not, why not?

22

23 **Response:**

24 No, FBC did not investigate additional DSM measures given the revised DR and DCE values.
25 Please refer to the response to BCOAPO IR 1.5.1.

26

27

28

29 5.3 Did FortisBC investigate whether there were enhancements to the measures
30 included in the 2015-16 Plan that would “pass” given the revised DR and DCE
31 values? If yes, what were the results and, if not, why not?

32



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- 1 **Response:**
- 2 Please refer to the response to BCOAPO IR 1.5.1.

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1 **6.0 Reference: Exhibit B-1, page 16 (lines 9-16)**

2 **Exhibit B-1, Appendix B, page 21**

3 **FBC's 2015-2016 DSM Application, Exhibit B-6, BCOAPO #8**

4 6.1 It is noted that the two evaluations initially planned for 2015 were not undertaken.
5 Were other evaluations performed in their place and, if not, why not?

6

7 **Response:**

8 The New Home (EnerGuide 80) and the Custom Commercial Lighting program evaluations
9 were not undertaken in 2015 for different reasons. The New Home program was replaced with
10 the ENERGY STAR qualified new home program that has prescriptive measures, as well as a
11 higher performance standard. The ENERGY STAR New Home program is scheduled for
12 evaluation in 2017, when it will have been in the market for long enough to have sufficient
13 participants, along with a sample of the prior EnerGuide 80 participants, to evaluate it
14 effectively. The Custom Commercial Lighting program evaluation was postponed until 2016
15 when it could be cost-effectively included in the Custom Business Efficiency Program
16 evaluation.

17 The aforementioned evaluations were not replaced with evaluations of other programs. The
18 Company's process for undertaking evaluation studies considers the lifecycle of the programs,
19 whether program or market changes have caused a need to update savings estimates and/or
20 Net-to-Gross (NTG) ratios, and whether there is a need for a market or process review. None of
21 the other programs fit the criteria for needing an evaluation in 2015.

22

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1 **7.0 Reference: Exhibit B-1, Appendix A, page A4**

2 7.1 For the Low Income Household & Rentals Program Area, please provide a
 3 schedule that sets out the savings and expenditures for each program area
 4 element (e.g., ESKs, ECAP, MURB Top-Up Rebate, RAP, etc.) for 2015
 5 (Approved and Actual), 2016 (Approved and Projected), and 2017 Plan.
 6

7 **Response:**

8 The following table contains the information requested for the Low Income Household & Rentals
 9 Program Area:

Costs (\$000s)

	2015		2016		2017
	Approved	Actual	Approved	Projected	Plan
Energy Saving Kits	824	25	574	46	53
ECAP		114	311	1,009	986
MURB Top-Up	0	0		0	N/A*
Rental Apartment		35	67	332	145

Savings (MWh)

	2015		2016		2017
	Approved	Actual	Approved	Projected	Plan
Energy Saving Kits	2,598	282	1,714	186	677
ECAP	0	0	1,107	765	2,021
MURB Top-Up	0	0	0	0	N/A*
Rental Apartment	0	0	353	450	176

10

11 **The Multi Unit Residential Building (MURB) top-up program is still in development within the*
 12 *MURB program for 2017. The number of units within the MURB program that will qualify for the*
 13 *top-up is currently unknown.*

14

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1 **8.0 Reference: Exhibit B-1, Appendix A, page A13**

2

3 8.1 With respect to Table A5-1, please revise to include: i) the Approved and Actual
4 2015 spending and ii) the Projected 2016 spending.

5

6 **Response:**

7 The requested revision to Table A5-1 is provided below:

8

Table A5-1: Planning and Evaluation Expenditures (\$000s)

	2015 Actual	2015 Approved	2016 Projected	2016 Approved	2017 Plan
Staffing	440	385	395	395	440
Office Exps	59	50	50	50	55
Consulting	52	90	80	90	96
M&E Reports	36	200	150	200	186
TOTAL	586	725	675	735	777

9

10



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1 **9.0 Reference: Exhibit B-1, Appendix B, page 2**

2 9.1 With respect to the TRC values reported in Table 1-1, what discount rate and
3 DCE values were used in the calculations?

4
5 **Response:**

6 For the 2015 Annual DSM Report results FBC used a 6% discount rate and \$35.60/kW-yr for
7 the DCE value.

8



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1 **10.0 Reference: Exhibit B-1, Appendix A, page A2**

2 **Exhibit B-1, Appendix B, page 7**

3 10.1 Are the 2015 Residential Program Areas (per Table 2-1, Appendix B) equivalent
4 to the 2017 Residential Program Areas (per Table A-1)? If not, what are the
5 differences?

6

7 **Response:**

8 All of the 2015 Residential Program Areas are equivalent to the 2017 Residential Program
9 Areas with the exception of two changes:

10 1. Water Heating was added to the portfolio and the Water Savers program was “rolled up”
11 into that category for 2017; and

12 2. Rental Apartment programming was added into the Low Income category for 2017.

13

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1 **11.0 Reference: Exhibit B-1, Appendix B, FBC 2015 DSM Annual Report,**
2 **Appendix C, pages 5-6**
3 **Exhibit B-1, Appendix A, page A2**

4 11.1 Have the recommendations regarding the evaluation of the Home Improvement
5 Program been factored into the savings and TRC estimates for the 2017 DSM
6 Plan per Table A-1? If not, what would be the impact?

7
8 **Response:**

9 Yes, the recommendations regarding the evaluation of the Home Improvement Program have
10 been addressed at the program level and are factored into the savings and TRC estimates for
11 the 2017 DSM Plan. Specifically, with respect to the Home Improvement Program Evaluation,
12 **Recommendation #2** from Evergreen Economics was as follows (see Exhibit B-1, Appendix B,
13 Sub-Appendix C, at p. 5):

14 Savings calculated in 2015 should use replace 100W and 75W baselines with 72
15 W and 53 W, respectively. Additionally, looking ahead into 2016, the program
16 should make an additional adjustment to reduce the baseline wattages from 60
17 W and 40 W to 43 W and 29 W, respectively.

18 **The deemed savings for windows, programmable thermostats, and**
19 **bathroom ventilation fans appear to be too high.** Based on the engineering
20 review, the deemed savings for these measures are higher than what was found
21 in the literature, and what is consistent with the Evergreen team's engineering
22 judgment. (Bolding in original)

23 FBC adjusted the savings for lighting, programmable thermostats and bathroom fans. Window
24 rebates are not being offered at this time.

25