April 3, 2018

VIA EMAIL

Patrick Wruck
Commission Secretary
B.C. Utilities Commission
Sixth Floor, 900 Howe Street
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BCPIAC
Public Interest Advocacy Centre

Reply to: Leigha Worth
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Dear Mr. Wruck:

Re: FortisBC Inc. 2018 Demand-Side Management Expenditures Application Project No.1598934

On November 15, 2017 FortisBC Inc. (hereinafter "FBC") filed an application seeking an order from the BC Utilities Commission (hereinafter "BCUC") pursuant to section 44.2 of the *Utilities Commission Act*[1](hereinafter "*UCA*") accepting its proposed DSM Expenditure Schedule for 2018 as outlined in the utility's 2018 DSM Plan. This Expenditure Schedule totals $7.9 M[2].

FBC has characterized this 2018 DSM Plan as a continuation of the expenditures and programs that were accepted as part of its 2017 DSM Plan, albeit with some small modifications to ensure it remains in compliance with the current applicable legislation[3]. FBC created a summary of the proposed DSM plan for 2018 alongside the 2017 one for comparison[4]:

[1] [RSBC 1996] Chapter 473.
[2] Exhibit B-1, page 1.
[3] Exhibit B-1, page 2.
[4] Exhibit B-2-1, Attachment 1.1.

Table 3-1: 2017 Approved and 2018 DSM Plan Expenditures & Savings

	Program Area	2017 Approved		2018 Plan			2018/17 Difference	
		Savings	Cost	Savings	Cost	TRC[12]	Cost	% Diff
		MWh	($000s)	MWh	($000s)	B/C Ratio	($000s)	
1	**Sector**							
2	Residential	10,493	2,718	7,132	2,486	1.4	-231.6	-9%
3	Commercial	13,666	3,131	19,165	3,592	2.0	460.9	15%
4	Industrial	1,556	309	1,188	377	2.0	67.8	22%
5	**Program subtotal**	**25,715**	**6,158**	**27,486**	**6,456**	**1.8**	**297.2**	**5%**
6	Supporting Initiatives		674		742		67.9	10%
7	Portfolio		777		743		-34.2	-4%
8	**Total**		**7,610**		**7,940**	**1.6**	**330.8**	**4%**

CONTEXT – LEGAL AND REGULATORY FRAMEWORK

Legal

Pursuant to section 44.2(3) of the UCA, the Commission must accept all (or a part of) the DSM expenditure schedule if it considers the schedule (or a part of it) to be in the public interest. In considering whether to accept an expenditure schedule filed by a public utility other than the authority (i.e., BC Hydro), the Commission must consider:

(a) the applicable of British Columbia's energy objectives,

(b) the most recent long-term resource plan filed by the public utility under section 44.1, if any,

(c) the extent to which the schedule is consistent with the applicable requirements under sections 6 and 19 of the Clean Energy Act,

(d) if the schedule includes expenditures on demand-side measures, whether the demand-side measures are cost-effective within the meaning prescribed by regulation, if any, and

(e) the interests of persons in British Columbia who receive or may receive service from the public utility.

It should be noted that sections 6 and 19 of the Clean Energy Act are applicable only to BC Hydro.

BC's Energy Objectives

British Columbia's energy objectives are set out in section 2 of the *Clean Energy Act*[5]. BCOAPO submits that, as part of its Application, FBC has satisfactorily demonstrated how the proposed 2018 DSM expenditures (and associated activities) align with the Province's energy objectives[6]. BCOAPO wholeheartedly agrees with FBC's view that treating gas to electric fuel switching programs as DSM is not consistent with the amended Greenhouse Gas Reduction (Clean Energy) Regulation[7] however tempting it might seem to treat it so at first blush. It is, in our clients' views, very important to ensure the distinction between DSM and gas to electricity fuel switching remains in place, at least until such time as there is demonstrable reason to reconsider that position.

FBC's Most Recent Long Term Resource Plan

On November 30, 2016, FBC filed its 2016 Long Term Electric Resource Plan (2016 LTERP) and Long Term Demand Side Management Plan (LT DSM Plan) with the Commission. The savings targets presented in the LT DSM Plan for its first three years were largely an extension of the previously approved 2015-2016 DSM Plan and also the 2017 Plan. For 2018, the LT DSM Plan contemplated DSM expenditures of $7.9 M and an annual DSM savings of 26.4 GWh. BCOAPO notes that FBC's LT DSM Plan calls for a ramp up in DSM spending and savings starting in 2021[8].

As FBC has specified in the current Application[9], the regulatory review process for the 2016 LTERP and LT DSM Plan are still ongoing: the BCUC's decision is still pending. However, this application does still represent the "most recent long-term resource plan

[5] [SBC 2010] Chapter 22.
[6] Exhibit B-2-1, Attachment 1.1, Table 2-1.
[7] Exhibit B-3, BCUC 4.5.2.
[8] Exhibit B-1, pages 1-2.
[9] Exhibit B-1, page 2.

filed" by FBC and therefore it is relevant to the Commission's consideration of section 44.2(3)(c) of the *UCA*.

In the current Application, both the 2018 proposed DSM spending and savings level are in line with those set out in the 2016 LTERP and LT DSM Plan. Furthermore, the 2018 DSM Plan's general approach (i.e., continuation of the expenditures and programs previous accepted in the 2017 DSM Plan) is consistent with the approach set out in the LT DSM Plan for the period leading up to 2021.

Given that the 2016 LTERP and LT DSM Plan has not been formally approved by the BCUC and the market potential study that was to follow the Conservation Potential Review filed with the LT DSM Plan was not complete at the time the current Application was prepared[10], BCOAPO agrees with FBC's decision to limit the current Application to just 2018 DSM expenditures and to, in the future, file a multi-year plan for 2019 onwards[11]. This limits the liability associated with proceeding with such an application in the absence of a Commission decision on the LTERP and LT DSM Plans.

DSM Regulation

Adequacy

At the time the 2017 DSM Expenditure Plan was approved the requirements set out in section 3 off the DSM Regulation stipulated that a utility's DSM plan was adequate only if it included:

a) a demand-side measure intended specifically to assist residents of low-income households to reduce their energy consumption;
b) a demand-side measure intended specifically to improve the energy efficiency of rental accommodations;

[10] Exhibit B-3, BCUC 4.1.
[11] Exhibit B-1, page 2.

c) an education program for students enrolled in schools in the public utility's service area; and

d) an education program for students enrolled in post-secondary institutions in the public utility's service area.

Then, a March 2017 amendment added two more criteria:

(e) one or more demand-side measures to provide resources as set out in paragraph (e) of the definition of "specified demand-side measure", representing not less than:

(i) an average of 1% of the public utility's plan portfolio's expenditures per year over the portfolio's period of expenditures, or

(ii) an average of $2 million per year over the portfolio's period of expenditures;

(f) one or more demand-side measures intended to result in the adoption by local governments and first nations of a step code or more stringent requirements within a step code.

For purposes of the March 2017 amendment[12]:

A “specified demand-side measure” is defined as “financial or other resources provided

- (i) to a standards-making body to support the development of standards respecting energy conservation or the efficient use of energy, or
- (ii) to a government or regulatory body to support the development of or compliance with a specified standard or a measure respecting energy conservation or the efficient use of energy in the Province.”

[12] Exhibit B-2, Attachment 1.1, page 8.

> A “step code” refers to energy efficiency requirements in a regulation made under section 3 of the Building Act that are more stringent than the requirements in specified sections of the British Columbia Building Code.

As discussed on pages 6-9 of Exhibit B-2, Attachment 1.1, FBC’s proposed 2018 DSM Plan includes programs and measures that address each of the current Regulation’s adequacy requirements.

Cost-Effectiveness

Long-Run Marginal Cost

Under Section 4 (1.1) of the DSM Regulation, the Commission must make determinations of cost-effectiveness by applying the Total Resource Cost (TRC) test. In FBC’s case, the avoided electricity cost, if any, respecting a demand-side measure in addition to the avoided capacity cost is an amount that the Commission is satisfied represents the utility’s long-run marginal cost of acquiring electricity generated from clean or renewable resources in British Columbia.

The proposed 2018 DSM Plan uses a Long-Run Marginal Cost (LRMC) of $100 per MWh (as developed for and filed with FBC’s 2016 LTERP) and an avoided capacity costs (DCE) of $79.85 per kW-year: the same figure used in FBC’s 2017 DSM Plan[13].

In its Final Argument regarding Fortis BC’s 2016 LTERP Application, BCOAPO raised a couple of concerns regarding FBC’s LRMC value[14] which are, we submit, still relevant in the Commission’s consideration of this DSM Expenditure Application.

The first issue in the 2016 LTERP was its Portfolio B1, which FBC represented as the cost of acquiring electricity generated from clean or renewable resources including

[13] Exhibit B-1, page 5 and Exhibit B-2, Attachment 1.1, page 14.
[14] See BCOAPO’s Final Argument, pages 11-14.

market purchases out to 2025. Our clients' position remains that the inclusion of market purchases is clearly problematic in that: i) FBC does not know the ultimate source of such purchases and indeed, assumes a nominal carbon content and ii) such purchases are not necessarily sourced in BC as is required by the current DSM Regulation. In its 2016 LTERP argument BCOAPO suggested that a more appropriate value for LRMC (as required by the DSM Regulation) would be $106/MWh, which represents the cost of Portfolio B1 with market purchases excluded[15].

The second issue was that the $100/MWh (and $106/MWh) represents the average cost the resources included in Portfolio B1 and that mix of resources included ones with costs in excess of $125/MWh[16]. In BCOAPO's view, it is reasonable to use an LRMC of $100/MWh (or $106/MWh) – based on the average cost of the resources in Portfolio B1 – when determining the cost-effectiveness of the 2018 DSM Plan at a portfolio level. However, the use of this value when calculating the cost-effectiveness of individual DSM programs and measures quickly becomes problematic because it could result in FBC screening out DSM measures that are more cost-effective than the resources it would need to replace them.

Cost-Effectiveness – Portfolio Level

BCOAPO notes that even when an LRMC of $100/MWh is used, the 2018 DSM Plan passes the TRC test on a portfolio basis. Using that figure, it has a benefit to cost ratio of 1.6[17]. As a result, BCOAPO accepts that the 2018 DSM Plan meets the cost-effectiveness requirements of the DSM Regulation on a portfolio basis.

Cost-Effectiveness - Program Level

All measures in the 2018 DSM Plan, with the exception of the Residential Heat Pump and Customer Engagement Tool, pass the TRC test and are thereby cost-effective.

[15] BCOAPO Final Argument, page 12
[16] BCOAPO Final Argument, page 14
[17] Exhibit B-2, Attachment 1.1, Table 3-1

With respect to the Residential Heat Pump and Customer Engagement Tool, FBC's response to BCUC IR No. 1[18] indicates that these measures are cost-effective based on the mTRC and since they total only 4.2% of the expenditure portfolio they are cost-effective in accordance with the DSM Regulation. However, we note that the detailed evaluation results presented in Appendix A[19] to the same response indicate that the mTRC value for the Customer Engagement Tool is only 0.8. The response to CEC IR #2.2[20] confirmed that the Customer Engagement Tool is not considered cost effective under the mTRC test.

Based on these actual results, it would appear that the Customer Engagement Tool should not be included in the 2018 DSM Plan. However, this measure includes[21]: i) providing customers with access to the Customer Information Portal to view near real-time energy usage, ii) the promotion of apps to enable customers to better manage their energy usage and iii) a digital platform that will engage customers in DSM-related matters.

As a result of these functions of the Customer Engagement Tool, BCOAPO submits that it meets the definition of a "public awareness program" as set out in section 1 of the DSM Regulation and the Commission should determine that it is cost-effective in accordance with section 4(5) of the DSM Regulation.

BCOAPO suggests that FBC consider addressing its rationale for concluding that the Customer Engagement Tool meets the cost-effectiveness requirements of the DSM Regulation in its Reply Argument so we may better understand the utility's reasoning for future reference.

<u>BCUC Directives</u>

[18] Exhibit B-2, Attachment 1.1, pages 15-16.
[19] Exhibit B-2, Attachment 1.1, Appendix A, page A20.
[20] Exhibit B-7.
[21] Exhibit B-2, Attachment 1.1, Appendix A, page A9 and Exhibit B-3, BCUC 8.3.

Commission Order G-9-17, which accepted the 2017 DSM Plan, also included the following discussion:

> *"The Panel shares the views of the interveners, that the planned expenditures for 2017 fall short of addressing a range of DSM possibilities that could be pursued in the coming year.*
>
> *FBC argues that 2017 should be viewed as a bridging year. A schedule that extends recent activity levels is appropriate, and significant change makes sense only once the CRP and LTRP are fully reviewed.*
>
> *The Panel is not persuaded by that line of argument. We agree that the more comprehensive reworking of the DSM initiative is best accomplished in the context of the LTRP as suggested. But that does not preclude FBC from taking advantage of the opportunities already identified. We believe that prior decisions from the Commission and arguments put forward in this proceeding identify a number of opportunities that could be profitably pursued in the immediate term, without the need to wait for the broader analysis.*
>
> *The Panel is further concerned that the extension of existing programming sits on a foundation of recent activity which in itself can be characterized as having fallen short. In other words, "more of the same" is inherently plagued by underperformance. FBC has provided responses/justifications for many of the challenges laid down by the interveners in terms of past performance shortfalls, but the Panel finds some of these explanations unpersuasive. For example:*
>
> - *FBC submits that the 2015 underspend arose in part from the timing of the 2015-16 DSM Decision, and, as a result, there was insufficient lead time to take various necessary steps to increase DSM programming to levels needed to achieve planned spending*

and savings targets. The Panel notes, however, that the 2015-16 DSM Decision was issued only 13 working days after FBC's requested acceptance date.

- *FBC submits that substantially increasing the residential DSM budget for 2017 is not warranted given recent experience and the practical limitations on spending in the residential sector at present. FBC submits that the reduction in program funding is in part due to: a lack of concurrent provincial or federal offers; and builder reluctance to participate in programs due to the extra effort and additional costs involved. With regard to the first explanation, the Panel notes that FBC could address this concern by adjusting the incentive level, which would not affect the TRC test result. And regarding the second explanation the Panel notes that these are barriers which FBC could attempt to mitigate through its DSM programs.*
- *FBC argues that it is logical and appropriate that FBC has lower industrial DSM incentives compared to BC Hydro, and that industrial DSM spending for 2017 has already been increased by 48%. The Panel notes, however, that industrial DSM still only represents 0.9% of sector revenues (compared to 1.5% and 3.5% for residential and commercial sectors), and the industrial DSM cost effectiveness results (TRC of 1.9 and utility cost of 2.2c/kWh) indicate that more could be done.*
- *FBC submits that any attempt to increase 2017 DSM spending on the basis of the draft BC CPR would have been imprecise guess work. The Panel's view is that the positive ratios presented on many of the individual programs and the portfolio overall, indicate that there is significant room for additional effort that could be justified on the basis of the preliminary results.*

The Panel is concerned that FBC has not proposed additional steps to be taken to explore alternatives to better achieve the objectives of DSM".

The Conservation Potential Review (CPR) referenced in this 2017 Order is now complete (and filed with the 2016 LT DSM Plan). However, this CPR report deals with *economic potential* whereas FBC uses *market potential* as an input to DSM planning[22]: an important distinction. In the current Application, FBC notes[23] that the Navigant's CPR market potential study was not completed until February 2018 and, consequently, it results could not be incorporated into the 2018 DSM Plan without overly delaying the preparation and ultimate approval of the Plan[24].

We feel it important to point out that that there are a large number of measures identified as "economic" in the CPR that are not included in FBC's 2018 DSM Plan[25]. In BCOAPO's view, it should have been possible for FBC to either expedite the CPR market potential study or, at a minimum, use preliminary results to identify the more promising measures and then incorporate some or all of these in its 2018 DSM Plan. Instead, the Utility's 2018 DSM Plan suffers from the same shortcomings as raised by Commission regarding the 2017 DSM Plan in terms of the range of DSM opportunities considered.

2017 DSM PLAN AND PRELIMINARY RESULTS

The 2017 approved and preliminary actual results are set out in the following table[26]:

[22] Exhibit B-3, BCUC 4.1.
[23] Exhibit B-3, BCUC 4.3.
[24] Exhibit B-3. BCUC 4.1.
[25] Exhibit B-3. BCUC 4.1.
[26] Exhibit B-4, BCOAPO 1.1.

Sector	2017 Approved		2017 Actual (Preliminary)	
	Savings MWh	Cost ($000s)	Savings MWh	Cost ($000s)
Residential	10,493	2,718	10,650	1,891
Commercial	13,666	3,131	16,127	4,023
Industrial	1,556	309	886	206
Subtotal	**25,715**	**6,158**	**27,663**	**6,120**
Supporting Initiatives		674		595
Portfolio		777		994
Subtotal Total Portfolio	**25,715**	**7,609**	**27,663**	**7,709**
Partners' Co-funding				400
Net Portfolio	**25,715**	**7,609**	**27,663**	**7,309**

According to this table, overall the 2017 Actual savings exceeded Plan while the spending was under Plan after Partners' co-funding is taken into account. However, the results do vary by sector.

With regard to the Residential sector, which includes BCOAPO's client groups and members, FBC has explained that the underspending in 2017 was due to the fact that the Lighting program, which is the most cost-effective program, produced a higher percentage of the savings than was in the Plan[27]. In contrast, the Low Income program achieved a disappointing Actual of less than 30% of its savings targets with spending at less than 50% of Plan.

In terms of FBC's Low Income Program, BCOAPO notes that while the number of Energy Savings Kits (ESKs) distributed exceeded "plan" in both 2016 and 2017, the participation in the Energy Conservation Assistance Program (ECAP) was significantly below plan (i.e., less than 50%). Furthermore, in the case of ECAP Additional Measures, participation in both years was, at best, 10% of "plan"[28].

FBC indicates that it has made past efforts to strengthen its outreach regarding low income programs[29]. However, BCOAPO now submits that it is clear that these efforts, however well-intentioned, are not working. Also of concern to BCOAPO is the fact that, despite the dismal results to-date, no formal assessment or investigation has been

[27] Exhibit B-4, BCOAPO 1.2
[28] Exhibit B-4, BCOAPO 3.1
[29] Exhibit B-4, BCOAPO 3.4

undertaken as why the participation rates are so much lower than expected[30]. FBC has instead offered only an assertion of its certainty that it expects participation rates will improve over time based only on a modest increase in program participation in the last quarter of 2017. While any increase in participation is noteworthy, a modest increase in only one quarter does not form a sufficient basis upon which to conclude that there is an improvement trend.

2018 DSM PLANNED EXPENDITURES AND RESULTS

Again, the following table summarized the 2018 DSM Plan's forecast expenditures and savings results[31].

Table 3-1: 2017 Approved and 2018 DSM Plan Expenditures & Savings

	Program Area	2017 Approved		2018 Plan			2018/17 Difference	
		Savings MWh	Cost ($000s)	Savings MWh	Cost ($000s)	TRC[12] B/C Ratio	Cost ($000s)	% Diff
1	**Sector**							
2	Residential	10,493	2,718	7,132	2,486	1.4	-231.6	-9%
3	Commercial	13,666	3,131	19,165	3,592	2.0	460.9	15%
4	Industrial	1,556	309	1,188	377	2.0	67.8	22%
5	**Program subtotal**	**25,715**	**6,158**	**27,486**	**6,456**	**1.8**	**297.2**	**5%**
6	Supporting Initiatives		674		742		67.9	10%
7	Portfolio		777		743		-34.2	-4%
8	**Total**		**7,610**		**7,940**	**1.6**	**330.8**	**4%**

When compared to the 2017 DSM Plan, the Residential Sector is the only one where both the costs and savings are lower than the 2017 Plan. In the case of the Commercial sector there are increases in both savings and costs whereas in the Industrial sector the savings are less but the costs are increasing.

The following table provides breakdown of the planned Residential savings and cost by measure[32].

[30] Exhibit B-4, BCOAPO 3.3
[31] Exhibit B-2-1, Attachment 1.1

	Program	2017 Approved		2018 Plan			
		Savings, system MWh	Cost ($000s)	Savings, system MWh	Cost ($000s)	TRC, net B/C ratio	mTRC, net B/C ratio
1	**Home Renovation**						
2	Home Renovation	364	206	1,203	300	1.1	n/a
3	Heat Pumps	781	253	395	167	0.9	1.0
4	Lighting	2,735	153	3,337	202	1.8	n/a
5	Appliances	126	71	215	159	2.1	n/a
6	Water Heating	17	28	38	25	1.8	n/a
7	New Home						
8	New Home	126	52	169	76	1.3	n/a
9	Income Qualified & Rentals						
10	Low Income	3,247	1,265	1,229	731	2.0	n/a
11	Rentals	0	0	306	53	3.4	n/a
12	Customer Engagement Tools	3,097	200	240	165	0.7	0.8
13	Non-program specific expenses		491		610		
14	**Total**	**10,493**	**2,718**	**7,132**	**2,486**	**1.4**	**1.5**

The areas experiencing a reduction in both savings and costs for 2018 (over approved 2017) are: i) Heat Pumps, ii) Customer Engagement Tools and ii) Low Income[33].

In the case of Heat Pumps, FBC notes[34] that the uptake of air source heat pumps continues to be negatively impacted by low natural gas prices. The perceived reduction is also the result of the ductless heat pump program being shifted into the Home Improvement program[35].

For Customer Engagement Tools, FBC explains[36] that the lower budget and savings for 2018 are function of the fact that the customer engagement portal and home energy reports implementation was delayed from 2017 so some expenditures were shifted to 2018 and all savings shifted to 2019. In BCOAPO's view, a delay of more than one year is significant (i.e., savings originally expected in to 2017 are now shifted to 2019). Of additional concern is that no real explanation has been provided for these delays so it is not clear whether the delay is due to factors beyond FBC's control or the result of a utility reprioritization of its internal activities. BCOAPO respectfully submits that FBC should be encouraged to proceed with this measure as expeditiously as possible and

[32] Exhibit B-4, BCOAPO 2.1.
[33] For 2017 Rental savings and costs were included under Low Income (per Exhibit B-4, BCOAPO 4.2).
[34] Exhibit B-3, BCUC 6.1.
[35] Exhibit B-3, BCUC 8.1.
[36] Exhibit B-3, BCUC 8.3.

the Commission should recognize in its decision that increased saving in this area (and correspondingly overall) could occur with that increased activity.

For the Low Income program, FBC notes that the 2017 budget had been set based on strong ECAP performance in 2016 but that this performance was not actually repeated in 2017. As a result, the budget FBC set for 2018 is reflective of the lower participation rates in 2017[37]. However, this explanation is inconsistent with the actual ECAP performance which was well below Plan in both 2016 and 2017[38]. As noted above, BCOAPO is quite concerned about the low level of participation in the ECAP program, the fact that FBC's efforts to date to strengthen program's outreach have not been successful, and that insufficient efforts have been made to determine the reasons for the underperformance. Given the favourable benefit/cost ratio[39] (TRC=2.0) for its Low Income programs, BCOAPO believes that additional efforts, including investigations into alternate approaches used in other jurisdictions and also increased spending, should be made to identify barriers and improve both participation and the savings results.

BCOAPO is also concerned regarding FBC's intentions for the ECAP should actual participation exceed Plan. In its response to BCUC 1.1[40], FBC notes that it intends to "serve every eligible customer that is engaged in the program and that the decrease in budget should not be viewed as a scaling back of the program resourcing in any way". However, in response to BCSEA 2.3[41] and its Final Argument[42], FBC appears to back off of this commitment stating that "if outreach efforts cause participation to exceed projections, FBC will determine whether funds can be reallocated from other program areas". BCOAPO asks that in its Decision, the Commission make it clear that it understands (and expects) FBC will increase its outreach efforts regarding Low Income programs (and more specifically the ECAP) and that spending in this area (and correspondingly overall) may be higher than planned.

[37] Exhibit B-2, Attachment 1.1, Appendix A, page A8 and Exhibit B-4, BCOAPO 1.2.
[38] Exhibit B-4, BCOAPO 3.1.
[39] Exhibit B-4, BCOAPO 2.1.
[40] Exhibit B-2, Attachment 1.1, Appendix A, page A8.
[41] Exhibit B-5.
[42] Page 18.

Conclusions

BCOAPO recommends that the Commission accept FBC's 2018 Demand Side Management Plan, albeit taking into consideration the suggestions and commentary we have incorporated into this submission.

All of which is respectfully submitted,

Leigha Worth
Executive Director and General Counsel