



**IN THE MATTER OF**

**FORTISBC INC.**

APPLICATION FOR APPROVAL OF DEMAND SIDE MANAGEMENT  
EXPENDITURES FOR 2015 AND 2016

**DECISION**

**December 3, 2014**

**Before:**

**B. A. Magnan, Commissioner/Panel Chair**

**I. F. MacPhail, Commissioner**

**C. A. Brown, Commissioner**

## TABLE OF CONTENTS

Page No.

<b>EXECUTIVE SUMMARY .....</b>	<b>i</b>
<b>1.0 INTRODUCTION .....</b>	<b>1</b>
1.1 Application and orders sought .....	1
1.2 Legislative framework .....	1
1.3 Regulatory process .....	2
1.4 Previous Commission decisions.....	2
<b>2.0 APPROACH USED AND SUMMARY RESULTS .....</b>	<b>3</b>
<b>3.0 COST-EFFECTIVENESS FRAMEWORK AND INPUT ASSUMPTIONS.....</b>	<b>4</b>
3.1 Cost-effectiveness framework .....	4
3.2 Long-run marginal cost.....	5
3.3 Other input assumptions.....	6
<b>4.0 REVIEW OF DSM PORTFOLIO .....</b>	<b>7</b>
4.1 Consistency with the most recent LTRP .....	8
4.2 Cost-effectiveness .....	11
4.3 British Columbia’s energy objectives .....	12
4.3.1 Support for innovative technologies .....	12
4.3.2 BC emission reduction targets.....	13
4.3.3 Fuel switching .....	13
4.3.4 Community focused energy efficiency .....	15
4.3.5 Coordination of DSM activities.....	15
4.4 Interests of persons in BC.....	16
4.4.1 Effectiveness.....	17
4.4.2 Balance.....	19
<b>5.0 REVIEW OF INDIVIDUAL PROGRAMS .....</b>	<b>21</b>
5.1 Residential.....	21
5.2 Commercial .....	23
5.3 Industrial.....	24

5.3.1	Setting industrial DSM incentive and funding levels .....	26
5.3.2	Celgar specific issues .....	28
5.4	Supporting initiatives .....	29
<b>6.0</b>	<b>OTHER ISSUES AND NEXT STEPS .....</b>	<b>30</b>
6.1	Evaluation, measurement and verification .....	30
6.2	DSM underspend/alternative models .....	31
6.3	Next steps.....	33
<b>7.0</b>	<b>SUMMARY OF DIRECTIVES .....</b>	<b>34</b>

**COMMISSION ORDER G-186-14**

**APPENDICES**

**APPENDIX A**    **Definition of UCA Section 44.2**

**APPENDIX B**    **List of Acronyms**

**APPENDIX C**    **List of Exhibits**

## EXECUTIVE SUMMARY

On August 11, 2014, FortisBC Inc. (FBC) filed an application with the British Columbia Utilities Commission (Commission) for acceptance of Demand Side Management (DSM) expenditures for 2015 and 2016 (the Application) pursuant to section 44.2 of the *Utilities Commission Act* (UCA). In the Application, FBC seeks acceptance of the detailed DSM expenditure schedules contained in Appendix A of the Application. Specifically, FBC is requesting acceptance in respect of its Application as follows:

- DSM expenditure of up to \$7.3 million for 2015; and
- DSM expenditure of up to \$7.5 million for 2016.<sup>1</sup>

Aside from examining the Application under section 44.2 of the UCA, the requested expenditures must also be examined regarding the applicability under the British Columbia's energy objectives set out under section 2 of the *Clean Energy Act* (CEA) and the Demand-Side Measures Regulation (BC Reg. 326/2008) as modified by Ministerial Order M233 dated June 4, 2014.

A written hearing process was established for review of the Application and there were seven interveners in the process. Given the evidence presented during the process and taking into account previous Commission decisions where FBC DSM issues were discussed, the Commission Panel arrived at several determinations involving the following:

- cost-effectiveness framework and input assumptions;
- the review of the DSM portfolio;
- review of the individual programs; and
- Determinations around other issues.

With regard to the requests made in the Application, the Commission Panel accepts the DSM expenditure schedules and the programs contained in the Application. Despite the acceptance of the proposed expenditures, the Panel is concerned about the adequacy of expenditures. These concerns and determinations addressing these concerns are contained within this decision.

The Commission Panel made several other determinations all of which are summarized in section 7 of this decision. These determinations were made pursuant to further examination of the Application and the information presented during the course of the Application review.

The cost-effectiveness framework and the input assumptions were examined with a view to their appropriateness and their impact on arriving at the proposed expenditures in section 3 of the Decision. The Commission Panel directed the expansion of information regarding the assumptions to be contained in the next DSM expenditure request. The DSM portfolio contained within the requested expenditures was examined pursuant to subsection 44.2(5) of the UCA, regarding the determination of the acceptance of an expenditure schedule. The Commission Panel determined the reasonableness of these expenditures, their consistency with BC's energy objectives and provided directives regarding additional information to be included in the next DSM report.

A review of the individual programs was also undertaken resulting in the Commission Panel asking for FBC to include additional analysis regarding potential increased DSM funding in specific programs.

---

<sup>1</sup> Exhibit B-1, Appendix A, p. A14.

With regard to Zellstoff Celgar Limited Partnership's complaint regarding DSM expenditures, the Commission Panel determined that this should continue to be addressed through the BCUC complaint process.

Finally concerning other issues raised in this Application, FBC is directed to include additional information concerning the areas discussed in the next DSM expenditure filing.

## 1.0 INTRODUCTION

### 1.1 Application and orders sought

On August 11, 2014, FortisBC Inc. (FBC) filed an application with the British Columbia Utilities Commission (Commission) for acceptance of demand side management (DSM) expenditures for 2015 and 2016 (the Application). FBC seeks acceptance of the detailed DSM expenditure schedules contained in Appendix A of the Application. Specifically, FBC is requesting acceptance in respect of its Application as follows:

- DSM expenditure of up to \$7.3 million for 2015; and
- DSM expenditure of up to \$7.5 million for 2016.<sup>2</sup>

### 1.2 Legislative framework

FBC is seeking acceptance of the Application under section 44.2 of the *Utilities Commission Act* (UCA). Subsection 44.2(3) of the UCA gives the Commission the discretion to either accept the expenditure schedule, if the Commission determines that to carry it out would be in the public interest, or to reject it, subject to the discretion given the Commission in subsection 44.2(4) to accept or reject a part of an expenditure schedule. Please refer to Appendix A for section 44.2 of the UCA.

Section 2 of the *Clean Energy Act* (CEA) sets out BC's energy objectives. Those most relevant to this Application include:

- (b) to take demand-side measures and to conserve energy;
- (d) to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources;
- (g) to reduce BC greenhouse gas emissions
  - (i) by 2012 ... to at least 6% less than the level of those emissions in 2007,
  - (ii) by 2016 ... to at least 18% less than the level of those emissions in 2007,
  - (iii) by 2020 ... to at least 33% less than the level of those emissions in 2007,
  - (iv) by 2050 ... to at least 80% less than the level of those emissions in 2007, and
  - (v) by such other amounts as determined under the *Greenhouse Gas Reduction Targets Act*;
- (h) to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia; and
- (i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently.

In addition, page 5 of the 2007 BC Energy Plan: A Vision for Clean Energy Leadership states: "... the plan supports utilities in British Columbia and the BC Utilities Commission pursuing all cost-effective and competitive demand side management programs" and "Ensure[s] a coordinated approach to conservation and efficiency is actively pursued in British Columbia."

---

<sup>2</sup> Exhibit B-1, Appendix A, p. A14.

The Demand-Side Measures Regulation, BC Reg. 326/2008, (DSM Regulation) defines the DSM cost-effectiveness tests to be used by the Commission in evaluating a DSM application under 44.2(5)(d) of the UCA. The DSM Regulations were modified by Ministerial Order M233 dated June 4, 2014, which amended the DSM Regulation in a number of areas, including an expanded definition of 'low-income household' and defining the long-run marginal cost (LRMC) used to calculate the economic benefits of FBC's DSM Plan.

### **1.3 Regulatory process**

Upon receipt of the Application, the Commission established a written hearing process for the review of the DSM Application with one round of information requests. Seven organizations registered as interveners in this proceeding:

- BC Hydro and Power Authority (BC Hydro);
- BC Ministry of Energy and Mines;
- BC Sustainable Energy Association and the Sierra Club of British Columbia (BCSEA);
- British Columbia Old Age Pensioners' Organization, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, and the Tenant Resource and Advisory Centre (BCOAPO);
- Commercial Energy Consumers Association of British Columbia (CEC);
- Industrial Customers Group (ICG); and
- Zellstoff Celgar Limited Partnership (Celgar).

### **1.4 Previous Commission decisions**

In FBC's 2014-2018 Performance Based Ratemaking (PBR) Application (FBC 2014 PBR Application), FBC requested approval to spend \$3.0 million on DSM in 2014. FBC stated that it had reduced DSM funding from \$7.9 million approved for 2013 to \$3.0 million for 2014 primarily as a result of a lower cost of energy forecast (from \$84.84/MWh to \$56.51/MWh). FBC withdrew its request for approval for the 2015-2018 DSM expenditures as a result of the June 4, 2014 amendments to the DSM Regulations which required that, from 2015, the avoided electricity cost for DSM be calculated using the LRMC of acquiring electricity generated from clean or renewable resources in BC.<sup>3</sup>

In the FBC 2014 PBR Decision, the Commission accepted FBC's 2014 DSM expenditure schedule. The Commission recommended that FBC follow the general principles put forward in the decision issued with respect to the FEU<sup>4</sup> 2014-2018 DSM Expenditure Request (FEU 2014 PBR Decision)<sup>5</sup>, and stated, "the Panel encourages a focus on its efficiency and cost-effectiveness within the DSM Plan while maintaining an appropriate balance in allowing DSM access among ratepayer groups, and in particular for 'hard to reach' customers such as low-income groups and renters."<sup>6</sup>

---

<sup>3</sup> FortisBC Inc. Multi-Year Performance Based Ratemaking Plan for 2014 through 2018 Application (FBC 2014 PBR), Decision dated September 15, 2014, pp. 241, 242.

<sup>4</sup> FortisBC Energy Utilities (FEU), comprised of FortisBC Energy Inc., FortisBC Energy (Vancouver Island) Inc. and FortisBC Energy (Whistler) Inc.

<sup>5</sup> FortisBC Energy Inc. Multi-Year Performance Based Ratemaking Plan for 2014 through 2018 Application (FEU 2014 PBR), Decision dated September 15, 2014, pp. 250-284.

<sup>6</sup> FBC 2014 PBR Application, p. 243.

FBC 2012-2013 Revenue Requirements and Review of 2012 Integrated System Plan Application (FBC 2012 RR & ISP Application) was accepted by the Commission on August 15, 2012.

In this decision, the Commission stated:

The Commission Panel recognizes that this acceptance means that FortisBC may simply maintain current levels of DSM spending over the next five years, subject to future DSM expenditure schedules filed for approval with the Commission. However ... FortisBC received approval to spend approximately twice the amount on DSM in 2011 over 2010 and was unable to spend to the higher approved level.<sup>7</sup>

On page 15 of the 2014 Commission decision on the FBC Application for Approval of Stepped and Stand-by Rates for Transmission [Voltage] Customers (FBC 2014 Stepped and Stand-by), it states: "The Panel determines that FortisBC should ensure sufficient focus is given to identifying and addressing DSM opportunities for its Industrial customers as a way of achieving efficiencies benefits."

## 2.0 APPROACH USED AND SUMMARY RESULTS

FBC is requesting acceptance of DSM expenditures of up to \$7.3 million for 2015 and DSM expenditures of up to \$7.5 million for 2016.<sup>8</sup> Summary intervener positions are:

- BCSEA and BCOAPO support Commission acceptance.<sup>9</sup>
- CEC recommends the Commission reject the requested DSM expenditure for 2015 and 2016 as insufficient, with the request that the overall spending be increased to 2013 Plan levels plus inflation, and that programs and services be developed/improved to reach this level. However, CEC supports Commission acceptance of FBC's 2015-16 DSM Plan, as filed, should the Commission find that the proposed total spending allotment is sufficient.<sup>10</sup>
- ICG submits that the Commission should direct FBC to consult with its industrial customers and then file for program design changes to be implemented effective April 1, 2015. Further, ICG submits that the Commission should direct FBC to match BC Hydro's level of funding to industrial customers for energy efficiency studies.<sup>11</sup>
- Celgar, a self-generator connected to FBC's network, requests that the Commission Panel direct FBC to make available to Celgar DSM incentives for energy efficiency projects, including those that have been the subject of a pre-approval application made by Celgar to FBC.<sup>12</sup>

### Commission Panel determination

The Panel's options in reviewing the DSM expenditure schedule are to reject, accept or accept in part. If the Panel rejects FBC's DSM expenditure schedule in whole or in part as being insufficient, the Panel cannot direct

<sup>7</sup> FortisBC Inc. 2012-2013 Revenue Requirements and Review of 2012 Integrated System Plan Application (FBC 2012 RR & ISP), Decision dated August 15, 2012, p. 133.

<sup>8</sup> Exhibit B-1, p. 7.

<sup>9</sup> BCSEA Final Argument, p. 3; BCOPAO Final Argument, p. 2.

<sup>10</sup> CEC Final Argument, pp. 1-2.

<sup>11</sup> ICG Final Argument, p. 6.

<sup>12</sup> Celgar Final Argument, p. 6.



FBC to submit a revised DSM expenditure schedule and FBC will not have assurance that the proposed DSM expenditures for 2015 and 2016 will be recoverable through rates.

**The Commission Panel accepts the DSM expenditure schedules and the programs contained in the Application.** Despite the acceptance of the proposed expenditures, the Panel is concerned about the adequacy of expenditures especially given that FBC's proposed DSM expenditures are less than those accepted in 2013 and those proposed in the 2012 LTRP (in particular for industrial customers). The Panel encourages FBC to file supplemental DSM expenditure schedules to bring DSM spending levels back up to previously accepted levels. The Panel is also concerned that FBC's DSM proposal does not support BC's energy objective "to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia" and encourages FBC to file supplemental DSM expenditure schedules to address this.

However, the Panel is also aware of FBC's submission that a delay in acceptance of the DSM proposal could negatively affect FBC's DSM savings results and expenditures, and that FBC could be challenged in further ramping up DSM spending levels compared to 2014, hence the acceptance of the proposed expenditures.

In undertaking this review, the Commission Panel approached it on a holistic basis, considering the entire DSM portfolio. The Commission Panel reviewed the DSM cost-effectiveness framework and key input assumptions (section 3 of this decision). The Commission Panel then reviewed FBC's proposed DSM portfolio against each of the requirements of subsection 44.2(5) of the UCA (section 4 of this decision) and also undertook a review of the individual DSM programs proposed by FBC (section 5 of this decision). A review of the Application is provided below.

### **3.0 COST-EFFECTIVENESS FRAMEWORK AND INPUT ASSUMPTIONS**

#### **3.1 Cost-effectiveness framework**

The DSM Regulations require that at least 90 percent of FBC's DSM funding be evaluated using the Total Resource Cost (TRC) test, and the remainder evaluated using the modified TRC (mTRC). The TRC test measures the benefit to BC of the DSM measure excluding any non-energy benefits, while the modified Total Resource Cost (mTRC) test can include non-energy benefits. A TRC/mTRC result higher than one indicates that BC benefits exceed BC costs. Both the TRC and the mTRC are not affected by changes in the level of FBC's DSM incentives provided to customers. This is because the TRC and mTRC effectively measure whether customers are making suboptimal decisions from a BC perspective (i.e. by not adequately insulating their home) and not whether it is cost-effective for the utility to address any identified inefficiency.

The Commission has the option to either apply the TRC/mTRC test to each individual program, or to apply the test to the portfolio as a whole. The Commission has opted in the past to apply this test on a portfolio basis. This provides FBC with the flexibility to undertake programs that are expected to provide a net BC benefit but where energy savings are hard to measure or low in the short term, provided there are other programs in its portfolio that provide offsetting benefits and/or savings.

For the up to 10 percent of DSM funding which passes the mTRC but not the TRC, the DSM Regulations also allow (but do not require) the Commission to reject proposed programs where it is cheaper for the utility to supply the energy that is being wasted than to undertake a DSM program to try and change a customer's energy use decision. This test is called the Utility Cost Test (UCT) and compares the cost of the DSM program (incentive and utility administrative costs) to FBC's long-term clean energy cost. A UCT result that is higher than one indicates that utility benefits exceed utility costs over the long term.

DSM can also result in additional benefits where it reduces sales to a customer that are not profitable to the utility. The test to measure this effect is called the Rate Impact Measure (RIM) test - a positive RIM test result means that the DSM measure reduces rates for all FBC customers. However, the DSM Regulations do not allow the Commission to reject a specific DSM measure on the basis that it fails the RIM test (i.e. where it reduces sales to a customer which would otherwise be profitable to the utility).

The Participant Cost Test (PCT) determines the benefit to a customer who participates in the DSM program (i.e. the payback period). It can be useful to consider the PCT in setting DSM incentive levels.

### **3.2 Long-run marginal cost**

A key input into DSM cost-effectiveness tests is FBC's avoided cost of energy. The June 4, 2014 amendment to the DSM Regulation (Amendment) set FBC's avoided electricity cost at the avoided capacity cost plus FBC's LPMC of acquiring electricity generated from clean or renewable resources in BC.

FBC used a LPMC of BC new clean resources of \$112 per MWh for the purpose of the 2015-2016 DSM Plan. This was derived from the BC new resources market curve in the FBC 2012 Long Term Resource Plan (2012 LTRP) which was in turn developed from the BC Hydro Standing Offer Program (SOP) average price in 2011. The BC Hydro 2011 SOP price was itself derived from volume targets and a price curve developed from the BC Hydro 2008 Clean Power Call which was completed in 2010.<sup>13</sup>

FBC's LPMC of BC new clean resources is a nominal dollar levelized price (it does not escalate for its duration) and had not been adjusted for transmission or distribution losses.<sup>14</sup> FBC adds a Deferred Capital Expenditure value of \$35.60 per kW per year (approximately \$7/MWh using FBC's average load factor) as a proxy for the avoided transmission and distribution infrastructure costs.<sup>15</sup>

BC Hydro's November 2013 Integrated Resource Plan (IRP) provides a LPMC of energy (including line losses) of \$85 to \$100 per MWh and LPMC of capacity of \$50 to \$55 per kW per year (approximately \$13/MWh using BC Hydro's average load factor).<sup>16</sup>

FBC submits that the LPMC value of \$112/MWh captures 91 to 94 percent of the achievable potential set out in the most recent Conservation Potential Review (CPR), and that no additional measures or programs become cost-effective at higher LPMC values. FBC submits that even when using the lower end of BC Hydro's LPMC range of \$85 to \$100 per MWh, all measures included in FBC's Application remain cost-effective, with the exception of ductless heat pumps which FBC would still undertake as FBC considers they are an energy-efficient solution for FBC customers that use electric baseboard heating.<sup>17</sup>

FBC also submits that a 2016 FBC LTRP will be filed which will include a new long term DSM Plan based on a multi-utility, dual-fuel BC CPR report to be undertaken in 2015, and that the 2016 LTRP will provide an update to FBC's LPMC for BC new clean resources.<sup>18</sup>

No intervener objected to FBC's LPMC estimate. BCOAPO submits that, while the \$112/MWh value is not specific to FBC's cost of acquiring electricity generated from clean or renewable resources in BC and is expressed

<sup>13</sup> Exhibit B-5, BCUC IR 1.3.1.

<sup>14</sup> Ibid.

<sup>15</sup> Exhibit B-5, BCUC IR 1.3.4, IR 1.3.4.2.

<sup>16</sup> Exhibit B-8, CEC IR 1.15.3, IR 1.15.4.

<sup>17</sup> FBC Final Argument, pp. 3-4.

<sup>18</sup> Ibid., p. 4.

in 2011 nominal dollars, FBC has undertaken sensitivity analyses using a lower LRMC and has indicated that it will be developing an updated LRMC as part of its next Long Term Electric Resources Plan due to be filed by June 30, 2016.<sup>19</sup>

CEC submits that the LRMC of \$112/MWh is appropriate and references BC Hydro's similar LRMC estimate and FBC's planned update of the LRMC for the upcoming LTRP.<sup>20</sup>

### Commission Panel determination

**The Commission Panel accepts FBC's LRMC of BC new clean resources as \$112 per MWh and the deferred capital expenditure value of \$35.60 per kW per year for the purpose of the 2015-2016 DSM Plan.** While this estimate is based on BC Hydro's 2008 Clean Power Call, it is reasonable compared to BC Hydro's 2013 LRMC estimate and sensitivity analysis and shows that all measures included in FBC's Application except one remain cost-effective at \$85/MWh.

The Panel notes FBC's commitment to update the LRMC estimate in the next LTRP. **The Panel directs FBC to include in the next DSM expenditure request a description of the assumptions used to develop the updated avoided capacity and LRMC estimate, and to explain how avoided transmission and distribution energy losses are incorporated into DSM cost/benefit tests.**

### 3.3 Other input assumptions

In estimating energy savings from DSM programs, FBC accounts for both free rider (persons who would have undertaken the demand-side measure without an incentive) and spillover effects (where a person undertakes a demand-side measure but does not claim the incentive). For example, a free-ridership rate of 36 percent and a participant spillover rate of 77 percent is applied to the residential lighting program.<sup>21</sup>

In the FEU 2014 PBR Decision, the FBC 2014 PBR Commission Panel approved FEU's request for endorsement of the recognition of spillover effects on a case-by-case basis where evaluation shows that spillover is occurring. However, the Commission declined to accept any spillover effect given the lack of an evidentiary basis for the proposed spillover rate.<sup>22</sup>

FBC submits that "FBC intends to continue evaluating and quantifying spill-over effects on a program-by-program basis. Where adequate estimates are developed or acquired based on the results of an evaluation, free rider and spill-over effects would be accounted for in the [net to gross] ratio as appropriate."<sup>23</sup> However, FBC did not disclose or provide justification for the spillover rates used for each program.<sup>24</sup>

In estimating the BC benefit from a DSM program, the TRC/mTRC tests are also affected by the discount rate used (FBC uses a discount rate of 8 percent).<sup>25</sup> In the FBC 2014 PBR Application, BCSEA submitted that, while it did not see the social discount rate as a determinative factor in the FBC 2014 PBR proceeding, a societal discount rate should be used for the TRC and mTRC in order to evaluate DSM measures from the societal

<sup>19</sup> BCOAPO Final Argument, p. 3.

<sup>20</sup> CEC Final Argument, p. 11.

<sup>21</sup> Exhibit B-1, Appendix D, p. 6.

<sup>22</sup> FEU 2014 PBR Decision, p. 264.

<sup>23</sup> Exhibit B-1, p. 15.

<sup>24</sup> Exhibit B-5, BCUC IR 1.2.4, BCUC IR 1.10.5.

<sup>25</sup> Ibid., BCUC IR 1.2.3.

perspective by means of appropriately accounting for the time value of money for society.<sup>26</sup> FBC submits that TRC test results are not materially impacted by the discount rate.<sup>27</sup>

FBC does not include any programs that require the use of the mTRC (i.e. where non-energy benefits are also recognised in the cost/benefit test).<sup>28</sup>

### Commission Panel determination

The Commission Panel is concerned with the lack of clarity provided by FBC regarding spillover estimates and the documented source of those estimates. **The Panel directs FBC to include in each DSM expenditure request spillover and free rider effects assumed for each DSM program, and the justification used to support these estimates.**

Regarding the discount rate used for the TRC/mTRC, the Commission Panel acknowledges that FBC programs generally have a higher UCT result (average of 4.4 for 2015-2016 DSM programs) compared to the TRC (average of 2.2 for 2015/2016 DSM programs).<sup>29</sup> FBC could therefore find itself in a situation where it cannot proceed with a DSM program that is cost-effective to the utility because it is not considered cost-effective from a BC perspective. Adopting a societal discount rate for the TRC could result in an increase in the number of cost-effective (from a utility perspective) programs that could be pursued.

**The Panel therefore directs FBC to review the TRC discount rate assumptions in the next DSM expenditure request, including identification of potential additional DSM measures that would pass both the TRC and the UCT if a societal discount rate was used for the TRC. FBC is also directed to identify in the next DSM expenditure request any DSM measures (in addition to those proposed) that fail the TRC but would pass the mTRC.**

## 4.0 REVIEW OF DSM PORTFOLIO

Pursuant to subsection 44.2(5) of the UCA, in determining to accept an expenditure schedule, the factors that the Commission “must consider” include:

- the most recent long-term resource plan filed by the public utility under section 44.1;
- whether the demand-side measures are cost-effective;
- the applicable British Columbia’s energy objectives; and
- the interests of persons in BC who receive or may receive service from the public utility.

These four considerations are addressed below. The Commission is also required to consider sections 6 and 19 of the CEA, which relate to electricity self-sufficiency and clean or renewable resources. However, these sections of the CEA apply to LTRP applications, BC Hydro and prescribed utilities and are not considered further here.

<sup>26</sup> FBC 2014 PBR Application, BCSEA Final Argument, p. 52.

<sup>27</sup> Exhibit B-5, BCUC IR 1.2.3.

<sup>28</sup> Exhibit B-1, p. 13.

<sup>29</sup> Ibid., Appendix A, p. 14.

#### 4.1 Consistency with the most recent LTRP

A LTRP filed under section 44.1 of the UCA is required to include: (i) a plan of how the utility intends to reduce demand for energy that it expects to serve by taking cost-effective demand-side measures, and (ii) an explanation as to why energy purchases or facilities that the utility intends to build are not planned to be replaced by demand-side measures. An accepted LTRP can therefore provide guidance regarding the overall size of the DSM funding envelope, and the Commission is specifically required to consider the most recent LTRP when considering whether to accept a DSM expenditure schedule.

However, circumstances may have changed since the last LTRP was accepted. For example, there may be significant changes in avoided cost estimates, new technologies may provide new DSM opportunities, changes in codes or standards could achieve DSM savings at a lower cost compared to utility run DSM programs, or there could have been changes in the ability for the utility to scale up DSM programs. As a result, in undertaking this review, the Commission will also consider any significant changes since the last LTRP

##### FBC 2012 LTRP

FBC filed its LTRP as part of the FBC 2012 RR & ISP Application. FBC states in its 2012 LTRP:

The Company's objective for DSM is to offer customers in its service territory a range of programs within a cost-effective portfolio of measures that address the majority of end uses within each major customer sector. The overall DSM savings target is to offset 50 percent of load growth over the planning period. The first five years of the 2012 DSM Plan (2012-2016) are an extension of the approved 2011 DSM Plan, thereafter a constant savings target is used as a placeholder for future DSM activities.<sup>30</sup>

In the 2012 LTRP, FBC considered three DSM options (low, medium and high) which resulted in annual funding levels of \$5 million, \$9 million and \$20 million, respectively. FBC submitted that, while both the medium and high options received strong support during public consultation, the medium DSM funding option was selected as the baseline for the 2011 DSM Plan on the basis that the high funding option contained more uneconomic DSM measures and resulted in higher rate increases due to the decreased load.<sup>31</sup> In the 2012 LTRP, FBC proposed DSM energy savings of 34.8 GWh for 2015 and 34.4 GWh for 2016.<sup>32</sup>

In the 2012 RR & ISP Application, FBC also included a section 44.2 DSM expenditure request of \$7.73 million for 2012 and \$7.88 million for 2013.<sup>33</sup> FBC's 2012 long-term DSM Plan was accepted by the Commission on August 15, 2012.<sup>34</sup> In the decision, the Commission stated:

The Commission Panel recognizes that this acceptance means that FortisBC may simply maintain current levels of DSM spending over the next five years, subject to future DSM expenditure schedules filed for approval with the Commission. However ... FortisBC received approval to spend approximately twice the amount on DSM in 2011 over 2010 and was unable to spend to the higher approved level. As well, the Commission Panel acknowledges that the Company is implementing new programs that will take time to gain participants.<sup>35</sup>

<sup>30</sup> FBC 2012 RR & ISP Application, Exhibit B-1-2, FBC 2012 DSM Plan, p. 1.

<sup>31</sup> Ibid., pp. 11, 12.

<sup>32</sup> Ibid., p. 15.

<sup>33</sup> FBC 2012 RR & ISP Decision, p. 126.

<sup>34</sup> Ibid., p. 132.

<sup>35</sup> FBC 2012 RR & ISP Decision, p. 133.

Comparison of FBC's proposal to LTRP

FBC forecasts that its DSM proposal will offset 74 percent of load growth in 2015 and 77 percent in 2016.<sup>36</sup> However, FBC's GWh savings targets are lower than the 2015 and 2016 GWh savings target in the 2012 LTRP:

**Table 1. Comparison of FBC Planned GWh Savings in DSM Plan and 2012 LTRP<sup>37</sup>**

GWh savings	2015			2016		
	LTRP	DSM Plan	% change	LTRP	DSM Plan	% change
Residential	21.1	12.1	(43%)	22.6	12.9	(43%)
Commercial	11.9	12.6	6%	9.9	12.7	28%
Industrial	1.8	1.5	(17%)	1.9	1.6	(16%)
<b>Total</b>	<b>34.8</b>	<b>26.2</b>	<b>(25%)</b>	<b>34.4</b>	<b>27.2</b>	<b>(21%)</b>

While FBC's 2015 DSM Plan represents a more than doubling of DSM spending compared to 2014 planned levels, the budget is 7 percent lower than that accepted DSM expenditure for 2013:

**Table 2. Comparison of FBC 2015-2016 DSM Budget to Previous Years<sup>38</sup>**

DSM budget/spend (\$'000)	2012 (Plan)	2013 (Plan)	2013 (Actual)	2014 (Plan)	2015	2016
Residential	3,717	3,944	3,168	1,037	3,160	3,348
Commercial	2,199	2,085	1,909	1,134	2,530	2,564
Industrial	350	364	324	148	202	209
Supporting Initiatives	725	725	706	190	675	675
Plan & Evaluation	740	760	748	492	725	735
<b>Total</b>	<b>7,731</b>	<b>7,878</b>	<b>6,855</b>	<b>3,001</b>	<b>7,292</b>	<b>7,531</b>
DSM savings (GWh)	32.0	31.5	30.0	12.8	26.2	27.2
TRC (ratio)	1.4	1.4	1.6	1.2	2.0	2.0
UCT (c/kWh)	2.9 c/kWh (actual)	3.0 c/kWh (actual)	3.0 c/kWh	1.7 c/kWh	3.4 c/kWh	3.4 c/kWh

<sup>36</sup> Exhibit B-5, BCUC IR 1.1.6.1.

<sup>37</sup> Source: FBC 2012 RR & ISP Decision, p. 126; Appendix A, p. A2.

<sup>38</sup> Source: Exhibit B-5, BCUC IRs 1.5.1, 1.8.1, 1.6.1, 1.6.1.2; Exhibit B-1, Appendix A, p. A14; FBC 2014 PBR Application, Exhibit B-1-1, Appendix H, p. 9; Exhibit B-7, BCUC IR 1.247.1; FBC 2012 RR & ISP Decision, p. 135.

FBC's DSM planned spend was significantly reduced in 2014 as FBC submitted in the FBC 2014 PBR Application that its avoided cost of energy had decreased from \$84.84/MWh in 2012 to \$56.51/MWh. The Commission accepted this reduced level of spending as the FBC 2014 PBR Commission Panel did not consider that FBC would be able to meaningfully impact its 2014 DSM spend should a higher budget be approved.<sup>39</sup> For this Application, FBC's avoided cost of energy has been increased to \$112 per MWh.<sup>40</sup>

FBC submits that the decreased savings in 2015 and 2016, as compared to 2013, is mostly attributable to the residential sector. FBC states that provincial and/or federal Energy Efficiency regulations have phased out incandescent light bulbs, mandated ENERGY STAR performance levels for major household appliances and electronics and raised the prescriptive requirements for new home construction. FBC submit that these regulations have impacted savings targets for FBC's residential programs.<sup>41</sup>

FBC submits that the commercial sector 2015 plan is \$0.6 million higher than 2013 actual, partly to accommodate a surge of new commercial space planned to be built in the near future and that the industrial sector 2015 budget is \$0.1 million lower because of an extraordinary project that occurred in 2013.<sup>42</sup>

FBC states with regard to its ability to spend the 2015-2016 DSM Plan: "A timely decision to accept the DSM expenditure schedule will provide the Company with lead time to ramp up DSM activities. Conversely a late decision will likely impact savings results and expenditures."<sup>43</sup>

#### FBC position

FBC submits that "The 2015-16 DSM Plan and the proposed expenditures are consistent with the methodology used in the 2012 LTRP, and the Commission's directives regarding that plan."<sup>44</sup> FBC further states that they did not have an objective to increase expenditures from those approved in the 2012-2013 DSM Plan with the expectation that it would allow for a more efficient regulatory process.<sup>45</sup>

FBC submits that the 2015-2016 DSM Plan includes cost-effective measures and programs that over time realize the achievable conservation potential identified in the 2013 CPR update, and that it achieves 91 percent (2015) and 94 percent (2016) of the 2013 CPR scenario 3 achievable potential.<sup>46</sup>

#### Intervener position

No interveners raised specific concerns regarding FBC's consistency with the 2012 LTRP. However, CEC recommends that the Commission reject the proposal as insufficient in the total spending plan, with the request that the overall spending be increased to 2013 Plan levels plus inflation, and that programs and services be developed/improved to reach this level.<sup>47</sup>

The CEC submits that, despite the return in planned spending from 2014 plan to 2013 actuals, the proposed spending nevertheless represents a continuation of recent years' degradation in DSM spending that is not in the

---

<sup>39</sup> FBC 2014 PBR Decision, p. 242.

<sup>40</sup> FBC Final Argument, p. 3.

<sup>41</sup> FBC Reply Argument, p. 3.

<sup>42</sup> Exhibit B-5, BCUC IR 1.7.2.

<sup>43</sup> Exhibit B-6, BCOAPO IR 1.4.2.

<sup>44</sup> Exhibit B-1, p. 4.

<sup>45</sup> Exhibit B-8, CEC IR 1.2.4

<sup>46</sup> FBC Final Argument, p. 6; Exhibit B-5, BCUC IR 1.7.9.

<sup>47</sup> CEC Final Argument, p. 1.

public's interest. The CEC further submits that the objective should reasonably be to increase spending on a year-to-year basis, and raise concern that FBC's desire to reduce regulatory process and expense can result in less than optimal program development.<sup>48</sup>

BCSEA submits that FBC's DSM expenditure schedule is consistent with FBC's most recent LTRP.<sup>49</sup>

### Commission Panel determination

**The Panel finds that FBC's DSM expenditure request for 2015-2016 is reasonably consistent with the 2012 LTRP.**

FBC's 2012 LTRP included DSM objectives related to: (i) achieving 50 percent reduction in load growth, and (ii) achieving approximately 34 GWh/year reductions in energy demand for each of 2015 and 2016. While FBC's DSM budget for 2013 of \$7.9 million was accepted by the Commission, FBC indicated in its LTRP that a 'medium' DSM funding scenario of \$9 million was recommended.

The Commission Panel considers that FBC's DSM proposal is consistent with the 50 percent reduction in load growth target. However, the Panel considers that this load reduction target should act as a floor rather than a cap on the level of cost-effective DSM funding.

The Commission Panel notes that FBC's DSM proposal for 2015-2016 is lower than that accepted in the 2012 LTRP in terms of the GWh savings FBC intends to achieve and the size of the DSM spend. While the Panel accepts FBC's submissions regarding changes in regulations impacting savings targets, the increase in TRC results from 1.4 for Plan 2013 to 2.0 for Plan 2015, and the low cost of DSM to the utility (3.4c/kWh for Plan 2015) indicate that more could be achieved.

However, the Panel is also aware of FBC's submission that a delay in acceptance of the DSM proposal could negatively affect FBC's DSM savings results and expenditures, and that FBC could be challenged in further ramping up DSM spending levels compared to 2014.

As a result, while accepting this DSM expenditure schedule, the Panel is concerned about its adequacy. The Panel encourages FBC to make supplemental DSM expenditure requests to the Commission as opportunities arise to bring DSM planned energy savings and expenditures (in particular for the residential and industrial customer class) back up to those levels accepted in the 2012 LTRP. **FBC is directed to include in its next DSM Annual Report an update on its efforts to increase DSM expenditures and plan savings back to the levels included in the 2012 LTRP (\$9 million and 34 GWh/year).**

## 4.2 Cost-effectiveness

FBC submits that the DSM measures requested for 2015 and 2016 are cost-effective as required by the Amendment and DSM Regulation enacted under the UCA.<sup>50</sup> FBC further submits that, although it has assessed the DSM Plan at the portfolio level, at the sector level TRC ratios are above unity in all sectors.<sup>51</sup>

<sup>48</sup> CEC Final Argument, pp. 1, 6.

<sup>49</sup> BCSEA Final Argument, p. 1.

<sup>50</sup> FBC Final Argument, p. 6.

<sup>51</sup> *Ibid.*, p. 10.



BCOAPO, CEC and BCSEA submit that FBC's DSM expenditure schedule is cost-effective within the meaning of the DSM Regulations.<sup>52</sup>

### **Commission Panel determination**

**The Commission Panel finds that FBC's 2015-2016 DSM expenditure request is cost-effective within the meaning of the DSM Regulations.**

#### **4.3 British Columbia's energy objectives**

The Commission, in determining whether to accept FBC's DSM expenditure schedule, is required to consider the applicable of British Columbia's energy objectives. Those most relevant to this proceeding are described in section 1.2. FBC submits that the DSM measures requested for 2015 and 2016 support the applicable British Columbia energy objectives as defined in section 2 of the CEA.<sup>53</sup>

### **Commission Panel discussion**

The Commission Panel considers that BC's energy objectives to "take demand-side measures and to conserve energy" and to pursue "all cost-effective and competitive demand side management programs" are best addressed in a LTRP, and so have already been addressed in this decision by considering the consistency of FBC's 2015-2016 DSM request with the FBC 2012 LTRP, as discussed in section 4.1.

The Panel also considers that the focus of the review against BC's energy objectives for this Application should therefore be on the following BC objectives:

- (i) support for innovative technologies;
- (ii) BC emission reduction targets;
- (iii) fuel switching;
- (iv) community focused energy efficiency; and
- (v) coordination of DSM activities.

These five objectives are considered below.

##### 4.3.1 Support for innovative technologies

FBC states that it supports pilot projects of new DSM technologies, and the DSM Plan allows for new incentives if the benefit/cost ratio is positive. However, unlike FEU and BC Hydro, FBC does not include specific funding requests for technology innovation in its DSM expenditure schedule.<sup>54</sup>

No intervener raised concerns with regard to FBC's support for innovative technologies.

---

<sup>52</sup> BCOAPO Final Argument, p. 4; CEC Final Argument, p. 15; BCSEA Final Argument, p. 1.

<sup>53</sup> FBC Final Argument, p. 6.

<sup>54</sup> Exhibit B-1, p. 4; Exhibit A2-1, pp. 4, 5; FEU 2014 PBR Decision, p. 272.

### **Commission Panel discussion**

The Commission Panel encourages FBC to continue to support pilot projects of new DSM technologies, and to include in the next DSM expenditure request a description of the actions FBC has and plans to take to support innovative technologies.

#### **4.3.2 BC emission reduction targets**

The June 4, 2014 amendment to the DSM Regulation set FBC's avoided electricity cost at the avoided capacity cost plus FBC's long-run marginal cost (LRMC) of acquiring electricity generated from clean or renewable resources in BC.

### **Commission Panel discussion**

The Commission Panel considers that, by using FBC's LRMC of acquiring electricity generated from clean or renewable resources in BC as an avoided energy cost, FBC's DSM proposal includes consideration of BC emission reduction targets, and that further considerations of FBC's support for BC emission reduction targets are best addressed in a LTRP.

#### **4.3.3 Fuel switching**

The CEA in section 2 includes as an energy objective: "to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia."

FBC submits that it has considered programs that would encourage switching from one kind of energy source or use to another such that greenhouse gas (GHG) emissions in BC decrease, and that it is currently investigating programs that would encourage or support the use of electric vehicles and programs that would incent conversion from propane or oil heating to electricity where natural gas is not available.<sup>55</sup>

However, FBC states that it does not consider "fuel switching" programs that would not be economic for the participating customer. FBC states that programs that would encourage customers to switch from natural gas heating to electric heating are not proposed as they would increase operating costs for participating customers. FBC also states that it excludes customers from eligibility for FBC DSM incentives where they are switching from gas to electricity. For example, FBC's heat pump programs require electricity to be the primary energy source. Likewise, building envelope measures (insulation, draft-proofing, windows and doors) all have a prerequisite of electric heating.<sup>56</sup>

BCSEA is concerned that the eligibility criteria of the Heat Pump Program excludes customers who currently do not heat primarily with electricity, and states that FBC acknowledges that making the Heat Pump Program available to customers who use natural gas heating would reduce GHG emissions. BCSEA submits that the economics of gas heating versus heat pump heating may change over time (i.e. with changes in the price of gas and the size of the carbon tax) and that, in any event, some customers want the opportunity to switch from natural gas to a heat pump in order to reduce GHG emissions independent of FBC's analysis of the customer's cost of the two options.<sup>57</sup>

---

<sup>55</sup> Exhibit B-5, BCUC IR 1.1.5.

<sup>56</sup> Ibid., BCUC IR 1.1.5.1.

<sup>57</sup> BCSEA Final Argument, p. 2.

The CEA definition of DSM is:

**"demand-side measure"** means a rate, measure, action or program undertaken

- (a) to conserve energy or promote energy efficiency,
- (b) to reduce the energy demand a public utility must serve, or
- (c) to shift the use of energy to periods of lower demand,

but does not include

- (d) a rate, measure, action or program the main purpose of which is to encourage a switch from the use of one kind of energy to another such that the switch would increase greenhouse gas emissions in British Columbia, or
- (e) any rate, measure, action or program prescribed;

### **Commission Panel determination**

The Commission Panel is concerned that FBC excludes customers from eligibility for FBC DSM incentives where they are switching from gas to electricity. The Panel considers that this approach acts contrary to BC's energy objective to *encourage* the switching from one kind of energy source or use to another that decreases GHG emissions in BC.

FBC argues that this exclusion is appropriate as fuel switching would increase operating costs for customers (i.e. the DSM measure would have a negative PCT result). However, the DSM Regulations do not use the PCT to determine whether a demand side measure is cost-effective, and FBC's assumption that switching from gas to electricity would not benefit its customers ignores potential other benefits that may be important to customers such as GHG reductions. In addition, the Panel notes that FBC's DSM cost-effectiveness is determined on a portfolio basis, and so removal of the fuel switching restriction for gas heating customers to support BC's energy objectives could still be proposed even if it did not pass the TRC/mTRC.

FBC also argues that this exclusion is appropriate as it would otherwise result in an increase in electricity consumption. The Panel considers that this does not justify rejection of a DSM program as the definition of DSM under the CEA includes "(a) to conserve energy or promote energy efficiency" and does not also require that the DSM program reduces the utility load.

**As a result, the Panel directs FBC to include in the next DSM expenditure request:**

- **an update on FBC's investigation into potential fuel switching programs, including those targeting vehicles and propane/oil heating; and**
- **a cost-benefit analysis (including supporting assumptions) showing whether FBC can allow customers with gas as their primary heating source to access FBC's DSM programs and still be compliant with the DSM Regulations.**

The Commission Panel further encourages FBC to make supplemental DSM expenditure requests should it determine that its DSM programs could be expanded so that they support (or at a minimum do not undermine) BC's fuel switching objective.

#### 4.3.4 Community focused energy efficiency

FBC states that it actively seeks opportunities for DSM activities that increase public awareness, such as through the Community Energy Diets, to help increase program participation and energy savings.<sup>58</sup> In addition, FBC states that it will continue Energy Diet initiatives with a focus on smaller communities within its service area. FBC explains that the Energy Diet is a community-level, high impact energy efficiency marketing campaign which helps to increase participation in existing PowerSense programs by removing barriers, such as lack of awareness and financial resources, to encourage residential customers to make energy efficiency improvements.<sup>59</sup>

None of the interveners raised concerns that FBC was not supporting the BC's energy objective to encourage communities to reduce GHG and use energy efficiently.

#### **Commission Panel determination**

**The Commission Panel finds that FBC's DSM expenditure request supports BC's community energy efficiency objective.**

#### 4.3.5 Coordination of DSM activities

FBC submits:

Over the last several years, FBC has worked collaboratively with BCH and the FEU sharing research studies and information about program design and implementation challenges and outcomes. FBC submits that it has regularly scheduled meetings at the director and program manager levels with FEU and BC Hydro to exchange information regarding planning and operation of their DSM programs. FBC further submits that collaboration has expanded significantly in the last 18 months, for instance in planning the joint dual-fuel BC CPR and particularly for the residential programs.<sup>60</sup>

BCSEA states that it commends FBC for its commitment to conduct a new CPR on a combined electricity and natural gas basis in collaboration with BC Hydro and FEU, and strongly supports this collaborative approach to DSM among BC public utilities.<sup>61</sup>

#### **Commission Panel discussion**

The Commission Panel encourages FBC to integrate and collaborate with other BC utilities to maximize the effectiveness and efficiency of DSM programs and minimize cost to ratepayers. The Panel is supportive of FBC's efforts in this regard, specifically the planned dual-fuel BC CPR.

---

<sup>58</sup> FBC Final Argument, p. 7.

<sup>59</sup> Ibid., p. 8.

<sup>60</sup> Exhibit B-5, BCUC IR 1.1.3.

<sup>61</sup> BCSEA Final Argument, p. 2.

#### 4.4 Interests of persons in BC

The UCA requires that, in contemplating the acceptance of an expenditure schedule, the Commission must consider the interests of persons in BC who receive or may receive service from the public utility. Previous Commission decisions have provided guidance regarding this consideration:

In evaluating the reasonableness of allocation of [DSM] funding between [DSM] programs that pass the TRC/mTRC, the Commission Panel determines that the UCT result is a relevant consideration. Other relevant considerations include providing broad opportunities for customers to participate, TRC/mTRC cost-effectiveness result, addressing 'lost opportunities' (e.g., new construction) and retaining a level of customer and trades engagement.<sup>62</sup>

The Panel recommends that FBC follow the general principles put forward in the Decision issued with respect to the FEU 2014–2018 [DSM] Expenditure Request. Specifically, the Panel encourages a focus on its efficiency and cost-effectiveness within the DSM plan while maintaining an appropriate balance in allowing DSM access among ratepayer groups, and in particular for 'hard to reach' customers such as low-income groups and renters.<sup>63</sup>

The CEC submits that it would be appropriate for the TRC to approach commonality among the individual sectors and that additional programs and services in the commercial and industrial sectors could be included that reduced the TRC."<sup>64</sup>

FBC submits that it does not agree that a TRC equal for all segments would be indicative of equality in the DSM programming because the TRC is indicative of equality in economic potential only. FBC submits that DSM program equality includes broader equity issues such as reasonable opportunities (measures and programs that address key end-uses in each sector or customer segment), and similar PCT ratios that reflect the payback enjoyed by participants in the various segments and sectors.<sup>65</sup>

#### Commission Panel discussion

In considering the interests of persons in BC who receive or may receive service from the public utility, the Commission Panel agrees with the DSM focus on effectiveness and balance outlined in the FEU and FBC 2014 PBR Decisions:

- effectiveness - consideration of UCT results, addressing 'lost opportunities' (e.g., new construction) and maintaining a level of customer and trades engagement; and
- balance - providing broad opportunities for customers to participate, in particular for 'hard to reach' customers such as low-income groups and renters.

The Panel is not persuaded that FBC should necessarily aim to have a TRC, UCT or PCT that is equal for all segments. Instead, consideration of the interests of persons in BC who receive or may receive service from the utility requires a focus on: (i) reducing utility costs by undertaking cost-effective DSM (effectiveness), while (ii) mitigating negative impacts to non-participants (balance).

---

<sup>62</sup> FEU 2014 PBR Decision, p. 260.

<sup>63</sup> FBC 2014 PBR Decision, p. 243.

<sup>64</sup> CEC Final Argument, p. 14.

<sup>65</sup> Exhibit B-8, CEC IR 1.12.14.

In addition, the Panel also considered the RIM result (a positive RIM indicates that the incremental sales are not profitable to the utility), but only from the perspective of determining if there could be additional benefits to FBC customers from an increased focus on DSM programs with a positive RIM. The Panel, however, acknowledges that concerns regarding RIM results are generally better addressed through rate design changes than DSM programs. The Panel also considers that concerns regarding the overall rate impacts from the DSM portfolio are best addressed in a LTRP and therefore will not be considered further here.

#### 4.4.1 Effectiveness

In considering the interests of persons in BC who receive or may receive service from the public utility, the Commission Panel considered the effectiveness of the DSM proposal, including consideration of UCT results, addressing ‘lost opportunities’ (i.e. new construction) and maintaining a level of customer and trades engagement.

The focus of the portfolio level review of the efficiency of FBC’s DSM portfolio was to: (i) review FBC’s portfolio UCT result, and (ii) review funding/UCT results by sector. A review of the funding/UCT results by individual programs will be addressed in section 5.0.

#### Portfolio UCT results

BC Hydro’s average cost of saved electricity is compared to FBC’s in the table below:

**Table 3. UCT Comparison for BC Hydro and FBC<sup>66</sup>**

DSM Sector	UCT							
	BCH F2014		FBC 2013 (Actual)		FBC 2015 (Plan)		FBC 2016 (Plan)	
	ratio	c/kWh	ratio	c/kWh	ratio	c/kWh	ratio	c/kWh
Residential	2.9	2.6	3.2	2.9	4.1	3.1	4.2	3.0
Commercial	3.2	2.9	3.2	2.4	4.7	2.6	4.7	2.6
Industrial	3.7	2.3	3.8	2.3	5.7	2.0	5.7	2.0

An American Council for an Energy-Efficient Economy (ACEEE) 2009 benchmarking study found that on average incentives were 76 percent of total DSM costs. FBC 2015 and 2016 DSM budgets include incentives at 74 percent of total DSM costs. The same study also included a comparison of average State program costs of saved electricity which ranged from 1.6 c/kWh to 3.3 c/kWh.<sup>67</sup>

FBC undertook a cross check to BC Hydro programs. Apart for load displacement/capacity focused programs, FBC offers programs in all the same categories.<sup>68</sup> FBC is in an energy shortfall position, but has a capacity surplus from 2015 to 2024.<sup>69</sup>

<sup>66</sup> Source: Exhibit B-5, BCUC IR 1.9.2.

<sup>67</sup> Exhibit B-5, BCUC IR 1.6.2.

<sup>68</sup> Ibid., BCUC IR 1.9.3.

<sup>69</sup> Ibid., BCUC IR 1.4.1.

## Commission Panel determination

The Commission Panel finds that, on a portfolio basis, the DSM cost of energy saved appears reasonable.

### Funding/UCT results by sector

FBC's cost of saved energy over time is provided below:

**Table 4. FBC UCT Results for 2012, 2013, 2015 and 2016<sup>70</sup>**

Sector	UCT €/kWh			
	Actual 2012	Actual 2013	Planned 2015	Planned 2016
<i>Residential</i>				
Home Improvements Program	2.0	2.4	3.2	3.2
Low Income	7.9	5.9	4.8	4.1
Residential Lighting	3.8	4.2	2.9	2.9
Heat Pumps	3.5	2.8	1.9	1.9
New Home Program	2.9	2.6	2.9	2.9
<b>Residential Total</b>	<b>2.8</b>	<b>2.9</b>	<b>3.1</b>	<b>3.0</b>
<i>Commercial</i>				
Lighting	2.3	2.5	2.7	2.7
Building and Process Improvement	3.4	2.6	2.6	2.6
Water Handling Infrastructure	1.8	1.4	1.4	1.4
<b>Commercial Total</b>	<b>2.4</b>	<b>2.4</b>	<b>2.6</b>	<b>2.6</b>
<i>Industrial</i>				
Industrial Efficiency	2.9	2.2	2.0	2.0
<b>Industrial Total</b>	<b>3.1</b>	<b>2.3</b>	<b>2.0</b>	<b>2.0</b>
Supporting Initiatives				
<b>TOTAL</b>	<b>2.9</b>	<b>3.0</b>	<b>3.4</b>	<b>3.4</b>

The FBC plan 2015 DSM for low-income programs has increased by \$164,000 compared to the 2013 plan, while planned spending on total residential programs has decreased by \$784,000. Planned spending on industrial programs has decreased by \$162,000 compared to the 2013 plan.<sup>71</sup> Portfolio level RIM results for the 2015-2016 DSM Plan are 0.8 for residential, 1.0 for commercial and 1.2 for industrial.<sup>72</sup>

ICG submits:

...the target savings in the three sectors are not proportional to the cost-effective DSM opportunities identified in the 2013 CPR Update. The industrial sector savings are less than one-half what might be expected given the cost-effective DSM opportunities identified in the 2013 CPR Update. For unexplained reasons, FortisBC refuses to take the necessary steps to increase participation in the industrial sector, even when less than half (42%) of industrial customers have completed an energy efficiency study.<sup>73</sup>

CEC submits that the DSM portfolio may be overly conservative and could be enhanced with the inclusion of more programs and services. However, the CEC also submits that planning for new programming is resource

<sup>70</sup> Source: Exhibit B-5, BCUC IR 1.6.1.

<sup>71</sup> Ibid., BCUC IR 1.8.1.

<sup>72</sup> Exhibit B-1, Appendix A, p. A14.

<sup>73</sup> ICG Final Argument, p. 3.

intensive and is properly undertaken in the future and requires updates of the end-use studies, research through collaborative agencies and the CPR.<sup>74</sup>

### **Commission Panel discussion**

The Commission Panel is encouraged by the decrease in the unit cost of many of FBC's DSM programs, especially for the low-income programs which FBC estimates will have a cost of saved energy of 4.1 c/kWh in 2016. The Panel is supportive of the proposed increase in funding for FBC's low-income programs. However, the Panel is concerned that the increase in the portfolio level cost of saved energy appears to be due to a reduced level of funding allocated to FBC's DSM programs with a UCT result lower than the portfolio average. The Panel notes that the FBC's 2012 LTRP indicated that DSM funding levels of \$9 million/year with DSM savings of around 34 GWh/year were put forward by FBC, and encourages FBC to investigate whether DSM funding for these low utility cost programs, specifically residential heat pumps, commercial water handling infrastructure and industrial energy efficiency, could be cost-effectively increased. This will be further addressed in section 5.1 and 5.2.

The Panel also notes the Commission Decision on the FBC Stepped and Stand-by Rates Application, which states: "The Panel determines that FortisBC should ensure sufficient focus is given to identifying and addressing DSM opportunities for its industrial customers as a way of achieving efficiencies benefits"<sup>75</sup> and the industrial RIM result of 1.2 which indicates that industrial DSM benefits participants and non-participants. The Panel is concerned that insufficient focus may have been given to identifying and addressing DSM opportunities for its industrial customers. This will be further addressed in section 5.3.

#### 4.4.2 Balance

In considering the interests of persons in BC who receive or may receive service from the public utility, the Commission Panel considered the balance of DSM programs, specifically whether the DSM proposal provides broad opportunities for customers to participate, in particular for 'hard to reach' customers such as low-income groups and renters.

The portfolio level review of the balance in access to DSM programs includes: (i) a review of DSM funding levels by customer class, and (ii) DSM programs targeted to 'hard to reach' customers.

#### Review of DSM funding levels by customer class

FBC provided the following analysis of DSM spending by customer class:

---

<sup>74</sup> CEC Final Argument, pp. 12, 15.

<sup>75</sup> FBC 2014 Stepped and Stand-by Decision, p. 15.



**Table 5. FBC DSM Expenditures as a Percentage of Sector Revenue<sup>76</sup>**

	2012	2013	2015	2016
<b>DSM expenditure % of sector revenue (excluding wholesale)</b>				
Residential	1.6%	2.4%	1.9%	2.0%
Commercial	4.1%	3.0%	3.3%	3.3%
Industrial	0.6%	1.5%	0.7%	0.7%
<b>Total</b>	<b>2.8%</b>	<b>3.1%</b>	<b>2.7%</b>	<b>2.7%</b>
<b>Total (including wholesale)</b>	<b>2.8%</b>	<b>2.4%</b>	<b>2.3%</b>	<b>2.4%</b>

FBC submits, “The most accurate indicator of DSM expenditures as a percentage of revenue is ‘Total (including wholesale)’ which includes wholesale revenues and expenditures on planning, evaluation and supporting initiatives.”<sup>77</sup>

BC Hydro F2014 comparable DSM expenditure as a percentage of class revenue were estimated at 1.07 percent for residential, 3.09 percent for commercial and 4.6 percent for industrial. FBC submits: “The percent of DSM spend per revenue dollar is higher by FBC for the residential sector, likely due to economies of scale, but it is similar in the commercial sector.” FBC submits that the proportion of DSM expenditure to revenue in the industrial sector is higher for BC Hydro, and that there are a number of potential explanations for this, including differences in incentives; differences in the type and financial stability of industrial customers; differences in system and power supply constraints; and differences in DSM planning criteria.”<sup>78</sup>

FBC submits that it does not believe it should aim to have similar levels of DSM spend across customer classes, and that the DSM spend, as a percent of customer class revenue, is an outcome of the planning process. FBC submits that it endeavours to provide programs for the economic measures identified in the CPR for each customer class based upon the achievable economic potential identified in the 2013 CPR Update.”<sup>79</sup> FBC further submits that the 2015-2016 DSM Plan addresses most major end-uses in principal customer sectors and rate classes.<sup>80</sup>

### **Commission Panel discussion**

The Commission Panel acknowledges FBC’s submission that it should not aim to have similar levels of DSM spend as a percentage of revenues across customer classes, and that DSM should instead be an outcome of the planning process. While the LTRP process, which includes DSM planning, is specific to each utility<sup>81</sup> the Panel notes that some insight into appropriate DSM levels may be gained by comparing DSM budget levels to other utilities and to other customer classes.

The Panel in section 4.4.1 encouraged FBC to investigate whether DSM funding for industrial energy efficiency could be cost-effectively increased. The Panel considers that the relatively low level of industrial DSM as a percentage of industrial revenues compared to that approved in 2013, other customer classes and BC Hydro provides additional support for this review. This will be addressed further in section 5.3.

<sup>76</sup> Source: Exhibit B-5, BCUC IR 1.7.3.

<sup>77</sup> Ibid.

<sup>78</sup> Exhibit B-5, BCUC IR 1.9.4.

<sup>79</sup> Ibid., BCUC IR 1.7.3.

<sup>80</sup> FBC Final Argument, p. 6.

<sup>81</sup> Resource Planning Guidelines, p. 1.

### Specifically targeted customers – section 3 DSM Regulation

FBC is specifically required under section 3 of the DSM Regulations to offer DSM measures to improve the energy efficiency of low-income households and renters and to offer education programs to students. FBC submits that it has included measures in its 2015-16 DSM Plan to meet adequacy requirements.<sup>82</sup> FBC submit that low-income/rental DSM has increased over previous years to reflect increased eligibility for low-income customers and improved non-energy benefits related to changes in the DSM Regulations. The increase also includes the expansion of the rental program.<sup>83</sup>

BCOAPO and BCSEA submits that FBC's 2015-2016 DSM Plan addresses the DSM Regulations adequacy requirements.<sup>84</sup>

### **Commission Panel determination**

The Commission Panel considers that FBC's DSM proposal should provide broad opportunities for FBC's customers to participate, including 'hard to reach' customer segments. Hard to reach customer segments can include: multi-family, mobile, low-income, non-English speaking, rural and renter households. These groups could have low participation in standard DSM incentive programs due to a variety of market barriers that can include household purchasing power, owner-renter arrangements and even cultural differences in how energy is conceived and consumed.

**The Commission Panel finds that FBC has included measures in its 2015-2016 DSM Plan to provide broad opportunities for customers to participate in DSM programs, in particular for 'hard to reach' customers such as low-income groups and renters.**

## **5.0 REVIEW OF INDIVIDUAL PROGRAMS**

### **5.1 Residential**

FBC requests \$3.2 million and \$3.4 million in residential DSM funding for year 2015 and 2016 respectively, with 28 percent of the proposed spend on building envelope improvements.<sup>85</sup> FBC states that the "Residential programs FBC is proposing to offer in 2015 are continuations of programs offered in 2013, with the exception of the rental accommodation program which was piloted in 2013 and will be continued in the 2015-16 DSM Plan."<sup>86</sup>

---

<sup>82</sup> FBC Final Argument, p. 5.

<sup>83</sup> Exhibit B-5, BCUC IR 1.8.1.1, IR 1.8.3.

<sup>84</sup> BCOAPO Final Argument, p. 5; BCSEA Final Argument, p. 2.

<sup>85</sup> Exhibit B-1, Appendix A, p. A14.

<sup>86</sup> FBC Final Argument, p. 8.

Table 6: Summary Table of Residential Programs<sup>87</sup>

Program Area		Plan Savings		Plan Cost		Benefit Cost Ratios				
		2015 \$/Wh	2016 \$/Wh	2015 (\$000s)	2016 (\$000s)	TRC	UCT	PCT	RIM	Levelise d Cost \$/MWh
11	<i>Residential Programs</i>									
12	Building Envelope	3,106	3,106	884	884	2.0	4.4	3.8	0.9	27.2
13	Heat Pumps	1,618	1,618	302	302	1.4	6.3	1.9	0.9	18.9
14	New Home	1,179	1,179	390	390	1.7	4.1	3.4	0.9	29.4
15	Lighting	1,569	1,547	193	189	2.8	6.7	5.3	0.9	17.2
16	Appliances	288	288	96	96	1.4	2.9	3.1	0.8	40.4
17	Electronics	-	-	-	-	-	-	-	-	-
18	Water Heating	850	948	387	430	1.7	2.0	13.2	0.7	59.2
19	Low Income & Rentals	2,598	3,174	824	952	2.5	3.3	8.6	0.7	48.0
20	Behavioural	888	1,048	85	106	5.3	5.3	-	0.9	21.3
21	<b>Residential Subtotal:</b>	<b>12,096</b>	<b>12,908</b>	<b>3,160</b>	<b>3,348</b>	<b>2.0</b>	<b>4.1</b>	<b>4.0</b>	<b>0.8</b>	<b>30.7</b>

Table 7: Comparison Between 2013 and 2015 Expenditures for Residential Programs<sup>88</sup>

Sector	DSM Expenditures (\$000s)		% Difference	DSM Expenditures (\$000s)		% Difference
	Planned	Planned		Actual	Planned	
	2013	2015		2013	2015	
<b>Residential</b>						
Home Improvements	1,961	1,356	-31%	725	1,356	87%
Heat Pumps	698	302	-57%	532	302	-43%
Residential Lighting	313	193	-38%	473	193	-59%
New Home Program	45	390	767%	782	390	-50%
Appliances	267	96	-64%	241	96	-60%
Low Income	660	824	25%	415	824	99%
<b>Residential Total</b>	<b>3,944</b>	<b>3,160</b>	<b>-20%</b>	<b>3,168</b>	<b>3,160</b>	<b>0%</b>

In explaining the reduction in funding for the residential lighting and appliances programs, FBC submits that changes in regulations have meant FBC is no longer able to incent customers to purchase more efficient measures since inefficient measures are no longer available for purchase in the marketplace.<sup>89</sup>

FBC submits that increasing the planned DSM expenditure for 2015 to match the 2013 actual DSM expenditure for heat pumps, residential lighting and new home programs would still be cost-effective with a TRC above unity for each of the programs.<sup>90</sup>

FBC submits that the proposed funding for New Home Program is significantly more than the amount approved for 2013 because FBC expects "more activity in the new home program than was planned in 2013." FBC further

<sup>87</sup> Source: Exhibit B-1, Appendix A, p. A14.

<sup>88</sup> Source: Exhibit B-5, BCUC IR 1.8.1.1.

<sup>89</sup> Ibid.

<sup>90</sup> Exhibit B-5, BCUC IR 1.8.1.1.

submits that the proposed amount is not as high as the 2013 actual spend because the new building code reduces the savings potential for new homes.<sup>91</sup>

With regards to low-income DSM programs, FBC submits that the number of eligible customers has increased to approximately 17 percent of FBC's residential customer base from 9.1 percent as a result of the amendment to the DSM Regulations.<sup>92</sup> In response to the Amendment, FBC states that it "has expanded eligibility requirements and budget for distribution for Energy Savings Kits, expanded the eligibility of multiple unit residential buildings for direct installation program, and increased the low-income budget for implementation of Energy Conservation and Assistance Program (ECAP) from that administered in 2013."<sup>93</sup> FBC submits that the "only new DSM program proposed for 2015/16 is the ECAP, which is planned to be implemented jointly with the FEU and collaboratively with BC Hydro."<sup>94</sup>

### **Commission Panel determination**

Residential programs have shown to be cost-effective with all of the programs each having a TRC above unity and an overall TRC of 2.0 among residential programs. However, further to concerns identified in section 4.0 of this decision, the **Commission Panel directs FBC to include in its next DSM Annual Report a review and discussion of whether opportunities exist in expanding DSM funding to 2013 actual levels for residential heat pumps, lighting and new home programs while continuing to obtain cost-effective energy savings.**

## **5.2 Commercial**

FBC requests \$2.5 million and \$2.6 million in commercial DSM funding for 2015 and 2016 respectively.<sup>95</sup> FBC states that the commercial sector budget for 2015 is \$0.6 million higher than the 2013 actual spending and that this is partly in order to accommodate a surge of new commercial space planned to be built in the near future. FBC further submits that the commercial programs include all identified DSM measures that were found to be economic in the 2013 CPR Update.<sup>96</sup>

FBC submits that it is not proposing any new commercial programs beyond those that were offered in 2013, but instead is enhancing several program elements. FBC submits that enhancements include adding a number of new prescriptive measures in its Building and Process Improvement program, improving processes for customers to access rebates, increasing the level of financial support for energy modelling studies and a re-launch of the FLIP Direct Install Lighting program.<sup>97</sup>

---

<sup>91</sup> Exhibit B-5, BCUC IR 1.8.1.1.

<sup>92</sup> FBC Final Argument, p. 4.

<sup>93</sup> Exhibit B-5, BCUC IR 1.8.3.1.

<sup>94</sup> Ibid., BCUC IR 1.8.4.

<sup>95</sup> Exhibit B-1, Appendix A, p. A14.

<sup>96</sup> FBC Final Argument, p. 8.

<sup>97</sup> Ibid., p. 9.

Table 8: Summary Table of Commercial Programs<sup>98</sup>

Program Area		Plan Savings		Plan Cost		Benefit Cost Ratios				
		2015 \$/MWh	2016 \$/MWh	2015 (\$000s)	2016 (\$000s)	TRC	UCT	PCT	RIM	Levelise d Cost \$/MWh
22	Commercial Programs					2.1	4.6	3.6	1.0	25.6
23	Lighting	7,445	7,616	1,485	1,519	6.4	3.1	-	-	37.2
24	Building Improvement	3,454	3,452	842	842	3.2	8.4	4.3	1.1	13.7
25	Computers	378	378	55	55	3.8	5.3	11.7	1.0	21.0
26	Municipal	759	759	79	79	5.7	5.7	6.0	1.2	19.7
27	Irrigation	490	490	69	69	2.2	4.4	4.3	0.9	27.8
28	Commercial Subtotal	12,526	12,695	2,530	2,564	2.5	4.7	4.7	1.0	25.7

Table 9: Comparison Between 2013 and 2015 Expenditures for Commercial Programs<sup>99</sup>

Sector	DSM Expenditures (\$000s)		% Difference	DSM Expenditures (\$000s)		% Difference
	Planned	Planned		Actual	Planned	
	2013	2015		2013	2015	
<b>Commercial</b>						
Lighting	1,212	1,485	22%	1,235	1,485	20%
Building and Process Improvements	696	842	21%	594	842	42%
Computers	0	55	-	0	55	-
Municipal (Water Handling)	177	148	-16%	80	148	85%
<b>Commercial Total</b>	<b>2,085</b>	<b>2,530</b>	<b>21%</b>	<b>1,909</b>	<b>2,530</b>	<b>33%</b>

### Commission Panel determination

Commercial programs have shown to be cost-effective with all of the programs each having a TRC above unity and an overall TRC of 2.5 among commercial programs. However, further to concerns identified in section 4.0 of this decision, the **Commission Panel directs FBC to include in its next DSM Annual Report a review and discussion of whether opportunities exist in expanding DSM funding to 2013 approved levels for municipal water while continuing to obtain cost-effective energy savings.**

### 5.3 Industrial

FBC states that it has 36 “Large Commercial” – Primary Distribution and Transmission customers. These customers include several large institutional facilities like the University of British Columbia (Okanagan campus), Okanagan College, City of Kelowna and Interior Health. The balance of these customers includes small to large-size lumber mills, a fibre (pulp) mill, agricultural and tourism based operations and several large commercial and residential housing real estate holdings.<sup>100</sup> FBC submits that the industrial sector 2015 budget is \$0.1 million lower than the actual spend in 2013 because of an extraordinary project that occurred in 2013.<sup>101</sup>

<sup>98</sup> Source: Exhibit B-1, Appendix A, p. A14.

<sup>99</sup> Source: Exhibit B-5, BCUC IR 1.8.1.1.

<sup>100</sup> Ibid., BCUC IR 1.7.7.

<sup>101</sup> Ibid., BCUC IR 1.7.2.

Table 10: Summary Table of Industrial Programs<sup>102</sup>

Program Area		Plan Savings		Plan Cost		Benefit Cost Ratios				
		2015 MWh	2016 MWh	2015 (\$000s)	2016 (\$000s)	TRC	UCT	PCT	RIM	Levelise d Cost \$/MWh
29	Industrial Programs									
30	Industrial	1,537	1,585	202	209	5.7	5.7	6.0	1.2	19.7
31	Industrial Subtotal	1,537	1,585	202	209	5.7	5.7	6.0	1.2	19.7

Table 11: Comparison Between 2013 and 2015 Expenditures for Industrial Programs<sup>103</sup>

Sector	DSM Expenditures (\$000s)		% Difference	DSM Expenditures (\$000s)		% Difference
	Planned	Planned		Actual	Planned	
	2013	2015		2013	2015	
<b>Industrial</b>						
EMIS	41	0	-100%	17	0	-100%
Industrial Efficiencies	323	202	-37%	307	202	-34%
<b>Industrial Total</b>	<b>364</b>	<b>202</b>	<b>-45%</b>	<b>324</b>	<b>202</b>	<b>-38%</b>

FBC states that “The Company will support the installation of Energy Management Information Systems (EMIS) that enable a customer to track and optimize the energy consumption per unit of production.”<sup>104</sup> However, FBC did not identify the budget allocated to this DSM program.

FBC submits that raising industrial incentive levels would result in the industrial sector enjoying a much higher PCT, relative to other participants, which could raise concerns of equity between customer classes.<sup>105</sup>

On August 28, 2014, Celgar filed a complaint under section 25 of the UCA relating to FBC’s decision to suspend DSM programs to Celgar. Celgar submits that this is a matter for determination as part of these proceedings because of the significance of British Columbia’s energy objectives to DSM measures.<sup>106</sup>

### Commission Panel determination

In section 4.0, the Commission indicated concern that FBC’s DSM budget for its industrial customers appears low when considering FBC’s LTRP, the low utility cost of industrial DSM (2.0 c/kWh), previous industrial DSM approved amounts, the level of cost-effective industrial DSM identified by BC Hydro, the industrial positive RIM and the determination by the FBC Stepped and Stand-by Panel that FBC “should ensure sufficient focus is given to identifying and addressing DSM opportunities for its industrial customers as a way of achieving efficiencies benefits.”<sup>107</sup> The Panel considers that, while the FBC industrial DSM proposal for 2015-2016 is accepted, there is concern over the adequacy of expenditures in this category.

<sup>102</sup> Source: Exhibit B-1, Appendix A, p. A14

<sup>103</sup> Source: Exhibit B-5, BCUC IR 1.8.1.1.

<sup>104</sup> Exhibit B-1, Appendix A, p. A8

<sup>105</sup> FBC Reply Argument, p. 8.

<sup>106</sup> Ibid., p. 9; Celgar Final Argument, p. 3.

<sup>107</sup> FBC 2014 Stepped and Stand-by Decision, p. 15.

To address these concerns, the **Commission Panel directs FBC to include in its next DSM Annual Report a review and discussion of whether opportunities exist in expanding DSM funding to 2013 approved levels for industrial customers while continuing to obtain cost-effective energy savings.**

The Panel considers the specific concerns related to: (i) how industrial incentive and funding levels should be set, and (ii) whether Celgar should be eligible for DSM incentives below.

### 5.3.1 Setting industrial DSM incentive and funding levels

Two issues were raised with regard to industrial DSM incentive levels: (i) how the Participant Cost Test (PCT) should be used in setting DSM incentive and funding levels, and (ii) whether FBC's industrial incentives should align with those offered by BC Hydro. These two issues are addressed below.

#### Use of the PCT

The PCT is the ratio of the present value of the customer's measure savings (i.e. bill savings), divided by the customer's portion of costs. FBC submits that DSM incentive levels are partially informed by the PCT.<sup>108</sup> FBC states that it does not use the PCT results in setting the overall DSM funding envelope, however large relative differences in PCT results between sectors or programs can impact the incentive levels offered (and therefore funding levels) in those sectors or programs. FBC further submits that the PCT is an equity concern only if certain participants enjoy a much higher PCT, relative to other participants.<sup>109</sup>

ICG submits that the PCT is not an effective test for the purposes of cost-effective screening of programs, and should not be used as a means to evaluate program design. ICG further submits that a comparison of the PCT by sector cannot be used to support the conclusion that FBC program incentives create a strong environment for industrial customers to invest in energy efficiency.<sup>110</sup>

CEC submits that there can be an equity concern if one participant group enjoys a much higher PCT than another group.<sup>111</sup>

#### **Commission Panel determination**

**The Commission Panel determines that there is no equity concern arising from large relative differences in PCT results between sectors or programs.** The Panel considers that the PCT is instead a useful indicator in setting DSM incentive levels and designing DSM programs, and so it should only indirectly inform the budgeted DSM spend.

For example, a DSM measure with a high PCT could indicate that there are market barriers preventing the customer from making efficient investment or consumption decisions from a BC perspective that may not be mitigated through a cash incentive alone. These could include lack of information, lack of time/expertise/motivation to deal with energy related issues, concern that projected savings may not materialise etc. In these situations, it may be preferable to design DSM programs to address these specific market barriers rather than just raise the level of the incentive and so further increase the PCT result.

---

<sup>108</sup> FBC Final Argument, p. 11.

<sup>109</sup> FBC Reply Argument, p. 8; Exhibit B-5, BCUC IRs 1.2.2.1, 1.2.2.2.

<sup>110</sup> ICG Final Argument, pp. 3, 4.

<sup>111</sup> CEC Final Argument, p. 14.

### Comparison to BC Hydro

ICG submits that the aggregate DSM program spend per industrial customer is approximately \$180,000 in the BC Hydro service area and approximately \$8,000 in the FBC service area, and that both the “spend per customer” and the “expenditures as a percent of revenues” are dramatically different in the two service areas and by sector within the FBC service area. ICG submits that, given the magnitude of the differences, they cannot be explained by factors related to service area or sector characteristics and that other factors must be considered.<sup>112</sup>

ICG also refers to a recent government announcement of another \$100 million for DSM incentives for BC Hydro industrial customers, and submits that under the new program, BC Hydro industrial customers will be eligible for increased incentives ranging from \$5 million to \$25 million for projects, and yet at the same time, if the Commission approves this Application not only will current program incentives in the FBC service area not increase, but there will be no consideration given to any program design changes until 2016.<sup>113</sup>

ICG submits that the Panel should direct FBC to consult with the industrial sector and then file for program design changes to be implemented effective April 1, 2015 with a review of the results of those changes in the BC-wide CPR in 2016. Further, ICG submits that the Panel direct FBC to make available, effective January 1, 2015, funding for energy efficiency studies that match the funding made available by BC Hydro to its industrial customers.<sup>114</sup>

In the FBC Reply Argument, it refers to the FBC 2012 RR & ISP Decision where the Commission stated: “The Commission Panel acknowledges that BC Hydro does offer larger incentives to its industrial customers. However, we are not persuaded that BC Hydro’s level of incentive is necessarily optimal and that FortisBC should move to that level.”<sup>115</sup> FBC further submits that it has “proposed incentive levels that will generate good program participation, but leaves room for increases in the future if energy and capacity surpluses are reduced or eliminated.”<sup>116</sup>

FBC is in a capacity surplus situation, but has an energy shortage. The energy shortage is 4.9 GWh in 2015 and 6.4 GWh in 2016, and grows to an 82.2 GWh energy shortage by 2024.<sup>117</sup> By comparison, FBC plans to obtain 1.5 GWh of DSM energy from industrial customers in 2015 and 1.6 GWh in 2016, at an average cost of 2.0 c/kWh.<sup>118</sup>

Regarding energy efficiency studies, FBC states that it understands that BC Hydro pays 75 percent of a customer’s study costs upon completion, rising to 100 percent if sufficient measures are implemented within 18 months and that FBC’s offer is limited to 50 percent of study costs. FBC states that, recognizing that the costs of energy studies are escalating and the need for them is more important given the growing complexities of energy efficiency technologies, FBC is planning to increase the funding available for studies.<sup>119</sup>

---

<sup>112</sup> ICG Final Argument, p. 4.

<sup>113</sup> *Ibid.*, p. 5.

<sup>114</sup> *Ibid.*, p. 6.

<sup>115</sup> FBC Reply Argument, p. 4.

<sup>116</sup> *Ibid.*, p. 5.

<sup>117</sup> Exhibit B-5, BCUC IR 1.4.1.

<sup>118</sup> Exhibit B-1, Appendix A, p. A14.

<sup>119</sup> Exhibit B-10, ICG IR 1.4.14.



### Commission Panel determination

The Commission Panel supports the position of the FBC 2012 RR & ISP Decision that “... we are not persuaded that BC’s Hydro’s level of incentive is necessarily optimal and that FortisBC should move to that level. ... The Commission Panel is not prepared to direct FortisBC to implement the same DSM programs as BC Hydro, particularly in the industrial section where the customer base is very different.”<sup>120</sup>

However, the Panel agrees with ICG that the significant differences in incentive levels between FBC and BC Hydro industrial programs, when taken together with other considerations (cost of industrial DSM of only 2.0c/kWh, positive RIM and low proposed funding levels compared to previously approved levels/LTRP/other customers) lead to the Panel to believe that FBC could do more in this area.

The Panel is specifically concerned with FBC’s statement that proposed industrial incentive levels will generate good program participation, but “leaves room for increases in the future if energy and capacity surpluses are reduced or eliminated.” The primary benefit of FBC’s DSM is reduced energy costs and FBC is not in an energy surplus situation. In addition, the DSM Regulations require the use of FBC’s long-term avoided energy cost. The Panel does not maintain that increases in industrial incentive levels are the only DSM tool available to FBC, but given industrial DSM cost of energy of only 2.0 c/kWh, the Panel considers that industrial incentive levels may be set at suboptimal levels.

To address these concerns, the **Commission Panel directs FBC to include in its next DSM Annual Report an update on FBC’s efforts to identify and mitigate (through DSM programs) market barriers to energy efficiency investment and consumption decisions of its industrial customers. FBC is also required to include in its next DSM Annual Report an update on its proposal to increase the funding available for energy efficiency studies.** FBC is further encouraged to submit supplemental DSM expenditure requests if additional cost-effective industrial DSM opportunities are identified.

#### 5.3.2 Celgar specific issues

Celgar is a FBC industrial customer that also generates its own electricity. Electricity service to Celgar is provided on a net-of-load basis; Celgar’s self-generation output must first be used to serve its own load before excess self-generation can be used for other purposes, such as export. As a result, Celgar is generally not a load on the FBC system, unless Celgar’s generation is down or producing below the requirements of the mill.<sup>121</sup>

FBC submits that, while Celgar is eligible for DSM incentives, only projects that reduce the load required to be served by FBC will be eligible for DSM incentives.<sup>122</sup> Celgar filed a complaint with the Commission on August 28, 2014 requesting that FBC be directed to provide on a retroactive basis the DSM incentives that Celgar would otherwise have received.<sup>123</sup> Celgar submits that this is a matter for determination as part of these proceedings because of the significance of British Columbia’s energy objectives to DSM measures.<sup>124</sup>

<sup>120</sup> FBC 2012 RR & ISP Decision, p. 139.

<sup>121</sup> FBC Final Argument, pp. 11-12.

<sup>122</sup> *Ibid.*, p. 12.

<sup>123</sup> FBC Reply Argument, p. 9.

<sup>124</sup> *Ibid.*, p. 9; Celgar Final Argument, p. 3.

FBC refers to Rate Schedule 90 (RS 90) of the FBC Electric Tariff (demand-side management services), which provides the DSM program structure.<sup>125</sup> FBC submits that Celgar's request that the Commission deal with its complaint as part of this process should be dismissed.<sup>126</sup>

#### Commission Panel determination

**The Commission Panel determines that the specifics of Celgar's complaint should continue to be addressed through the complaint process.** Celgar initiated the DSM eligibility complaint in August of 2014 and this Panel believes that the issues raised in that complaint are better addressed in that process rather than in this Application.

FBC referred to RS 90 in its response to ICG IR 1.7.3. As this particular rate schedule did not form part of the present application, this Panel did not address the impact, if any, of RS 90 on the approval of the 2015-2016 DSM expenditure request. Should RS 90 not be addressed in the Celgar complaint, the Commission Panel believes such a review could form part of the next DSM application or Rate Design application – whichever comes first.

#### 5.4 Supporting initiatives

FBC has requested \$675,000 for supporting initiative expenditures in each of 2015 and 2016, which is 7 percent lower than the approved amount in 2013.<sup>127</sup> Supporting Initiative Expenditures include programs targeted for public awareness, community energy planning, trades training, education and codes and standards.<sup>128</sup>

**Table 12: Specific Programs under Supporting Initiative Expenditures**<sup>129</sup>

		<b>2015 Plan (\$000s)</b>	<b>2016 Plan (\$000s)</b>
1	Public Awareness	250	250
2	Community Energy Planning	100	100
3	Trades Training	100	100
4	Education (schools)	200	200
5	Codes and Standards	25	25
6	<b>Total</b>	<b>675</b>	<b>675</b>

<sup>125</sup> Exhibit B-10, ICG IR 1.7.3.

<sup>126</sup> FBC Reply Argument, p. 6.

<sup>127</sup> Exhibit B-5, BCUC IR 1.8.1.1.

<sup>128</sup> Exhibit B-1, Appendix A, p. 9.

<sup>129</sup> Source: Ibid.

**Table 13: Comparison between 2013 and 2015 Expenditures for Supporting Initiatives<sup>130</sup>**

Sector	DSM Expenditures (\$000s)		% Difference	DSM Expenditures (\$000s)		% Difference
	Planned	Planned		Actual	Planned	
	2013	2015		2013	2015	
Supporting Initiatives	725	675	-7%	706	675	-4%
Planning & Evaluation	760	725	-5%	748	725	-3%

The budget request includes \$25,000 for codes and standards to support policy development and research through in-kind and financial co-funding arrangements. FBC states that “FBC has not coordinated with BC Hydro and the government to set this budget amount.”<sup>131</sup>

### Commission Panel discussion

The Commission Panel encourages FBC to coordinate with BC Hydro and government regarding codes and standards program development and implementation.

## 6.0 OTHER ISSUES AND NEXT STEPS

### 6.1 Evaluation, measurement and verification

FBC submits that the 2013 to 2015 DSM Monitoring and Evaluation (M&E) Plan includes evaluation of all FBC DSM programs offered when the plan was created and that evaluations will be planned for any new programs added since the plan was created.<sup>132</sup> FBC has proposed a one-year extension to the 2013-2015 Monitoring and Evaluation plan that was accepted as part of the Commission’s Decision and Order G-139-14 on FBC’s 2014 PBR Application. During the 2015-2016 period, FBC submits it will evaluate the home improvement, new home, heat pump, low-income direct install, building improvement (including industrial and municipal) and commercial lighting programs.”<sup>133</sup>

FBC is requesting Evaluation, Measurement and Verification (EM&V) funding of \$422,000 in 2015 and \$428,000 in 2016 (5.8 percent and 5.7 percent of DSM requested funding respectively). Approximately half of this funding is for third party EM&V, with the balance for in-house EM&V.<sup>134</sup> The 2004 California Evaluation Framework, a seminal document for DSM evaluation, references a spending range of 2-10 percent of overall DSM budget spending on DSM evaluation among utilities in North America, with the average spending being 4 percent.<sup>135</sup> FBC submits that FBC staff may conduct many of the proposed process evaluations internally, but preparing the comprehensive M&E reports should continue to be performed by third-party consultants.<sup>136</sup>

FBC included in the Application the executive summary of three EM&V reports (residential heat pump program; residential lighting and appliance programs; and customer building improvement program). The three

<sup>130</sup> Source: Exhibit B-5, BCUC IR 1.8.1.1.

<sup>131</sup> Ibid., BCUC IR 1.9.5.

<sup>132</sup> Ibid., BCUC IR 1.10.4.

<sup>133</sup> FBC Final Argument, p. 10.

<sup>134</sup> Exhibit B-5, BCUC IR 1.10.1.1, IR 1.10.1.2.

<sup>135</sup> FBC 2012 RR & ISP Decision, p. 131.

<sup>136</sup> FBC 2014 PBR Application, Exhibit B-1-1, Appendix H, Attachment 3, p. 22.

evaluation reports identified a number of areas where FBC EM&V could be improved (such as discouraging program personnel from biasing participant statements of program attribution, changes to baseline assumptions and improved documentation) and suggestions for improvement in DSM measures (such as periodic assessment of market barriers and targeting markets with lower levels of free-ridership).<sup>137</sup> In response to an information request, FBC declined to provide the full copies of these reports citing confidentiality concerns.<sup>138</sup>

The California Public Utilities Commission (CPUC) in Decision 05-01-055 (2005) states on pages 112-114:

...the EM&V structure within the overall administrative framework must be free of conflicts of interest that could bias EM&V results. ... In our view, allowing the entity that selects the programs and manages the portfolio ... or the program implementers ... to manage or contract directly for EM&V of their own efforts could seriously undermine the independence of even the most conscientious EM&V consultants.<sup>139</sup>

The CEC submits that the FBC EM&V expenditures are acceptable.<sup>140</sup>

### **Commission Panel determination**

The Commission Panel considers that DSM expenditures should be the subject of ongoing assessment and verification to provide assurances anticipated benefits are being attained, and feedback on the programs and their program design and implementation such that they may be improved over time. The Panel considers that FBC could benefit from an increased focus on improving the accuracy and credibility of EM&V.

### **The Panel accepts FBC's EM&V proposed one-year extension to the 2013-2015 Monitoring and Evaluation plan as reasonable.**

The Panel considers it is important that the overall EM&V framework addresses potential conflicts of interest that could bias the evaluation results. The Panel encourages FBC to use third party, rather than in-house, resources for EM&V where possible. **FBC is directed to include in the next DSM expenditure filing an update on how it ensures EM&V is free of conflicts of interest.**

In addition, the Panel considers that there could be benefit from periodic deeper Commission reviews of EM&V reports. For future filings, **FBC is directed to file, confidentially if appropriate, the full versions of EM&V reports with its DSM Annual Report.**

## **6.2 DSM underspend/alternative models**

The 2013 DSM Plan was underspent by \$1.023 million, which is approximately 13 percent of the plan. CEC submits that FBC has a financial incentive to underspend DSM, and notes that the FBC shareholders earned \$20,000 as result of the 2013 underspending.<sup>141</sup>

FBC submits that, on average, FBC has expended 100 percent of plan costs over the past ten years (2004-2013) and has achieved an average of 115 percent of plan savings over the same time period. FBC submits that CEC's concern regarding "significant underspending in recent years" does not recognize the considerable increase in

<sup>137</sup> Exhibit B-1, Appendix C, D and E; Exhibit B-5, BCUC IR 1.10.5.1.

<sup>138</sup> Exhibit B-5, BCUC IR 1.10.5.

<sup>139</sup> Ibid., BCUC IR 10.0.

<sup>140</sup> CEC Final Argument, p. 20.

<sup>141</sup> Ibid., pp. 7, 10.

DSM planned expenditures in 2011 from 2010 (by nearly double) and the challenges associated with ramping up for, and executing, a much larger plan than in previous years.<sup>142</sup>

FBC further submits that the underspend in 2013 was primarily related to reduced contributions from the provincial government for the LiveSmart program, phasing out incandescent light bulbs, mandating ENERGY STAR performance levels for major household appliances and electronics and raising the prescriptive requirements for new home construction. FBC submits that these factors have all been taken into consideration in setting the DSM expenditure levels for 2015 and 2016 and that net (rate-base) underspend is accounted for through rate base adjustments in future revenue requirements applications.<sup>143</sup>

FBC states with regard to its ability to spend the 2015-2016 DSM Plan: “A timely decision to accept the DSM expenditure schedule will provide the Company with lead time to ramp up DSM activities. Conversely a late decision will likely impact savings results and expenditures.”<sup>144</sup>

### **Commission Panel discussion**

While the Panel acknowledges FBC’s explanation for the 2013 underspend, the issue of utility incentives to undertake DSM is not new to the Commission. FBC capitalizes DSM expenditures and amortizes them over a 10 year period earning a return on deferred funds. The Commission Panel for the FBC 2014 PBR Decision noted in the decision, concerns raised by ICG that “it is less expensive for ratepayers to pay for these costs at the time the costs are incurred rather than defer the costs and pay the return at [the utility’s weighted average cost of capital] and related income taxes.”<sup>145</sup>

This issue was also raised for FEU. For example, the FEU 2012-2013 Revenue Requirement and Rates Decision stated:

In the view of the Panel, the issue is how to get the most value for the dollars being expended on DSM programs. Within the regulatory world there are a variety of methodologies for handling DSM and related expenditures. To this point this jurisdiction has not undertaken a comprehensive review of what is in place elsewhere and the effectiveness of other models. Therefore, it is not known whether there are alternative models which could potentially result in British Columbia ratepayers getting more value for the dollars expended and yet still incent the utility to pursue DSM while being treated fairly as prescribed by the UCA. Areas which may be considered for examination include but are not limited to the following:

- What other options exist for the treatment of DSM expenditures and how is the cost of programs charged back to ratepayers?
- How do other jurisdictions avoid the structural tension issue and align the business objectives of the utility with the attainment of maximum DSM benefits for the ratepayer? What options exist to introduce incentives to assist in creating this alignment?
- What options exist in other jurisdictions to more effectively manage an integration of utilities’ DSM initiatives and spending?

---

<sup>142</sup> FBC Reply Argument, p. 6.

<sup>143</sup> *Ibid.*, pp. 6, 7.

<sup>144</sup> Exhibit B-6, BCOAPO IR 1.4.2.

<sup>145</sup> FBC 2014 PBR Decision, p. 243.

With increased emphasis on DSM programs and increasing levels of spending, the answers to these questions become increasingly important. The Commission Panel believes that it is appropriate that these questions be explored in a separate review process<sup>146</sup>

In addition, in the FEU 2014 PBR Decision, the Commission stated:

.. the Panel notes that a shorter [DSM] amortization period could decrease costs for customers over the longer term while still providing the utility with a fair return. The Panel notes that this issue was addressed in a 2006 CAMPUT report titled 'DSM: Determining Appropriate Spending Levels and Cost-Effectiveness Testing', which states:

'Most utilities and regulators prefer the practice of expensing energy efficiency costs; in the long run, this approach costs less than capitalizing—deferring and amortizing—costs. ... The carrying cost (at the utility average cost of capital, 7-9% these days) of the unamortized balances adds cost to consumers, quite a lot if the amortization period is long. ... Once this practice starts, it is hard to convert to expensing, again due to rate impact concerns.'<sup>147</sup>

The separate review process referred to in the FEU 2012 RR & ISP Decision to address these broader issues has not yet been undertaken. The Commission Panel is of the view that there would still be benefit from undertaking such a review process, and that such a review should include FBC, FEU, BC Hydro and Pacific Northern Gas.

### **6.3 Next steps**

FBC submits that a new FBC LTRP will be filed in 2016 and will include a new long term DSM Plan based on a multi-utility, dual-fuel BC Conservation Potential Review (CPR) report to be undertaken in 2015.<sup>148</sup>

#### **Commission Panel discussion**

The Commission Panel considers that, ideally, a utility should first file a LTRP with a DSM Plan under section 44.1(8)(c) and then file a DSM expenditure schedule. This will allow the utility to receive guidance regarding the overall size and approach of the DSM funding proposal prior to filing the detailed DSM expenditure schedule. This preferred order of filing is reflected in the UCA - the Commission is required for DSM expenditure filings to consider the most recent LTRP filed by the utility in determining whether to accept the DSM expenditure schedule, and not vice versa.

The Commission Panel encourages FBC to file its next multi-year DSM expenditure schedule after the Commission's review and decision on the 2016 LTRP.

The Commission Panel recognises that there may be insufficient time between FBC's LTRP decision and the end of 2015 to obtain acceptance of a new DSM expenditure schedule. In that case, the Commission Panel encourages FBC to file for acceptance of a shorter DSM period (i.e. for 2017 only) in order to bridge the gap. However, FBC would still be expected to incorporate the results of the latest CPR in this filing where possible.

<sup>146</sup> FortisBC Energy Utilities 2012-2013 Revenue Requirement and Rates Application (FEU 2012 RR), Decision dated April 12, 2012, pp. 185, 186.

<sup>147</sup> FBC 2014 PBR Decision, pp. 279-280.

<sup>148</sup> FBC Final Argument, p. 4.

## 7.0 SUMMARY OF DIRECTIVES

This summary is provided for the convenience of readers. In the event of any difference between the directions in this summary and those in the body of the decision, the wording in the Decision shall prevail.

	<b>Directive</b>	<b>Page</b>
1.	<b>The Commission Panel accepts the DSM expenditure schedules and the programs contained in the Application</b>	4
2.	<b>The Commission Panel accepts FBC's LRMC of BC new clean resources as \$112 per MWh and the deferred capital expenditure value of \$35.60 per kW per year for the purpose of the 2015-2016 DSM Plan.</b>	6
3.	<b>The Panel directs FBC to include in the next DSM expenditure request a description of the assumptions used to develop the updated avoided capacity and LRMC estimate, and to explain how avoided transmission and distribution energy losses are incorporated into DSM cost/benefit tests.</b>	6
4.	<b>The Panel directs FBC to include in each DSM expenditure request spillover and free rider effects assumed for each DSM program, and the justification used to support these estimates.</b>	7
5.	<b>The Panel therefore directs FBC to review the TRC discount rate assumptions in the next DSM expenditure request, including identification of potential additional DSM measures that would pass both the TRC and the UCT if a societal discount rate was used for the TRC. FBC is also directed to identify in the next DSM expenditure request any DSM measures (in addition to those proposed) that fail the TRC but would pass the mTRC.</b>	7
6.	<b>The Panel finds that FBC's DSM expenditure request for 2015-2016 is reasonably consistent with the 2012 LTRP</b>	11
7.	<b>FBC is directed to include in its next DSM Annual Report an update on its efforts to increase DSM expenditures and plan savings back to the levels included in the 2012 LTRP (\$9 million and 34 GWh/year).</b>	11
8.	<b>The Commission Panel finds that FBC's 2015-2016 DSM expenditure request is cost-effective within the meaning of the DSM Regulations.</b>	12
9.	<b>As a result, the Panel directs FBC to include in the next DSM expenditure request:</b> <ul style="list-style-type: none"> <li>• <b>an update on FBC's investigation into potential fuel switching programs, including those targeting vehicles and propane/oil heating; and</b></li> <li>• <b>a cost-benefit analysis (including supporting assumptions) showing whether FBC can allow customers with gas as their primary heating source to access FBC's DSM programs and still be compliant with the DSM Regulations.</b></li> </ul>	14
10.	<b>The Commission Panel finds that FBC's DSM expenditure request supports BC's community energy efficiency objective.</b>	15
11.	<b>The Commission Panel finds that, on a portfolio basis, the DSM cost of energy saved appears reasonable.</b>	18
12.	<b>The Commission Panel finds that FBC has included measures in its 2015-2016 DSM Plan to provide broad opportunities for customers to participate in DSM programs, in particular for 'hard to reach' customers such as low-income groups and renters.</b>	21

13.	Commission Panel directs FBC to include in its next DSM Annual Report a review and discussion of whether opportunities exist in expanding DSM funding to 2013 actual levels for residential heat pumps, lighting and new home programs while continuing to obtain cost-effective energy savings.	23
14.	Commission Panel directs FBC to include in its next DSM Annual Report a review and discussion of whether opportunities exist in expanding DSM funding to 2013 approved levels for municipal water while continuing to obtain cost-effective energy savings.	24
15.	Commission Panel directs FBC to include in its next DSM Annual Report a review and discussion of whether opportunities exist in expanding DSM funding to 2013 approved levels for industrial customers while continuing to obtain cost-effective energy savings.	26
16.	The Commission Panel determines that there is no equity concern arising from large relative differences in PCT results between sectors or programs.	26
17.	Commission Panel directs FBC to include in its next DSM Annual Report an update on FBC's efforts to identify and mitigate (through DSM programs) market barriers to energy efficiency investment and consumption decisions of its industrial customers. FBC is also required to include in its next DSM Annual Report an update on its proposal to increase the funding available for energy efficiency studies.	28
18.	The Commission Panel determines that the specifics of Celgar's complaint should continue to be addressed through the complaint process.	29
19.	The Panel accepts FBC's EM&V proposed one-year extension to the 2013-2015 Monitoring and Evaluation plan as reasonable.	31
20.	FBC is directed to include in the next DSM expenditure filing an update on how it ensures EM&V is free of conflicts of interest.	31
21.	FBC is directed to file, confidentially if appropriate, the full versions of EM&V reports with its DSM Annual Report.	31



**DATED** at the City of Vancouver, in the Province of British Columbia, this        3rd        day of December 2014.

*Original Signed By*

\_\_\_\_\_  
B. A. MAGNAN  
PANEL CHAIR/COMMISSIONER

*Original Signed By*

\_\_\_\_\_  
C. A. BROWN  
COMMISSIONER

*Original Signed By*

\_\_\_\_\_  
I. F. MACPHAIL  
COMMISSIONER



**BRITISH COLUMBIA  
UTILITIES COMMISSION**

**ORDER  
NUMBER G-186-14**

SIXTH FLOOR, 900 HOWE STREET, BOX 250  
VANCOUVER, BC V6Z 2N3 CANADA  
web site: <http://www.bcuc.com>

TELEPHONE: (604) 660-4700  
BC TOLL FREE: 1-800-663-1385  
FACSIMILE: (604) 660-1102

IN THE MATTER OF  
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

FortisBC Inc.  
Application for Demand Side Management  
Expenditures for the Period from 2015 to 2016

**BEFORE:** B. A. Magnan, Panel Chair/Commissioner  
I. F. MacPhail, Commissioner December 3, 2014  
C. A. Brown, Commissioner

### **O R D E R**

**WHEREAS:**

- A. On August 11, 2014, FortisBC Inc. (FBC) applied to the British Columbia Utilities Commission (Commission) pursuant to section 44.2 of the *Utilities Commission Act* (UCA) for acceptance of demand side management (DSM) expenditures for the period from 2015 to 2016 (the Application);
- B. By Order G-155-14 dated August 15, 2014, the Commission established a written hearing process and a regulatory timetable with one round of information requests to review the Application. The Regulatory Timetable was subsequently amended by Order G-144-14 and Letter L-52-14;
- C. In this proceeding, BC Hydro and Power Authority (BC Hydro); BC Ministry of Energy and Mines (MEM); British Columbia Old Age Pensioners' Organization, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, and the Tenant Resource and Advisory Centre (BCOAPO); BC Sustainable Energy Association and the Sierra Club of British Columbia (BCSEA); Commercial Energy Consumers Association of British Columbia (CEC); Industrial Customers Group (ICG) and Zellstoff Celgar Limited Partnership (Celgar) registered as interveners;
- D. During the course of the proceeding, information requests were submitted to FBC, and FBC responded to one round of information requests;
- E. On September 29, 2014, FBC submitted its final argument in which it sought acceptance of the detailed DSM expenditure schedules contained in Appendix A of the Application, including the DSM expenditure of up to \$7.3 million for 2015 and up to \$7.5 million for 2016;
- F. On October 10, 2014, BCOAPO, BCSEA, CEC, Celgar and ICG submitted their final arguments;

**BRITISH COLUMBIA  
UTILITIES COMMISSION**

**ORDER  
NUMBER** G-186-14

2

- G. On October 20, 2014, FBC submitted its reply argument; and
- H. The Commission has reviewed the Application and the evidence submitted through the review process and concludes that acceptance is warranted.

**NOW THEREFORE** the British Columbia Utilities Commission, for reasons stated in the decision, orders as follows:

1. Pursuant to section 44.2(3) of the *Utilities Commission Act*, the FortisBC Inc. demand side management expenditure schedules in Appendix A of the Application setting out expenditures of up to \$7.3 million for 2015 and up to \$7.5 million for 2016 are accepted.
2. The Commission determines that the specifics of Zellstoff Celgar Limited Partnership's complaint should continue to be addressed through the complaint process.
3. FortisBC Inc. must comply with all additional determinations contained in the decision attached to this Order.

**DATED** at the City of Vancouver, in the Province of British Columbia, this 3rd day of December 2014.

BY ORDER

*Original Signed By:*

B. A. Magnan  
Panel Chair/Commissioner

Attachment

**SECTION 44.2 OF THE UTILITIES COMMISSION ACT****Expenditure schedule (s.44.2)**

- (1) A public utility may file with the commission an expenditure schedule containing one or more of the following:
- (a) a statement of the expenditures on demand-side measures the public utility has made or anticipates making during the period addressed by the schedule;
  - (b) a statement of capital expenditures the public utility has made or anticipates making during the period addressed by the schedule;
  - (c) a statement of expenditures the public utility has made or anticipates making during the period addressed by the schedule to acquire energy from other persons.
- (2) The commission may not consent under section 61 (2) to an amendment to or a rescission of a schedule filed under section 61 (1) to the extent that the amendment or the rescission is for the purpose of recovering expenditures referred to in subsection (1) (a) of this section, unless
- (a) the expenditure is the subject of a schedule filed and accepted under this section, or
  - (b) the amendment or rescission is for the purpose of setting an interim rate.
- (3) After reviewing an expenditure schedule submitted under subsection (1), the commission, subject to subsections (5), (5.1) and (6), must
- (a) accept the schedule, if the commission considers that making the expenditures referred to in the schedule would be in the public interest, or
  - (b) reject the schedule.
- (4) The commission may accept or reject, under subsection (3), a part of a schedule.
- (5) In considering whether to accept an expenditure schedule filed by a public utility other than the authority, the commission must consider
- (a) the applicability 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.
- (5.1) In considering whether to accept an expenditure schedule filed by the authority, the commission, in addition to considering the interests of persons in British Columbia who receive or may receive service from the authority, must consider and be guided by
- (a) British Columbia's energy objectives,
  - (b) an applicable integrated resource plan approved under section 4 of the Clean Energy Act,
  - (c) the extent to which the schedule is consistent with the requirements under section 19 of the Clean Energy Act, and

- (d) if the schedule includes expenditures on demand-side measures, the extent to which the demand-side measures are cost-effective within the meaning prescribed by regulation, if any.
- (6) If the commission considers that an expenditure in an expenditure schedule was determined to be in the public interest in the course of determining that a long-term resource plan was in the public interest under section 44.1 (6),
- (a) subsection (5) of this section does not apply with respect to that expenditure, and
  - (b) the commission must accept under subsection (3) the expenditure in the expenditure schedule.

## LIST OF ACROYNMS

2012 LRTP	2012 Long Term Resource Plan
ACEEE	American Council for an Energy-Efficient Economy
Amendment	June 4, 2014 amendment to the DSM Regulation
Application	Approval of Demand Side Management Expenditures for 2015 and 2016
BC Hydro	British Columbia Hydro and Power Authority
BCOAPO	British Columbia Old Age Pensioners' Organization, Disability Alliance BC, Council of Senior Citizens' Organizations of BC and the Tenant Resource and Advisory Centre
BCSEA	BC Sustainable Energy Association and the Sierra Club of British Columbia
BCUC, Commission	British Columbia Utilities Commission
CEA	<i>Clean Energy Act</i>
CEC	Commercial Energy Consumers Association of British Columbia
Celgar	Zellstoff Celgar Limited Partnership
CPR	Conservation Potential Review
CPUC	California Public Utilities Commission
DSM	Demand Side Management
DSM Regulation	Demand-Side Measures Regulation, BC Reg. 326/2008
ECAP	Energy Conservation and Assistance Program
EM&V	Evaluation, Measurement and Verification
FBC	FortisBC Inc.
FBC 2012 RR & ISP	FortisBC Inc. 2012-2013 Revenue Requirements and Review of 2012 Integrated System Plan
FBC 2014 PBR	FortisBC Inc. Application for Approval of a Multi-Year Performance Based Ratemaking Plan for 2014 through 2018

FBC 2014 Stepped and Stand-by	FortisBC Inc. Application for Approval of Stepped and Stand-by Rates for Transmission [Voltage] Customers
FEU	FortisBC Energy Utilities
FEU 2014 PBR	FEU Application for Approval of a Multi-Year Performance Based Ratemaking Plan for 2014 through 2018
GHG	greenhouse gas
ICG	Industrial Customers Group
IR	Information Request
IRP	Integrated Resource Plan
LRMC	long-run marginal cost
LTRP	Long Term Resource Plan
M&E	Monitoring and Evaluation
mTRC	modified Total Resource Cost
PCT	Participant Cost Test
RIM	Rate Impact Measure
SOP	Standing Offer Program
TRC	Total Resource Cost
UCA	<i>Utilities Commission Act</i>
UCT	Utility Cost Test

IN THE MATTER OF  
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

FortisBC Inc.  
Application for Demand Side Management (DSM)  
Expenditures for 2015 and 2016

**EXHIBIT LIST**

<b>Exhibit No.</b>	<b>Description</b>
<i>COMMISSION DOCUMENTS</i>	
A-1	Letter dated August 15, 2014 –Order G-115-14 Establishing a Regulatory Timetable for the review of the FortisBC Inc. Demand Side Management Expenditures for the Period of 2015 and 2016 Application
A-2	Letter dated August 18, 2014 – Appointment of Panel
A-3	Letter dated September 10, 2014 – Commission Information Request No. 1 to FBC
A-4	Letter dated September 18, 2014 – Order G-144-14 Amended Regulatory Timetable
A-5	Letter L-52-14 dated September 19, 2014 – Date Change to Order G-144-14 Amended Regulatory Timetable
<i>COMMISSION STAFF DOCUMENTS</i>	
A2-1	BC Hydro Letter dated August 15, 2014 – Report on Demand-Side Management Activities for the 12 months ending March 31, 2014
<i>APPLICANT DOCUMENTS</i>	
B-1	<b>FORTISBC INC. (FBC)</b> Letter Dated August 11, 2014 - Demand Side Management (DSM) Expenditures for 2015 and 2016 Application
B-2	Letter Dated September 3, 2014 – FBC Submitting Workshop Presentation Material



- B-3 Letter Dated September 17, 2014 – FBC Submitting Request for Extension
- B-4 Letter Dated September 18, 2014 – FBC Response to IR1 Request for Extension - Response to BCOAPO Request
- B-5 Letter Dated September 18, 2014 – FBC Response to BCUC IR No. 1
- B-6 Letter Dated September 18, 2014 – FBC Response to BCOAPO IR No. 1
- B-7 Letter Dated September 18, 2014 – FBC Response to BCSEA IR No. 1
- B-8 Letter Dated September 24, 2014 – FBC Response to CEC IR No. 1
- B-9 Letter Dated September 24, 2014 – FBC Response to Celgar IR No. 1
- B-10 Letter Dated September 24, 2014 – FBC Response to ICG IR No. 1

#### *INTERVENER DOCUMENTS*

- C1-1 **BC MINISTRY OF ENERGY AND MINES (MEM)** Letter Dated August 15, 2014 – Request for Intervener Status by Katherine Muncaster
- C2-1 **BC SUSTAINABLE ENERGY ASSOCIATION AND THE SIERRA CLUB OF BRITISH COLUMBIA (BCSEA)** Letter Dated August 21, 2014 – Request for Intervener Status by William J. Andrews and Thomas Hackney
- C2-2 Letter Dated September 10, 2014 – BCSEA Submitting Information Request No. 1 to FBC
- C2-3 Letter Dated September 17, 2014 – BCSEA Submitting Comments on FBC Extension Request
- C3-1 Commercial Energy Consumers Association of British Columbia (cec) Letter Dated August 27, 2014 – Request for Intervener Status by Christopher Weafer
- C3-2 Letter Dated September 10, 2014 – CEC Submitting Information Request No. 1 to FBC
- C3-3 Letter Dated September 18, 2014 – CEC Submitting Comments on FBC Extension Request

- C4-1 **INDUSTRIAL CUSTOMERS GROUP (ICG)** Letter Dated August 28, 2014 – Request for Intervener Status by Robert Hobbs and Brian Merwin
- C4-2 Letter Dated September 10, 2014 – ICG Submitting Information Request No. 1 to FBC
- C5-1 **ZELLSTOFF CELGAR LIMITED PARTNERSHIP (CELGAR)** Letter Dated September 1, 2014 – Request for Intervener Status by Robert Hobbs and Brian Merwin
- C5-2 Letter Dated September 10, 2014 – Celgar Submitting Information Request No. 1 to FBC
- C6-1 **BC HYDRO AND POWER AUTHORITY (BCH)** Letter Dated September 2, 2014 – Request for Intervener Status by Janet Fraser
- C7-1 **BRITISH COLUMBIA OLD AGE PENSIONERS' ORGANIZATION, DISABILITY ALLIANCE BC, COUNCIL OF SENIOR CITIZENS' ORGANIZATIONS OF BC, AND THE TENANT RESOURCE AND ADVISORY CENTRE (BCOAPO)** Letter Dated September 2, 2014 – Request for Intervener Status by Tannis Braithwaite, Erin Pritchard and Bill Harper
- C7-2 Letter Dated September 10, 2014 – BCOAPO Submitting Information Request No. 1 to FBC
- C7-3 Letter Dated September 17, 2014 – BCOAPO Submitting Comments on FBC Extension Request