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August 15, 2014

Ms. Erica Hamilton
Commission Secretary
British Columbia Utilities Commission
Sixth Floor – 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Ms. Hamilton:

**RE: British Columbia Utilities Commission (BCUC or the Commission)
British Columbia Hydro and Power Authority (BC Hydro)
F2005/F2006 Revenue Requirements Application
BCUC Decision: October 29, 2004; Directive 69 (page 201)
(AMENDED pursuant to 2006 Integrate Electricity Plan and
2006 Long-Term Acquisition Plan
BCUC Decision: May 11, 2006; Directive 16 (page 145-146))**

BC Hydro writes to provide its Report on Demand-Side Management Activities for the 12 months ending March 31, 2014.

For further information, please contact Geoff Higgins at 604-623-4121 or by email at bchydroregulatorygroup@bchydro.com.

Yours sincerely,

Original signed

Janet Fraser
Chief Regulatory Officer

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Enclosure



Report on Demand-Side Management Activities for Fiscal 2014

August 15, 2014

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1 Introduction

This BC Hydro annual report to the British Columbia Utilities Commission (**BCUC**) on Demand Side Management (**DSM**) activities responds to Directive 69 from the BCUC decision on BC Hydro's F2005/F2006 Revenue Requirements Application (**F05/F06 RRA**), Directive 16 from the BCUC decision on BC Hydro's 2006 Integrated Electricity Plan and Long Term Acquisition Plan (**2006 IEP/LTAP**) and Directives 36 and 38 from the BCUC decision on BC Hydro's 2008 LTAP. The report provides information on DSM expenditures, electricity savings, plan performance and mitigation measures for the 2014 fiscal year (**F2014**), or the twelve months ending March 31, 2014.

Directive 69 directed BC Hydro "to provide information to the BCUC for on-going review of Power Smart performance through:

- Executive Summaries of milestone evaluation reports and full final evaluation reports for each program
- Semi-annual reports on DSM activities which, amongst others, will include:
 - „ detailed breakdown of OMA expenses related to support activities carried out within the Power Smart group and in other departments that support the Power Smart organization;
 - „ detailed description of the functions of portfolio level costs and how these costs are allocated to programs;
 - „ summaries of the overall performance of Power Smart with reference to program objectives; and
 - „ variances of fiscal year budgeted and actual deferred capital expenditures and explanation of variances.”

Directive 16 of the 2006 IEP/LTAP Decision directed BC Hydro "to continue to file reports on DSM performance as described in Directive 69 of the

F05/F06 RRA Decision included in Order No. G-96-04 and to file its Semi Annual Demand Side Management Reports in the same format as the June 2005 Report with the following enhancements:

Provide annual and cumulative totals since program inception;

- (i) Express these values on a per unit basis; and
- (ii) Provide the benefit to cost ratios for the three DSM tests.”

Directive 36 of the 2008 LTAP Decision directed BC Hydro to switch from semi-annual to annual DSM performance reports while Directive 38 of the same Decision directed BC Hydro to include in these reports “metrics for each initiative, achievements in relation to milestones, and description of past or planned mitigation measures where warranted. These mitigation measures should include shifting program resources and alternative supply options for each program. Ongoing DSM performance reporting should demonstrate how BC Hydro is continuously pursuing DSM and that specific programs are cost-effective.”

BC Hydro is filing evaluation reports as a separate package. This report addresses the balance of Directives 69 and 16, as well as Directives 36 and 38.

2 Expenditures and Electricity Savings for Fiscal 2014

F2014 was a year in transition for BC Hydro’s DSM initiatives, with B.C. Government approval of the 2013 Integrated Resource Plan (IRP) providing revised direction for the DSM savings activities over the next few years through a reduction in planned expenditures for F2014-F2016, while still preserving the ability to achieve the long-term targets.¹ BC Hydro’s DSM expenditures² in F2014 totalled \$120.3 million with incremental DSM electricity savings totalling 686 GWh/year. This was \$34 million or 22 per cent below the DSM Plan presented in BC Hydro’s F2015 to

¹ Refer to Recommendation Number 1 of the approved 2013 IRP, pages 9-8 to 9-9.

² Comprising all DSM-related deferred operating and specific capital expenditures. DSM operating expenditures are presented in [Table 6](#) of this report.

F2016 Revenue Requirements Rate Application (**F15-F16 RRR**) as the F2014 DSM Forecast. Incremental electricity savings were 93 GWh/year or 12 per cent below the DSM Plan. From a cumulative perspective electricity savings are 135 GWh/year or 7 per cent below the DSM Plan.

[Table 1](#) presents planned and actual DSM expenditures and incremental electricity savings in F2014.

Table 1 Expenditures and Incremental Electricity Savings for F2014

	Expenditures ¹				Incremental Electricity Savings			
	Plan ² \$ 000	Actual \$ 000	Variance \$ 000	%	Plan ² GWh/yr	Actual ³ GWh/yr	Variance GWh/yr	%
Codes and Standards								
Residential	1,798	1,257	(540)	(30%)	123	112	(11)	(9%)
Commercial	772	307	(465)	(60%)	30	27	(3)	(9%)
<u>Industrial</u>	92	64	(28)	(31%)	6	6	(0)	(7%)
Total Codes and Standards	2,661	1,628	(1,033)	(39%)	159	145	(14)	(9%)
Rate Structures								
Residential	720	302	(418)	(58%)	-	14	14	n/a
Commercial & Industrial Distribution	696	409	(287)	(41%)	189	205	16	8%
<u>Industrial Transmission</u>	631	300	(331)	(52%)	39	54	15	37%
Total Rate Structures	2,047	1,011	(1,035)	(51%)	228	272	44	19%
DSM Programs								
<u>Residential Sector</u>								
Behaviour	5,772	4,112	(1,660)	(29%)	31	20	(11)	(36%)
Refrigerator Buy-back	2,463	2,239	(224)	(9%)	9	9	(0)	(0%)
Low Income	2,652	2,185	(467)	(18%)	3	4	0	14%
New Home	2,049	2,706	657	32%	3	4	2	57%
Retail Rebate ⁴	4,692	4,063	(630)	(13%)	9	11	2	25%
Renovation Rebate	1,293	1,264	(30)	(2%)	4	1	(3)	(76%)
Load Displacement	-	-	-	-	-	-	-	n/a
<u>Sector Enabling Activities</u>	1,303	1,013	(290)	(22%)	n/a	n/a	n/a	n/a
<i>Residential Sector Total</i>	20,224	17,582	(2,642)	(13%)	59	49	(10)	(17%)
<u>Commercial Sector</u>								
Power Smart Partner ⁵	40,191	33,784	(6,407)	(16%)	107	80	(27)	(25%)
New Construction	8,393	7,672	(721)	(9%)	16	17	1	9%
Load Displacement	-	-	-	-	-	-	-	n/a
<u>Sector Enabling Activities</u>	1,238	1,176	(62)	(5%)	n/a	n/a	n/a	n/a
<i>Commercial Sector Total</i>	49,822	42,631	(7,191)	(14%)	123	97	(25)	(21%)
<u>Industrial Sector</u>								
Power Smart Partner - Transmission ⁶	36,354	20,437	(15,917)	(44%)	147	81	(65)	(44%)
Power Smart Partner - Distribution	12,397	10,126	(2,271)	(18%)	32	24	(9)	(27%)
Load Displacement	7,089	4,537	(2,551)	(36%)	30	17	(13)	(43%)
Capacity Focused DSM	-	28	28	n/a	-	-	-	-
<u>Sector Enabling Activities</u>	1,228	1,003	(225)	(18%)	n/a	n/a	n/a	n/a
<i>Industrial Sector Total</i>	57,068	36,131	(20,937)	(37%)	209	122	(87)	(42%)
Total Programs	127,114	96,345	(30,770)	(24%)	391	269	(122)	(31%)
Supporting Initiatives								
Public Awareness and Education	7,336	7,018	(318)	(4%)	-	-	-	-
Community Engagement	4,402	4,137	(264)	(6%)	-	-	-	-
Advanced DSM Strategies ⁷	2,712	1,940	(772)	(28%)	-	-	-	-
Information Technology ⁸	-	-	-	-	-	-	-	-
<u>Indirect and Portfolio Enabling</u>	8,233	8,200	(33)	(0%)	-	-	-	-
Supporting Initiatives Total	22,684	21,296	(1,388)	(6%)	-	-	-	-
TOTAL DSM	154,506	120,279	(34,226)	(22%)	778	686	(93)	(12%)

Notes:

¹ Including all DSM-related deferred operating and specific capital expenditures that are relevant for DSM cost-effectiveness.

- ² Plan figures are from BC Hydro's F15-F16 RRRRA, Appendix G. The Plan includes additional DSM-related expenditures of \$2.9 million for In-Home Feedback, \$0.8 million for Information Technology (IT), and \$0.3 million project proponent costs in the Lead by Example program. These costs are relevant for DSM cost-effectiveness because full costs are utilized for cost effectiveness calculations but only direct DSM expenditures are shown in the F15-F16 RRRRA.
- ³ Reported savings from codes and standards, and residential and commercial & industrial distribution rate structures, are based on planned estimates as well as evaluated results.
- ⁴ The Retail Rebate program was created as a result of integrating Appliances, Consumer Electronics and Lighting programs into a single retail offer to align with the DSM Plan in the 2013 IRP.
- ⁵ Power Smart Partner and Product Incentive programs have been combined in order to align with the DSM Plan in the 2013 IRP.
- ⁶ Power Smart Partner Transmission and New Plant Design programs have been combined in order to align with the DSM Plan in the 2013 IRP.
- ⁷ Supporting Initiative name change from Technology Innovation to Advanced DSM Strategies. Effective F2014 Advanced DSM Strategies comprises Technology Innovation and Sustainable Communities expenditures.
- ⁸ In F2014 there were no planned or actual specific capital expenditures for general IT projects.

The following corresponds to the information provided in [Table 1](#) and are explanations for the above variances:

Codes and Standards	
Residential	Expenditures were below plan due to higher than planned leveraging of co-funding with government and utility organizations on standard development work at the Canadian Standards Association as well as a reduction in funding needed for BC Hydro building energy code training as a result of encouraging industry stakeholders to take on the responsibility for development and delivery of training sessions. Reported codes and standards electricity savings were below plan primarily due to an increase in the efficiency assumed in the lighting savings baseline.
Commercial	
Industrial	
Rate Structures	
Residential	Expenditures were below plan due to the residential rate design application moving to a later start date. Electricity savings were above plan due to an adjustment in the savings calculation.
Commercial & Industrial Distribution	Expenditures were below plan due to lower implementation costs as a result of reduced call centre costs and need for training. Also, because there was no Medium General Service and Large General Service regulatory proceedings in F2014, the program incurred lower regulatory and rate design costs, including consulting and legal costs than anticipated. Electricity savings were on plan.
Industrial Transmission	Expenditures were below plan to allow for the release of recommendations arising from the Industrial Electricity Policy Review. Electricity savings were above plan due to greater than expected customer self-generation attributed to the rate structure.

DSM Programs	
Residential Sector	
Behaviour	Expenditures and electricity savings were below plan due to delays in a program specific IT project, reductions in call-handling and labour associated with the more efficient launch of the Energy Visualization Portlet (EVP) and adjustments to the savings associated with EVP.
Refrigerator Buy-Back	Expenditures and electricity savings were approximately on plan.
Low Income	Expenditures were below plan due to slightly lower participation than planned for the more advanced offer and unanticipated partner funding. Electricity savings were slightly above plan due primarily to higher savings from energy savings kits as a result of changes to customize for apartments vs. detached homes.
New Home	Expenditures and energy savings were above plan because a cost effective extension was found that would continue supporting further enhancements to the BC Building Code and not forgo the lost opportunity of electricity savings in the new construction market.
Retail Rebate	Expenditures were below plan due to integrating Appliances, Lighting and Consumer Electronics programs into a single retail offer that allowed for additional cost efficiencies. Electricity savings were above plan due primarily to stronger than anticipated sales of LED bulbs, with increased incentive payments being largely offset by reduced advertising expenditures.
Renovation Rebate	Expenditures and electricity savings were below plan due to the program being in a transition year with reduced partner funding, resulting in lower customer incentives and greatly reduced participation.
Load Displacement	No expenditures or electricity savings were planned.
Sector Enabling Activities	Expenditures were below plan primarily due to lower than expected volume in the Home Loan pilot program.
Commercial Sector	
Power Smart Partner	Expenditures and electricity savings were below plan primarily due to lower participation resulting from adjustments made to the offer to manage incentive expenditures.
New Construction	Expenditures were below plan due to some projects not completing as planned and delays in some activities. Electricity savings were above plan due to a higher mix of lower cost projects completing sooner than planned.
Load Displacement	No expenditures or electricity savings were planned.
Sector Enabling Activities	Expenditures were approximately on plan.
Industrial Sector	
Power Smart Partner – Transmission	Expenditures and electricity savings were below plan due to projects being delayed until F2015 and F2016 and one project shifting from incented to customer funded.
Power Smart Partner – Distribution	Expenditures and electricity savings were below plan due to the delay of several projects until F2015 as well as lower than planned participation in lighting, compressed air and refrigeration projects.

Load Displacement	Expenditures and electricity savings were below plan due to one project being delayed until F2015.
Sector Enabling Activities	Expenditures were below plan due to the cancellation or delay of selected enabling activities.
Total Programs	Expenditures and electricity savings were below plan largely because of lower than planned costs in the Industrial Power Smart Partner – Transmission program due to project delays and adjustments made to the offer to manage participation and incentive levels in the Commercial Power Smart Partner program.
Supporting Initiatives	
Public Awareness & Education	Expenditures were approximately on plan.
Community Engagement	Expenditures were approximately on plan.
Advanced DSM Strategies	Expenditures were below plan primarily due to implementing changes to align with the DSM Plan in the 2013 IRP.
Information Technology	No expenditures were planned.
Indirect and Portfolio Enabling Activities	Expenditures were approximately on plan.
Total DSM	Expenditures were 22 per cent and electricity savings 12 per cent below plan primarily due to project delays in the Industrial Power Smart Partner – Transmission program and adjustments made to the offer to manage participation and incentive levels in the Commercial Power Smart Partner program.

3 Expenditures to Date

BC Hydro’s DSM expenditures from F2013 through F2014 totalled \$270.4 million.

[Table 2](#) presents DSM expenditures from April 1, 2012 to March 31, 2014.³

³ Comprising all DSM deferred operating and specific capital expenditures that are relevant for DSM cost-effectiveness.

Table 2 Expenditures since F2013

	F2013 (\$ 000)	F2014 (\$ 000)	Total (\$ 000)
Codes and Standards			
Residential	1,323	1,257	2,581
Commercial	245	307	551
<u>Industrial</u>	<u>47</u>	<u>64</u>	<u>110</u>
Total Codes and Standards	1,615	1,628	3,242
Rate Structures			
Residential	330	302	632
Commercial & Industrial Distribution	557	409	966
<u>Industrial Transmission</u>	<u>407</u>	<u>300</u>	<u>707</u>
Total Rate Structures	1,294	1,011	2,305
DSM Programs			
<i><u>Residential Sector</u></i>			
Behaviour	4,419	4,112	8,532
Refrigerator Buy-back	3,754	2,239	5,994
Low Income	3,040	2,185	5,225
New Home	2,321	2,706	5,027
Retail Rebate ¹	9,141	4,063	13,204
Renovation Rebate	3,636	1,264	4,900
Load Displacement	-	-	-
<u>Sector Enabling Activities</u>	<u>1,220</u>	<u>1,013</u>	<u>2,233</u>
<i>Residential Sector Total</i>	<i>27,532</i>	<i>17,582</i>	<i>45,115</i>
<i><u>Commercial Sector</u></i>			
Power Smart Partner ²	42,472	33,784	76,256
New Construction	8,680	7,672	16,352
Load Displacement	-	-	-
<u>Sector Enabling Activities</u>	<u>1,100</u>	<u>1,176</u>	<u>2,276</u>
<i>Commercial Sector Total</i>	<i>52,252</i>	<i>42,631</i>	<i>94,883</i>
<i><u>Industrial Sector</u></i>			
Power Smart Partner - Transmission ³	18,146	20,437	38,584
Power Smart Partner - Distribution	12,397	10,126	22,523
Load Displacement	10,009	4,537	14,546
Capacity Focused DSM	-	28	28
<u>Sector Enabling Activities</u>	<u>1,015</u>	<u>1,003</u>	<u>2,018</u>
<i>Industrial Sector Total</i>	<i>41,567</i>	<i>36,131</i>	<i>77,699</i>
Total Programs	121,352	96,345	217,696
Supporting Initiatives			
Public Awareness and Education	7,235	7,018	14,254
Community Engagement	7,232	4,137	11,369
Advanced DSM Strategies ⁴	1,863	1,940	3,803
Information Technology	145	-	145
<u>Indirect and Portfolio Enabling</u>	<u>9,386</u>	<u>8,200</u>	<u>17,586</u>
Supporting Initiatives Total	25,861	21,296	47,157
Total DSM	150,121	120,279	270,400

Notes:

- ¹ The Retail Rebate program was created as a result of integrating Appliances, Consumer Electronics and Lighting programs into a single retail offer to align with the DSM Plan in the 2013 IRP.
- ² Power Smart Partner and Product Incentive programs have been combined in order to align with the DSM Plan in the 2013 IRP.
- ³ Power Smart Partner Transmission and New Plant Design programs have been combined in order to align with the DSM Plan in the 2013 IRP.
- ⁴ Supporting Initiative name change from Technology Innovation to Advanced DSM Strategies. Effective F2014 Advanced DSM Strategies comprises Technology Innovation and Sustainable Communities expenditures.

4 Plan Performance

The 2013 IRP provided the revised baseline for DSM savings activities beginning in F2013. BC Hydro's DSM electricity savings since F2013 totalled 1,898 GWh/year at March 31, 2014, which equates to 93 per cent of the planned savings of 2,033 GWh/yr in the F15-F16 RRRRA. [Table 3](#) presents actual cumulative savings as a percentage of plan in F2013 to F2014.

Table 3 Cumulative Electricity Savings since April 1, 2012

Actual as a Percentage of Plan ¹	
	F2014
Codes and Standards	
Residential	93%
Commercial	76%
<u>Industrial</u>	<u>84%</u>
Total Codes and Standards	89%
Rate Structures	
Residential	111%
Commercial & Industrial Distribution	103%
<u>Industrial Transmission</u>	<u>112%</u>
Total Rate Structures	105%
DSM Programs	
<u>Residential Sector</u>	
Behaviour	70%
Refrigerator Buy-back	101%
Low Income	106%
New Home	122%
Retail Rebate ²	104%
Renovation Rebate	76%
Load Displacement	<u>n/a</u>
<i>Residential Sector Total</i>	91%
<u>Commercial Sector</u>	
Power Smart Partner ³	107%
New Construction	103%
<u>Load Displacement</u>	<u>n/a</u>
<i>Commercial Sector Total</i>	107%
<u>Industrial Sector</u>	
Power Smart Partner - Transmission ⁴	68%
Power Smart Partner - Distribution	92%
<u>Load Displacement</u>	<u>61%</u>
<i>Industrial Sector Total</i>	70%
Total Programs	85%
Total DSM	93%

Notes:

- ¹ Reported savings for codes and standards and rates structures are based on planned estimates as well as evaluated results.
- ² The Retail Rebate program was created as a result of integrating Appliances, Consumer Electronics and Lighting programs into a single retail offer to align with the DSM Plan in the 2013 IRP.
- ³ Power Smart Partner and Product Incentive programs have been combined in order to align with the DSM Plan in the 2013 IRP.
- ⁴ Power Smart Partner Transmission and New Plant Design programs have been combined in order to align with the DSM Plan in the 2013 IRP.

The DSM electricity savings presented in [Table 3](#) have been achieved at an average net levelized utility cost of -\$2 per MWh. [Table 4](#) presents the net levelized utility cost of actual DSM electricity savings achieved from April 1, 2013 through March 31, 2014. See footnote 1 to [Table 4](#) for a definition of “net levelized utility cost”.

Table 4 Utility Cost of Electricity Savings: F2013 to F2014

	Net Levelized Utility Cost (\$/MWh) ¹
Codes and Standards	
Residential	-20
Commercial	-18
<u>Industrial</u>	<u>-8</u>
Total Codes and Standards	-19
Rate Structures	
Residential	-14
Commercial & Industrial Distribution	-8
<u>Industrial Transmission</u>	<u>-5</u>
Total Rate Structures	-9
Programs	
<i><u>Residential Sector</u></i>	
Behaviour	22
Refrigerator Buy-back	37
Low Income	66
New Home	30
Retail Rebate ²	16
Renovation Rebate	12
Load Displacement	n/a
<u>Sector Enabling Activities</u>	<u>n/a</u>
<i>Residential Sector Total</i>	26
<i><u>Commercial Sector</u></i>	
Power Smart Partner ³	27
New Construction	36
Load Displacement	n/a
<u>Sector Enabling Activities</u>	<u>n/a</u>
<i>Commercial Sector Total</i>	29
<i><u>Industrial Sector</u></i>	
Power Smart Partner - Transmission ⁴	27
Power Smart Partner - Distribution	28
Load Displacement	12
Capacity Focused DSM	n/a
<u>Sector Enabling Activities</u>	<u>n/a</u>
<i>Industrial Sector Total</i>	23
Total Programs	26
Rate Structures and Programs	4
Total DSM	-2

Notes:

- ¹ Net levelized utility cost is calculated by subtracting capacity benefits from gross utility costs and then dividing the resulting net utility costs by electricity savings. A negative net levelized utility cost means that the subtracted capacity benefits exceed gross utility costs.
- ² The Retail Rebate program was created as a result of integrating Appliances, Consumer Electronics and Lighting programs into a single retail offer to align with the DSM Plan in the 2013 IRP.
- ³ Power Smart Partner and Product Incentive programs have been combined in order to align with the DSM Plan in the 2013 IRP.
- ⁴ Power Smart Partner Transmission and New Plant Design programs have been combined in order to align with the DSM Plan in the 2013 IRP.

[Table 5](#) presents Total Resource Cost Test benefit cost-ratios of actual DSM electricity savings achieved from April 1, 2013 through March 31, 2014. [Table 5](#) shows the Total Resource Cost Test benefit-cost ratios for the Total Resource Cost test and the Total Resource Cost test as modified by the Demand Side Management Regulation, B.C. Reg. 326/2008 as amended by B.C Reg. 228/2011.

Table 5 Benefit Cost Ratios of Electricity Savings: F2013 to F2014

	Benefit Cost Ratios			
	Utility Test	Total Resource Cost Test	Total Resource Cost Test as modified by DSM Regulation ¹	Ratepayer Impact Measure Test ²
Codes and Standards				
Residential	273.0	7.7	9.4	1.5
Commercial	258.5	4.6	5.3	1.7
<u>Industrial</u>	<u>210.8</u>	<u>63.1</u>	<u>75.1</u>	<u>2.2</u>
Total Codes and Standards	268.5	7.1	8.7	1.6
Rate Structures				
Residential	52.7	52.7	61.6	1.3
Commercial & Industrial Distribution	56.5	56.5	66.9	1.2
<u>Industrial Transmission</u>	<u>27.5</u>	<u>2.9</u>	<u>4.7</u>	<u>0.9</u>
Total Rate Structures	55.4	45.3	53.8	1.2
Programs				
<u>Residential Sector</u>				
Behaviour	2.9	3.8	4.7	0.9
Refrigerator Buy-back	2.5	3.3	3.8	0.8
Low Income ³	1.4	1.6	1.6	0.7
New Home	2.5	1.6	1.8	1.0
Retail Rebate ⁴	3.6	3.2	3.7	1.1
Renovation Rebate	4.2	1.5	1.6	1.1
Load Displacement	n/a	n/a	n/a	n/a
<u>Sector Enabling Activities</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
<i>Residential Sector Total</i>	2.9	2.4	2.7	0.9
<u>Commercial Sector</u>				
Power Smart Partner ⁵	3.4	2.7	3.2	1.1
New Construction	2.5	1.5	1.7	0.9
Load Displacement	n/a	n/a	n/a	n/a
<u>Sector Enabling Activities</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
<i>Commercial Sector Total</i>	3.2	2.4	2.8	1.0
<u>Industrial Sector</u>				
Power Smart Partner - Transmission ⁶	3.2	2.1	2.5	1.1
Power Smart Partner - Distribution	3.2	1.8	2.2	1.0
Load Displacement	6.4	4.8	5.7	1.8
Capacity Focused DSM	n/a	n/a	n/a	n/a
<u>Sector Enabling Activities</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
<i>Industrial Sector Total</i>	3.7	2.4	2.9	1.2
Total Programs	3.3	2.4	2.9	1.1
Rate Structures and Programs	8.5	6.1	7.3	1.2
Total DSM	11.5	6.4	7.6	1.2

Notes:

- ¹ In keeping with the DSM Regulation, the avoided cost of natural gas is valued at 50 per cent of BC Hydro's long run marginal cost of acquiring electricity generated from clean or renewable resources in B.C. and non-energy benefits are valued at 15 per cent of electricity and natural gas benefits.
- ² While subsection 4(6) of the DSM Regulation precludes the use of the Ratepayer Impact Measure Test in determining cost-effectiveness of a demand-side measure, this benefit cost ratio is included in the table consistent with Directive 42 from the BCUC decision on BC Hydro's 2008 LTAP.
- ³ The Total Resource Cost Test benefit-cost ratio for the Low Income program includes a 30 per cent adder to program benefits, rather than a 15 per cent value for non-energy benefits, in keeping with the DSM Regulation.
- ⁴ The Retail Rebate program was created as a result of integrating Appliances, Consumer Electronics and Lighting programs into a single retail offer to align with the DSM Plan in the 2013 IRP.
- ⁵ Power Smart Partner and Product Incentive programs have been combined in order to align with the DSM Plan in the 2013 IRP.
- ⁶ Power Smart Partner Transmission and New Plant Design programs have been combined to align with the DSM Plan in the 2013 IRP.

5 Mitigation Measures

[Table 3](#) indicates that most DSM initiatives are on or above plan in terms of cumulative electricity savings in F2014 while [Table 5](#) indicates that the portfolio has delivered electricity savings at a substantially lower cost than new electricity supply. Based on the experience gathered over the past few years through initiative tracking, the following are mitigation measures that have been undertaken or are planned for the future.

Codes and Standards	
Residential	Cumulative electricity savings in F2014 were below plan. BC Hydro will manage risk by tracking Codes & Standards progress against a number of milestones or indicators to anticipate savings shortfalls or identify trends that may trigger the need for saving adjustments to the DSM Plan.
Commercial	
Industrial	
Rate Structures	
Residential	Cumulative electricity savings in F2014 were approximately on plan.
Commercial & Industrial Distribution	
Industrial Transmission	
DSM Programs	
Residential Sector	
Behaviour	Cumulative electricity savings in F2014 were below plan. Once the program-specific IT project is completed in F2015, program promotion will be re-instituted to drive higher program participation.
Refrigerator Buy-Back	Cumulative electricity savings in F2014 were approximately on plan.
Low Income	Cumulative electricity savings in F2014 were approximately on plan.

New Home	Cumulative electricity savings in F2014 were above plan. No mitigation measures are warranted.
Retail Rebate	Cumulative electricity savings in F2014 were approximately on plan.
Renovation Rebate	Cumulative electricity savings in F2014 were below plan. Following program re-launch in F2015 BC Hydro and Fortis BC will increase promotional efforts and work closely with BC's home renovation industry to increase program participation.
Load Displacement	No electricity savings were planned in F2014.
Commercial Sector	
Power Smart Partner	Cumulative electricity savings in F2014 were approximately on plan. Electricity savings have increased slightly relative to plan in response to program improvements and strong trade ally support.
New Construction	Cumulative electricity savings in F2014 were approximately on plan.
Load Displacement	No electricity savings were planned in F2014.
Industrial Sector	
Power Smart Partner – Transmission	Cumulative energy savings were below plan in F2014 due to project delays. No short-term mitigation measures are being contemplated as the program is expected to recover the energy savings over the mid-term period.
Power Smart Partner – Distribution	Cumulative electricity savings were approximately on plan in F2014. No mitigation measures are warranted as planned cumulative electricity savings are expected to be achieved.
Load Displacement	Cumulative energy savings were below plan in F2014 due to the delay of one project. No mitigation measures are warranted as planned cumulative electricity savings are expected to be achieved. Delays in load displacement projects are possible due to the long lead times for equipment delivery, installation and commissioning.

6 Operating Expenditures for Fiscal 2014

BC Hydro's DSM operating expenditures in F2014 totalled \$531,970.⁴ [Table 6](#) presents DSM operating expenditures in F2014.

Table 6 Operating Expenditures for Fiscal 2014

	(\$000)
Labour	403
Consultants/Contractors/Temp Labour	14
ABS Services	23
Other	92
Total	532

⁴ DSM operating expenditures are not included in earlier tables.

7 Allocation of Supporting Initiative Costs to Programs⁵

This section describes how supporting initiative costs are allocated to programs for the purpose of cost test calculations.

In keeping with Directive 61 from the BCUC decision on the F05/F06 RRA, when calculating levelized costs and benefit-cost ratios for this report, supporting initiative costs are allocated to DSM programs and rate structures based on their share of DSM electricity savings in F2018. For example, rate structures and programs are forecast to save roughly 4,508 GWh/year in F2018, so a program that is forecast to save 45 GWh/year in F2018 represents one per cent of the total. In turn, one per cent of supporting initiative costs would be allocated to that program in each year when calculating the program's levelized cost or benefit-cost ratio.

⁵ A description of supporting initiatives is available in the F12-F14 RRA (Appendix II, Attachment 4).