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February 23, 2006

Mr. Robert J. Pellatt  
Commission Secretary  
British Columbia Utilities Commission  
Sixth Floor – 900 Howe Street  
Vancouver, BC V6Z 2N3

Dear Mr. Pellatt:

**RE: British Columbia Hydro and Power Authority (BC Hydro)  
2004/05 to 2005/06 Revenue Requirement Application  
British Columbia Utilities Commission (Commission)  
Decision – October 29, 2004; Directive 69 (page 201)**

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This letter informs the Commission of BC Hydro's compliance with the second part of Directive 69:

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

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 Power Smart organizations;
- 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 deferral capital expenditures and explanation of variances.

Attached is the Semi-Annual Report on Demand-Side Management Activities covering the period from April 2005 through September 2005.

Yours sincerely,



Joanna Sofield  
Chief Regulatory Officer

Enclosure (1)



# **Semi-Annual Report on Demand-Side Management Activities**

**February 2006**

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## 1. Introduction

This BC Hydro semi-annual report to the British Columbia Utilities Commission (BCUC) on demand side management (DSM) activities responds to directive 69 from the BCUC's decision on BC Hydro's 2004/05 and 2005/06 Revenue Requirements Application. The report provides information on DSM capital expenditures, operations, maintenance and administration (OMA) expenditures, program performance and portfolio-level activities, for the period April through September 2005.

Directive 69 directed BC Hydro "to provide information to the Commission 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 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."

BC Hydro is filing milestone and evaluation reports as a separate package. This report addresses the balance of directive 69.

## 2. Deferred Capital Expenditures

In the first half of BC Hydro's 2005/06 fiscal year (F2006), DSM deferred capital expenditures totalled \$49.0 million, or \$34.7 million below plan from BC Hydro's 2005 Resource Expenditure and Acquisition Plan (REAP). Program activity and associated expenditures are expected to increase in the second half of the fiscal year, which will decrease the plan-to-actual variance by fiscal year end. Table 1 presents planned and actual deferred capital expenditures by program during the period from April through September, 2005.

**Table 1. DSM Deferred Capital Expenditures in First Half of F2006 (\$ 000)**

	Plan	Actual	Variance	%
<b>Energy Efficiency</b>				
<b>Industrial Sector</b>				
Power Smart Partners	12,392	1,541	-10,851	-88%
High Performance Buildings	257	12	-245	n/a
Sector Enabling Activities	<u>310</u>	<u>102</u>	<u>-208</u>	<u>-67%</u>
Sector Total	12,959	1,655	-11,304	-87%
<b>Commercial/Gov't Sector</b>				
Power Smart Partners	3,088	1,916	-1,172	-38%
Schools, Univ., Coll. & Hosp.	3,423	832	-2,591	-76%
Product Incentive	1,850	489	-1,361	-74%
Small Business CFL	0	8	8	n/a
High Performance Buildings	1,015	96	-919	-91%
Traffic Light	8	3	-5	-59%
Lighting Redesign	2,229	3	-2,226	-100%
Sector Enabling Activities	<u>310</u>	<u>361</u>	<u>51</u>	<u>16%</u>
Sector Total	11,923	3,709	-8,215	-69%
<b>Residential Sector</b>				
Compact Fluorescent Lighting	1,218	156	-1,062	-87%
Refrigerator Buy-Back	515	1,668	1,153	224%
Seasonal Light Emitting Diode	365	159	-206	-56%
New Home	404	37	-367	-91%
Fuel Substitution	812	9	-803	-99%
Renovation Rebate	301	254	-47	-16%
Variable Speed Motors	114	2	-112	-98%
Sector Enabling Activities	<u>152</u>	<u>44</u>	<u>-108</u>	<u>-71%</u>
Sector Total	3,881	2,328	-1,553	-40%
<b>Total</b>	<b>28,763</b>	<b>7,692</b>	<b>-21,071</b>	<b>-73%</b>
<b>Load Displacement</b>	46,719	34,349	-12,370	-26%
<b>Portfolio Level Costs</b>				
Indirect/Portfolio Enabling	4,369	4,169	-200	-5%
Public Awareness & Comm.	<u>3,837</u>	<u>2,773</u>	<u>-1,064</u>	<u>-28%</u>
<b>Total</b>	<b>8,206</b>	<b>6,942</b>	<b>-1,264</b>	<b>-15%</b>
<b>Total DSM</b>	<b>83,688</b>	<b>48,983</b>	<b>-34,705</b>	<b>-41%</b>

The following are variance explanations for the above figures.

<b>Energy Efficiency</b>	
<b>Industrial Sector</b>	
Power Smart Partners	Expenditures were below plan due to a slowdown in program activity caused by the pending introduction of new transmission service (stepped) rates in April 2006, which has caused many large industrial customers to put their energy efficiency investments on hold.
High Performance Buildings	Expenditures were below plan due to the program being launched later than originally planned. Program development took longer than anticipated due to the complexity of the new construction industry. This longer timeline was justified in order to produce a program concept that would appeal to the target market and garner desired levels of participation.
Sector Enabling Activities	Expenditures were below plan due to lower than planned activity and the plan being straight-lined whereas more activity and costs occur in the second half of the fiscal year.
<b>Commercial/ Government Sector</b>	
Power Smart Partners	Expenditures were below plan due to lower than planned incentive payments to participating customers as a result of customer projects being more cost-effective than planned.
Schools, Univ., Colleges & Hospitals	Expenditures were below plan due to lower than anticipated program activity as a result of this program transitioning into more complex customer projects requiring longer identification and implementation timelines. Further, the plan was straight-lined when more project activity and costs are expected to occur in the second half of the fiscal year than in the first half.
Product Incentive	Expenditures were below plan due to lower than anticipated program activity and customer participation than previously forecasted. Program adjustments, including changes to the application process and incentive levels, are under consideration to increase participation.
High Performance Buildings	Expenditures were below plan due to the program being launched later than originally planned. Program development took longer than anticipated due to the complexity of the new construction industry. This longer timeline was justified in order to produce a program concept that would appeal to the target market and garner desired levels of participation.
Lighting Redesign	Expenditures were below plan due to the program not being

	launched as originally planned. After further experience and analysis, the program concept was found to be not cost-effective.
Sector Enabling Activities	Expenditures were above plan due to greater than planned activity.
<b>Residential Sector</b>	
Compact Fluorescent Lighting	Expenditures were below plan because the past year's activities have had a substantial impact on barriers, primarily bulb costs and availability. Also, expenditures on the 2005 fall lighting campaign ramped up later than planned.
Refrigerator Buy-Back	Expenditures were above plan due to the program continuing beyond its expected end date. Participation has remained steady when it was expected to decline after a few years in market. Continuation of the program is cost-effective.
Seasonal Light Emitting Diode	Expenditures were below plan due to expenditures on the 2005 fall lighting campaign ramping up later than anticipated. This program is inactive during the summer and ramps up in the fall.
New Home	Expenditures were below plan due to a delay in launching the program's next phase of activity, which will involve numerous partners and required time to align strategies and harmonize offers.
Fuel Substitution	Expenditures were below plan due to a reduction in the program's geographic scope to focus on Vancouver Island and the program's next phase launching later than planned in conjunction with partner agencies that administer the bulk of the program to which BC Hydro is a contributing partner.
Renovation Rebate	Expenditures were slightly below plan. Activity is expected to increase in the second half of the fiscal year.
Variable Speed Motors	Expenditures were below plan due to the program's next phase not launching until the fall when the plan was straight-lined. The launch was dependent on partner agencies that administer the bulk of the program to which BC Hydro is a contributing partner.
Sector Enabling Activities	Expenditures were below plan as major activities, such as the introduction of an in-home checklist and advertising for the online home analysis tool, were shifted to the latter half of the fiscal year.
<b>Portfolio Total</b>	Expenditures were below plan due to a combination of some programs seeing less activity than planned and the next phases of some programs launching later than planned.

<p><b>Load Displacement</b></p> <p>Load Displacement Program</p>	<p>Expenditures were below plan due to the delay in completing the Canfor load displacement project, which affected the timing of the incentive payment. The project came online in August at less than full output, so the incentive payment was not fully paid out. The project is expected to reach full output by fiscal year end, at which time the balance of the incentive payment will be booked.</p>
<p><b>Portfolio Level Costs</b></p> <p>Indirect/Portfolio Enabling Activities</p> <p>Public Awareness &amp; Communication</p>	<p>Expenditures were on plan.</p> <p>Expenditures were below plan due to the plan being straight-lined whereas more costs occur in the second half of the year than the first half.</p>
<p><b>Total DSM</b></p>	<p>Expenditures were below plan due to a combination of some programs seeing less activity than planned, the next phases of some programs launching later than planned and more activity occurring in the second half of the fiscal year than the first half.</p>

### 3. Operations, Maintenance and Administration Expenditures

In the first half of F2006, DSM Operations, Maintenance and Administration (OMA) expenditures totalled \$1.5 million. Table 2 presents DSM OMA expenditures by resource during the period of April through September, 2005.

**Table 2. DSM OMA Expenditures in First Half of F2006 (\$ 000)**

ABS Services	123
Buildings & Equip	59
External Recoveries	0
Internal Svcs Received	258
Labour	731
Materials	41
Services	300
<b>Total*</b>	<b>1,513</b>

\* Total does not add due to rounding.

## 4. Program Performance

At September 30, 2005 – the mid-point of F2006 – cumulative DSM electricity savings since the inception of the current round of DSM in F2002 totalled 1,761 GWh per year, representing 48 percent of BC Hydro’s F2012 target of 3,644 GWh per year from the 2005 REAP. Table 3 provides these figures by program.

**Table 3. Cumulative DSM Electricity Savings at Mid-Point of F2006 (GWh/yr)**

	<b>Electricity Savings</b>	<b>F2012 Target</b>	<b>% of Target</b>
<b>Energy Efficiency</b>			
<b>Industrial Sector</b>			
Power Smart Partners	488	1,355	36%
High Performance Buildings	<u>1</u>	<u>52</u>	<u>1%</u>
Sector Total	489	1,408	35%
<b>Commercial/Government Sector</b>			
Power Smart Partners	230	305	76%
Schools, Univ., Colleges & Hospitals	85	93	92%
Product Incentive	17	97	17%
Small Business CFL	8	9	83%
High Performance Buildings	5	56	8%
Traffic Light	26	30	88%
Lighting Redesign	<u>0</u>	<u>43</u>	<u>0%</u>
Sector Total	371	632	59%
<b>Residential Sector</b>			
Compact Fluorescent Lighting	320	305	105%
Refrigerator Buy-Back	73	89	82%
Seasonal Light Emitting Diode	28	28	100%
New Home	22	68	32%
Fuel Substitution	3	164	2%
Renovation Rebate	5	33	14%
Variable Speed Motors	<u>2</u>	<u>11</u>	<u>16%</u>
Sector Total	453	698	65%
<b>Total</b>	1,312	2,738	48%
<b>Load Displacement</b>	449	906	50%
<b>Total DSM</b>	1,761	3,644	48%

## 5. Portfolio-Level Activities

This section describes how portfolio-level costs are allocated to programs and describes portfolio-level activities.

### Allocation of Portfolio-level Costs to Programs

In keeping with directive 61 from the BCUC's decision on BC Hydro's 2004/05 and 2005/06 Revenue Requirements Application, portfolio-level costs are allocated to DSM programs based on their share of total DSM electricity savings forecast in F2012. For example, the total DSM portfolio is forecast to save roughly 3,600 GWh per year in F2012, so a program that is forecast to save 36 GWh per year in F2012 represents 1% of the total. In turn, 1% of portfolio-level costs would be allocated to that program in each year.

### Indirect and Portfolio Enabling Activities

Indirect and portfolio enabling activities support BC Hydro's DSM programs but are not directly attributable to specific programs, and are also not related to public awareness and communication activities. Costs are incurred to provide the overall organization and infrastructure essential to ensure due diligence, quality assurance and effective management for this type and complexity of investment. Activities associated with these costs include:

**General Management:** A portion of the business unit's general management of people and resources, and portfolio-level planning activities related to DSM.

**Process and Policy:** Support activities related to the development and administration of general processes, policies, and procedures related to DSM. Examples include measurement and verification protocols; energy study processes; business/ financial audits; credit policy; and risk policy.

**Tracking and Reporting:** Development and production of management reports including, but not limited to, the DSM Monthly Tracking Report (that details all monthly costs and energy related to specific programs and sectors) and the DSM Annual Report (that will be produced for regulatory reporting purposes).

**General Administration:** A portion of general administrative functions including costs associated with administrative assistants, photocopy and fax equipment, office supplies and building security, rent and concessions, as well as a portion of labour for individual timesheets, expense reporting and benefits administration.

**DSM-related Training and Education:** Costs associated with individual employee training related to DSM, including technical seminars and attendance at conferences.

**Computer Costs:** A portion of costs related to computing including individual network / LAN connections, e-mail messaging services, data storage, and general IT support.

**Quality Assurance:** The Quality Assurance department reviews, develops and recommends policies, processes, procedures and standards that assure the quality and integrity of DSM programs. The group advises on design and implementation issues, undertakes reviews to

ensure that standards are observed, and carries out studies to support the DSM programs. It further serves to build credibility, save time and ensure consistency in the design and implementation of programs.

**DSM Information Systems:** Development, maintenance, administration and management of the DSM information systems. The DSM information systems contain a variety of operating systems, within a real-time data warehouse. The prime component is Converge, which includes the business customers' contact management system, campaign management tools, opportunity/sales management systems, energy savings reporting systems, etc. Within the contact management system the users can see the hierarchy of Key Account Manager portfolios, the "parent" companies or customers, the subsidiary companies, their sites, the contacts at those sites, and all activities and DSM opportunities that are connected with those sites.

**Delivery Tracking System:** This is for the development, maintenance, administration and management of the Delivery Tracking System (DTS). The purpose of the DTS is to track all Power Smart Partner and other DSM projects from application submission to the end of the contract obligation. Technical, financial and process due diligence is applied and the data is tracked at a facility/site level. The system supplies Converge with savings data for the monthly DSM reporting, load forecasting and corporate reporting. Financial commitments are monitored by the Incentives and Rates group and the Marketing group extracts information on an as needed basis.

## **Public Awareness and Communication**

The objective of the Public Awareness and Communication initiative is to develop and foster a conservation culture in BC that leads customers to make a dramatic and permanent reduction in electricity intensity. It will accomplish this by raising awareness of the importance of energy efficiency among the customers of today and tomorrow.

Awareness of how to improve energy efficiency and the impacts that are associated with various actions is one of the major barriers to customers' investments in energy efficiency and energy conserving measures and the adoption of energy conserving practices and behaviours. This series of initiatives is designed to inform customers of how they can save energy and increase the response to and participation in all DSM programs. This initiative will reach all customer sectors and benefit business and residential programs alike. The initiative is designed to: Provide useful and tangible information about DSM and energy efficiency to all customers through community outreach and other communications initiatives such as the Internet, earned media and advertising.

Educate all British Columbians about the role that DSM and energy efficiency plays in BC Hydro's electricity acquisition strategy and increase participation in DSM programs.  
Instil a conservation ethic in customers of today and tomorrow by delivering energy efficiency educational programs to schools in all 55 school districts within the BC Hydro service area.

In order to achieve the levels of participation in DSM activities targeted, BC Hydro must continue to engage the public in all customer sectors to emphasize the importance of DSM with a platform of awareness, information delivery and education. This multi-channel initiative will position and entrench energy efficiency as a way of life and a way of doing business, a critical component of BC Hydro's electricity acquisition strategy. There are eight key components to this initiative:

**Power Smart Outreach:** The Power Smart Outreach group, formerly known as the Power Smart Youth Team, is an effective, cost-efficient grassroots channel for delivering the DSM message to our customers in a face-to-face manner. The Power Smart Outreach group generates over \$3 million every year in earned media coverage and engages in face-to-face or indirect contact with over one million customers each year through events, festivals and home shows. This outreach activity is an integral component of the Public Awareness and Communication initiative and delivers key messages to the public to influence the purchase of more efficient products. This activity makes a significant contribution to the market transformation objective of the mass-market programs.

**Public Education and Information Advertising:** Advertising is a cost-effective channel to reach the public and customers with frequent and carefully controlled messaging. The advertising campaigns educate and inform customers about the need for electricity conservation and provide tangible ways in which they can do their part. By increasing awareness of DSM under the Power Smart brand (from a current unaided level of 37% to 55% by 2011) and deepening understanding of its importance to all British Columbians, the campaigns will also increase uptake on sector-specific tactical programs. In addition, they will play a major role in raising current program participation levels from 27% overall to 50% (based on BC Hydro tracking research). This support advertising is required to inform the public about BC Hydro's DSM activities and their importance.

**Primary and Secondary School Education:** Reaching approximately 100,000 students in 55 districts and 900 schools, this program aims to reinforce Power Smart messages to school age children, BC Hydro's customers of tomorrow, and to encourage a lifelong commitment to an energy efficiency ethic. The initiative uses a number of complementary components featuring a range of tactics targeting students from K-12. These include behaviour change campaigns, energy audits of schools, as well as interactive electricity games that demonstrate how individual efforts can lead to significant savings. Educating the customers of tomorrow is essential to achieve BC Hydro's long-term DSM objectives.

**Sponsorships and Events:** Sponsorship of and attendance at major sporting and cultural events allow BC Hydro to extend the Power Smart DSM message and brand identity into grassroots, community settings. This multiplies our opportunities to educate customers about electricity conservation, and builds positive brand associations. It also helps reinforce BC Hydro's standing in the community as a committed corporate citizen. This program facilitates a reach (directly and indirectly) of over 1 million British Columbians every year, and is necessary to reinforce the messages to act on executing energy efficient behaviours.

**Media Relations:** Ongoing public relations activities and longer-term media education strategies are all part of the DSM public relations effort. These help ensure high-profile initial coverage and sustained long-term coverage of DSM issues, required to generate over 300 positive media articles each year.

**Internet:** British Columbia has the highest penetration of Internet access in Canada (over 70% and growing) and bchydro.com will experience over 2.5 million visits in F2005 (up nearly 50% from F2004). The web is a perfect channel to support the general and more succinct messages the public will receive through other channels. The Power Smart web pages contain general and product-specific information for residential and business customers, as well as numerous applications to help them evaluate energy savings opportunities in their homes and businesses. This is an essential medium for reaching a large segment of our customer base.

**Key Customer Recognition:** The goal of this initiative is to encourage key customers to adopt Power Smart as an ongoing way of doing business and to reward and recognize customers (outside of the Power Smart Certified program) who demonstrate commitment to DSM. This program is required to provide Key Account Managers with an important tool for facilitating contact with key prospects.

**Customer Benefits:** Customers in all sectors will save electricity and money through a greater understanding of the importance of DSM and receive tangible electricity-saving information. All of the above channels are required to provide customers with information on the role electricity conservation plays in reducing costs and helping the environment, and is designed to prompt action on energy efficient investments and practices.