



Barrie Hydro Distribution Inc.

Conservation and Demand Management Plan 2008 Annual Report

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Table of Contents

1. Introduction	2
2. Lessons Learned.....	3
3. Conclusions.....	4
5. APPENDIX D: Total Life Evaluation of the CDM Plan.....	5

1. Introduction

In the Ontario Energy Board's ("the Board") letter dated February 2nd, 2009, all licensed electricity distributors (LDCs) were instructed to file a 2008 annual report relating its Conservation and Demand Management (CDM) initiatives funded under Third Tranche of Market Adjusted Revenue Requirement (MARR). In February 2005, Barrie Hydro Distribution Inc. (BHDI) received Board approval for \$1,907,855 to initiate its CDM planned activities.

BHDI's CDM plan focused on three areas; its customers, municipal partners, and its plant facility, which encompassed the following ten programs:

1. Building – Control of Lighting & Equipment, Lighting Retrofit, & Building Sealing
2. Building – Peak Shaving/Demand Response Generator Pilot
3. Building – Solar Hot Water Tank Demonstration Project
4. Distribution – System Optimization
5. Business – Power Factor Penalty Awareness
6. Municipal – LED Traffic Lights Pilot
7. Municipal Non- Profit Housing – Electrical Conservation Pilot
8. Residential/Small Business – Electrical Appliance Rebate Pilot
9. Consumer Education & Training
10. Conservation & Demand Management Research

On behalf of BHDI, PowerStream Inc. is pleased to submit this annual CDM report relating to the above CDM programs and budget. In 2007, BHDI exhausted its third tranche budget and as directed by the Board has summarized its 2005 to 2007 program activities in Appendix D of this report.

It should be noted that the Board requested Low Income previously reported under the Residential and/or Commercial columns be reported separately under the Low Income column. While Barrie Hydro did not have any Low Income programs under these sectors, it did engage in a program categorized under the Institutional sector and therefore has reported these in the Low Income column.

2. Lessons Learned

BHDI learned many lessons throughout the life of its third tranche funded CDM plan. At the portfolio level these lessons include:

- Programs directly administered by the LDC as compared to those programs involving other partners could be implemented much more quickly.
- Residential customers seem to have a faster program uptake as demonstrated by the Residential/Small Business – Electrical Appliance Rebate program.
- By 2006, BHDI observed business customers having more awareness and interest in conservation. BHDI also observed that projects involving business/municipalities had the greatest savings potential.

Some of the lessons learned at the program level include:

- **Building – Control of Lighting & Equipment, Lighting Retrofit, & Building Sealing Program:** This program focused on BHDI's administration & operations building at 55 Patterson Road in Barrie. The projects within this program realized a significant TRC value.
- **Building – Peak Shaving/Demand Response Generator Pilot Program:** The intent of this program was to provide load displacement of approximately 281 kW during critical peak times identified by the IESO. Due to the mild winter in 2006 there has not been an occasion to operate the generator during critical peak demand times, however BHDI will continue to watch IESO signals.
- **Business – Power Factor Penalty Awareness Program:** This program involved an education session for some of BHDI's larger customers with poor power factors. It included an understanding of power factors and what can be done to improve power factors. The sessions were well attended but follow up and bill tracking were difficult to determine if customers' power factors improved. In early 2006 the final stage of this program was completed which encompassed training for BHDI staff. The training enabled staff to provide ongoing support to customers concerning power factor inquiries.
- **Residential/Small Business – Electrical Appliance Rebate Pilot Program:** This program enabled residential and small general service customers that purchased Energy Star qualified appliances to receive an 8% rebate on the cost of those appliances to a maximum of \$200 per account from BHDI. Participation by residential customers exceeded all expectations with interest in a future program. If this program were to continue, appliances with higher energy savings should be targeted.

3. Conclusions

In the first year of program implementation, nearly one third of the total budget was spent designing and developing programs to raise customer awareness, strengthening the efficiency of BHDl's own plant and providing emergency load displacement. This gave BHDl a good understanding of the programs that were working well and the best vehicles by which to deliver them.

In year two, the momentum for BHDl's CDM programs continued to build. Spending in year two was approximately \$825,000, representing approximately 75% of its total CDM Plan budget. While BHDl continued to raise awareness for energy conservation, it also developed the Non – Profit Housing Appliance Replacement Program, the LED Traffic Signal Replacement Program and began its own System Optimization activity.

By the third and final year, BHDl spent the remaining \$482,198 of its \$1,907,855 approved budget. Throughout the life of all its programs, BHDl saw significant accomplishments and gained valuable CDM program experience. As the Province of Ontario continues to foster a 'culture of conservation', this knowledge will give BHDl the unique strength and capability to deliver CDM programs well into the future.

5. APPENDIX D: Total Life Evaluation of the CDM Plan

	⁵ Cumulative Totals Life-to-date	Residential	⁶ Low Income	Institutional	Industrial	LDC System	⁴ Smart Meters	Other #1
Net TRC value (\$):	\$ 1,885,880	\$ 142,241	\$ 29,371	\$ 1,241,931	\$ 0	(\$80,424)		\$582,132
Benefit to cost ratio:	2.45	1.55	1.52	7.54	-	0.88		4.15
Number of participants or units delivered:	187,068	40,301	953	2,921	52	-		143,794
Lifecycle (kWh) Savings:	54,169,901	6,458,502	1,479,218	29,615,174	-	12,875,800		5,220,425
Total kWh saved (kWh):	4,616,820	436,015	159,414	2,363,398	-	515,032		1,302,375
Total peak demand saved (kW):	557.178	41.992	34.477	210.1694	0	91		214.017
Total kWh saved as a percentage of total kWh delivered (%):	0.10%	0.010%	0.004%	0.05%	0.00%	0.01%		0.03%
Peak kW saved as a percentage of LDC peak kW load (%):	0.06%	0.004%	0.004%	0.02%	0.00%	0.01%		0.02%
¹ Gross C&DM expenditures (\$):	\$ 1,907,855	\$ 190,785	\$ 397,436	\$ 806,127	\$ 26,912	\$ 671,268		\$ 212,763
² Expenditures per kWh saved (\$/kWh):	\$ 0.035	\$ 0.03	\$ 0.27	\$ 0.03		\$ 0.05		\$ 0.04
³ Expenditures per kW saved (\$/kW):	\$ 3,424	\$ 4,543	\$ 11,528	\$ 3,836		\$ 7,377		\$ 994

	2005	2006	2007	Total
Utility discount rate (%):	6.81%	6.81%	6.81%	
Total kWh Delivered	1,485,097,400	1,476,305,800	1,508,322,700	4,469,725,900
System Peak	313,186	324,449	309,144	946,779

¹ Expenditures are reported on cumulative basis.

² Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate energy savings

³ Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate capacity savings

⁴ Please report spending related to 3rd tranche of MARR funding only. TRC calculations are not required for Smart Meters. Actual expenditures for the total third tranche period need to be reported

⁵ Includes total for the reporting year, plus prior years, if any (for example, 2008 CDM Annual report for third tranche will include 2007, 2006, 2005 and 2004 numbers, if any)

⁶ Includes totals from Low Income programs that fall under Institutional.