Hydro One Networks Inc.
and
Hydro One Brampton Networks Inc.

Conservation and Demand Management Plan

RP-2004-0203 / EB-2004-0533

January 11, 2005

hydro one

Table of Contents

Executive Summary

Purpose of Submission
Hydro One Networks Inc. (Networks) and Hydro One Brampton Networks Inc. (Brampton) seek a final order of the Board for approval of their CDM Plans as well as confirmation that their respective CDM plans satisfy the Minister's condition of a financial commitment to reinvest in CDM initiatives.

Provincial Goal
Networks and Brampton will help advance the Provincial Government's conservation and demand management (CDM) initiative, which has established an overall goal of a five per cent reduction in the Province's energy needs by 2007. Accordingly, their CDM Plans will contribute to reducing energy growth and shifting demand while serving our customers' interests.

MARR Funding for Conservation and Demand Management
Networks anticipates funding in the amount of $ 39.5 million from the next installments of Market Adjusted Rate of Return (MARR) – not including an adjustment for Payments in Lieu of taxes (PILs). Brampton is planning CDM expenditures of $3.2 million also based on the Board-approved after-tax MARR adjustment. This funding will be allocated as follows (numbers may not add exactly due to rounding):

Figure 1.0

Networks	$M	Brampton	$M
Load Management		***Residential***	
• Smart Metering (partial)	14.9	• CFL Promotion	0.5
• TOU Rates Pilot	0.5	• Holiday Lights Trade- in	0.1
• Residential Load Control	4.7	• Customer Education	0.2
• C&I and Farm Load Control	3.5	• Pilots – Load Control --Real-Time Monitoring -- Smart Metering	0.3
Sub-total	23.6	*Sub-total*	1.0
Conservation		***Commercial and Industrial***	
• Low Income Program	4.5	• Power Factor Correction	0.2
• Residential Real-Time Monitoring	1.8	• Technology Demonstration	0.1
• Farm Efficiency	0.8	• Conservation Assets	1.3
• Distribution Loss Reduction	2.0	• Load Control	0.5
• Mass Market Programs	2.1		
Sub-total	11.2	*Sub-total*	2.1
Communication/ Education	1.0	***Utility Efficiency (System Loss Reduction)***	0.1
Program Management and Research	3.7	***Research and Planning***	0.04
Total	**39.5**	**Total**	**3.2**

The smart meter funding above is partial funding, for the initial start-up and first priority implementation of the program. The focus here on smart meters is to advance an

important Provincial initiative. It also helps put in place an enabling platform for CDM activities such as load management. The full metering plan, estimated to be in the several hundred million-dollar range, will be developed after the Board's final plan is presented, expected to be February 15, 2005.

Criteria
The programs are directed at the needs of the customer bases of Networks and Brampton. The former is unique in terms of its extensive Provincial coverage, often over rural regions of low density. In choosing program concepts for development, Networks and Brampton have been using the following criteria:

- Customer Needs – The programs meet the needs of Networks' and Brampton's individual customer bases.
- Benefit Allocation – Benefits arising from the planned initiatives to be distributed across Networks' customer base.
- Benefit Assurance – Potential to realize energy savings and cost of delivery.
- Leveraging Partnerships – Partnerships that will make use of economies associated with greater scale of delivery or existing delivery channels.
- Activities Support Minister's Plans - The preferred concepts or initiatives to fit within the activities identified in the Minister's May 31, 2004, letter to distributors.

Flexibility and Prudence
Networks and Brampton believe that this is a balanced proposal, but acknowledges that the planned activities are still generally at the early conceptual stage. Furthermore, the current dynamic state of the electricity market will necessitate flexibility in program planning and development. Such flexibility will enable Networks and Brampton to respond to customer demand levels and the results from pilot projects so that funds can be re-allocated among programs as needed. Also, final budget estimates will change due to the results of competitive tender processes where used.

Networks and Brampton believe that the most prudent approach to investing the one-time infusion of MARR funds, is one which utilizes pilot projects to test promising technologies and approaches before embarking on a full-scale roll-out. Before a full program is launched, the results of pilot projects will be reviewed for customer acceptance, customer behaviour change, and amount of either energy savings or demand reduction. Until customer results are obtained, it is not possible to establish feasible targets for either kilowatt-hour savings or kilowatt demand reduction. Hence, we consider it premature to establish such program targets at this time.

Cost Effectiveness
Given the current dynamics in Ontario's electricity market, the resulting lack of published system avoided costs, and the fact that the proposed Conservation Bureau has not yet been established, there is currently an inability to apply proposed cost benefit tests that put supply and demand on equal footings. It is expected that the new Ontario Power Authority, the new Conservation Bureau and/or the Board will establish such tests and the associated inputs for 2006 rates.

This plan encompasses a blend of conservation, efficiency and demand management initiatives that fit well with the Minister's vision. Those components have been chosen for their capability to contribute to peak demand reductions within the short planning horizon, as well as to build toward culture change and to lower energy consumption

The detailed program descriptions for Networks and Brampton are contained in Schedules A and B, respectively.

Introduction

Networks and Brampton seek a final order of the Board for approval of their CDM Plans. Networks and Brampton also seek confirmation that their respective CDM plans satisfy the Minister's condition of a financial commitment to reinvest in CDM initiatives. This submission does not include initiatives from Hydro One Remote Communities Inc. (Remotes), which is seeking approval of its CDM plan under a separate filing.

This submission reflects a joint effort between Networks and Brampton in the development of a CDM strategy with co-operative work on research, planning, communications and program support. However, each company is assessing a portfolio of CDM concepts and initiatives which is tailored to its individual customer base to the extent possible. Accordingly, this submission is structured with a set of high-level planning assumptions and considerations in the choice of strategy and programs common to both companies, while Networks' and Brampton's separate portfolios of programs and related expenditures are described in Schedule A and Schedule B, respectively.

Upon the Board's approval of these plans, Networks and Brampton would release work for competitive tender and/or negotiation with product suppliers, delivery channel members, or experts in the field of conservation, efficiency, and demand management as required. The Company has initiated a Request For Qualification during the period June to December 2004 and has assembled a roster of potential collaborators.

Planning Assumptions

Board approval of these plans would enable a total of approximately $42.7 million to fund CDM programs, split between Networks and Brampton as follows.

Networks anticipates CDM funding in the amount of $39.5 million from the next installments of the Market Adjusted Rate of Return (MARR), not including any further adjustment for Payments In Lieu of taxes (PILS).

Brampton has developed a CDM plan whose spending equates with a revenue increase of $3.2 million (which is the MARR increase exclusive of any PILs adjustment).

These spending commitments are a precondition to the Board's approval of applications for rate changes for both Networks and for Brampton. In their applications for March 2005 rate adjustments, both Networks and Brampton will seek an increase in rates for the third stage of MARR and for related PILs. We anticipate that the Board, when authorizing the March 2005 rate increase, will also approve an increase in revenue requirement for PILs.

While the Board has directed that expenditures related to this initial MARR funding be completed by the end of September, 2007, we anticipate that some portion of this funding may be needed through to the end of the year or possibly into 2008.

Our two companies are proposing to follow a pilot project approach to confirm the costs and benefits before full scale programs are initiated. Further, specific criteria which Networks and Brampton are using in their decision-making are identified in the Strategy sections of Schedules A and B.

It is expected that the Conservation Bureau (of the soon to be established Ontario Power Authority) or the Board will develop reliable cost-benefit tests and inputs. These will be incorporated in the updated Distribution Rate Handbook and their use will assist Networks, Brampton and other LDCs in evaluating future programs funded through the 2006 rate review process.

Program Development Considerations

Provincial Goal

The Provincial Government has committed to reducing energy demand in the Province by five per cent by the year 2007. A five percent reduction of Ontario's 26,000 MW summer peak comprises 1,300 MW.

System peak demand is a key driver behind the need for new generation and transmission infrastructure. Energy costs are also highly sensitive to peak demands. We note that the Province of Ontario has in recent years trended towards summer peak rather than winter peak, mainly due to increased air-conditioning. Accordingly, Hydro One's early efforts will include pilot tests of techniques to help manage summer peak.

The following charts in Figure 2.0 below, outline the 2003 energy consumption and summer and winter peak demand for Networks' and Brampton's distribution customer bases for 2003.[1]

Figure 2.0

Networks (Actual for 2003)

Customer	Energy (GWh)		Summer Peak (MW)		Winter Peak (MW)	
Commercial	5,550	(24%)	1,211	(37%)	1,143	(26%)
Industrial	3,042	(13%)	753	(23%)	798	(18%)
Farm	2,419	(11%)	262	(8%)	500	(12%)
Residential	11,701	(52%)	1,047	(32%)	1,895	(44%)
Total	22,711		3,272		4,336	

Brampton (Actual for 2003)

Customer	Energy (GWh)		Summer Peak (MW)		Winter Peak (MW)	
Commercial	1,320	(38%)	232	(35%)	218	(40%)
Industrial	1,170	(34%)	185	(28%)	158	(29%)
Residential	951	(28%)	245	(37%)	169	(31%)
Total	3,441		662		546	

The amount of energy savings or demand reduction actually attainable will depend on a number of external factors, not the least of which are the pricing structures which the OEB has been directed to review. Changes to pricing structures are contemplated for both the commodity and for distribution charges.

Until such factors are in place, and customers have had some experience managing their load and see some savings, and some of the culture change has begun to take hold, Networks and Brampton cannot determine their capability to achieve significant targets.

Customer Energy Use Profile and Load Analysis

Using in-house end-use models and the data and information on hand, the summer and winter peak day profiles by sector and end-use were analyzed. The analysis shows which customer groups and end-uses are major contributors to the summer peaks for

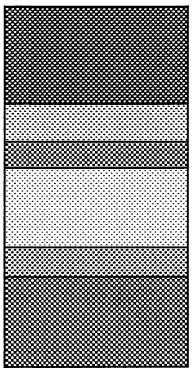
[1] Breakdown between customer sectors is based on assumptions on end-use equipment.

Networks, Brampton and Ontario in total. As noted earlier, the Province of Ontario has trended toward a greater summer peak than winter peak.

The largest components of summer peak demand for Networks and Brampton are air conditioning and lighting. We therefore, are concentrating our early conservation and demand efforts on these key areas of demand, as well as on residential water heating control which has been successfully implemented in Ontario in the past.

Figure 3.0

Networks' All Sector Summer Peak



Air Conditioning - 27%

Refrigeration - 11%

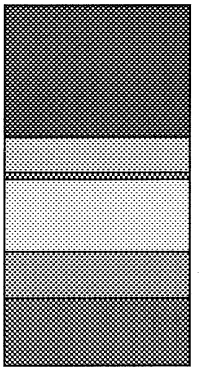
Water Heating - 7%

Lighting - 22%

Motors - 8%

Other - 25%

Provincial All Sector Summer Peak



Air Conditioning - 37%

Refrigeration - 10%

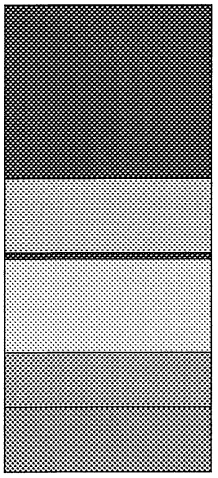
Water Heating - 2%

Lighting - 20%

Motors - 13%

Other - 19%

Brampton's All Sector Summer Peak



Air Conditioning - 37%

Refrigeration - 16%

Water Heating - 1%

Lighting - 20%

Motors -12%

Other - 14%

hydro one Brampton

Schedule B

Hydro One Brampton Networks Inc.

Conservation and Demand Management Plan

RP-2004-0203 / EB-2004-0533

January 11, 2005

Hydro One Brampton Networks Inc.
Conservation and Demand Management Plan

Objectives

The objectives of this Conservation and Demand Management ("CDM") plan are to:

- Contribute to creating a conservation culture in Ontario
- Help consumers and businesses manage their electricity use
- Contribute to the Province's target of reducing energy demand
- Support community-based programs and foster co-operation among municipal local distribution companies

Strategy

Choice of Program Concepts

In developing the Hydro One Brampton Networks Inc. ("Brampton") CDM plan, the following criteria were used to identify specific programs:

- Customer Needs – The program meets the needs of Brampton's customer base.

- Benefit Allocation – Benefits arising from the planned initiatives to be distributed across Brampton's customer base.

- Benefit Assurance – Programs were selected based on their potential to realize energy savings and cost of delivery.

- Leveraging Partnerships – We will engage in partnerships that will make use of economies associated with greater scale of delivery and existing delivery channels.

- Activities Support Minister's Plans – The preferred concepts or initiatives fit within the activities identified in the Minister's May 31, 2004, letter to distributors.

General Program Strategies

Brampton will:

- Rely on external expertise (consultants, contractors, etc.) to assist with research, concept design and program development and delivery where possible.
- Leverage partnerships and work with other LDCs, the EDA and Government agencies, such as NRCan and the eventual Ontario Power Authority Conservation Bureau, to more efficiently leverage our efforts with those underway or planned elsewhere in the Province.
- Continue to place a high priority on a few quickly implemented pilot programs to begin assessing customer response.

Allocation of CDM Expenditures

In addressing this issue, Brampton has endeavored to allocate CDM expenditures in proportion to our various rate classes based on total revenue by customer class. We have summarized the results based on residential and industrial/commercial customer segments.

Brampton will seek an increase in rates for the third stage of MARR and for related Payments in lieu of taxes (PILs). The formula to be applied in establishing the PILs amount that will be allowed in rates has not yet been provided to distributors. The program total provided in this plan has been developed based on a revenue increase of $3.2 million, which is the MARR increase exclusive of any PILs adjustment.

The following chart outlines Brampton's potential planned expenditures based on customer class and total revenue:

Figure 21.0
CDM Spending by Customer Segment

3rd Stage MARR Allowance	$3,236,000		
Segment	**HOB Total Revenue (%)**	**Planned Expenditure ($)**	**Planned Expenditure (%)**
Residential	30	1,025,000	32
Industrial/Commercial	70	2,070,000	64
LDC Efficiency	0	141,000	4
Total	100.0	3,236,000	100

Programs

Conservation and Demand Management (CDM)

Residential Mass Market Programs

1. Compact Fluorescent Light Program

Description

Compact fluorescent light (CFL) technology has evolved to the point where CFL's can be applied in a wide variety of applications. A utility-based incentive program with delivery through community based retail channels will increase penetration rates of this technology. The program can be structured in such a fashion that additional energy efficient technologies may be promoted at retail locations.

Target Market

This program is tailored to the residential market to include all residential customers in the City of Brampton.

Benefits

Compact fluorescent lights use one-quarter of the energy of a standard incandescent light. This fact makes their total impact on Brampton's distribution system, measurable. A reduction in demand and energy due to the removal of inefficient incandescent lamps is a major benefit. Also, the benefits are sustained, as a CFL light lasts up to 10,000 hours, or 10 times longer than an incandescent light.

Additional benefits include fostering an energy conservation culture among our customer base facilitated by a community approach to this initiative.

Budget: $500,000

Figure 22.0

($'000s)					
Compact Fluorescent Lamp Program	**2004**	**2005**	**2006**	**2007**	**Total**
	0	**0**	**250**	**250**	**500**

2. LED Holiday Light Exchange Program

Description

This program will increase the utilization of energy efficient holiday lights through a direct exchange program. Customers will be encouraged to bring in their old incandescent seasonal lights in exchange for efficient LED lights.

Target Market

This program is tailored to the residential market to include all residential customers in the City of Brampton.

Benefits

A reduction of both demand and energy consumption during the holiday season is the primary benefit. Customers will be encouraged to visit the utility via a direct mail campaign or bill insert. This will create a valuable opportunity for direct customer contact. This opportunity can be used for a wide variety of purposes, including providing additional C&DM information, thus further promoting a culture of conservation in Brampton.

Budget: $100,000

Figure 23.0

($'000s)					
LED Holiday Light Exchange Program	**2004**	**2005**	**2006**	**2007**	**Total**
	0	**0**	**50**	**50**	**100**

3. Customer Communications and Education Program

Description

We will continue to communicate with our customers through various media.

- Brochures – We will produce a series of brochures for distribution at community events and at our offices, addressing various energy consuming items in the home. These would be made available through the Brampton web-site as well. Brochures would cover topics such as: Lighting, Air Sealing and Insulation, The Home Office, Appliance Use, Efficient Heating, Efficient Cooling and possibly other topics.

- Web-site – Providing customers the tools and information they require through the use of this medium is essential. Items such as general information on conservation, energy consumption calculators, simple audit tools and educational information for school children will be enhanced or developed.

Target Market

This is a mass-market initiative tailored to the residential market.

Benefits

Increased awareness of residential energy efficiency options will contribute to an overall culture shift.

Budget: $165,000

Figure 24.0

($'000s)					
	2004	**2005**	**2006**	**2007**	**Total**
Customer Communications and Education Program	**15**	**80**	**55**	**15**	**165**

4. Residential Load Control Program

Description

This is a pilot program undertaken in conjunction with Hydro One Networks Inc. The objectives of this project are to assess residential customer response and the potential load impact of controlling central air conditioning, pool pumps and electric hot water heating during system peak periods through installations of load control units and interval meters in up to 450 homes. Brampton is participating with a sample of 32 of these homes.

Participants are paid a monthly incentive for participation in the pilot. To capture both winter and summer peaks, this project will run from July 2004 through August 2005.

Target Market

Residential customers with central air conditioning, electric watering heating (Brampton excluded) and/or pool pumps.

Benefits

Air conditioning and water heating are significant contributors to both winter and summer peak loads on Ontario's electrical system. Accordingly, potential demand savings from load control could contribute significantly to Brampton's demand side management effort, if results from this project indicate that expansion to a full program is warranted. Customers should experience reductions in their energy usage without a significant effect on their lifestyles.

Budget: $80,000

Figure 25.0

($'000s)					
	2004	**2005**	**2006**	**2007**	**Total**
Residential Load Control Program	**80**	**0**	**0**	**0**	**80**

5. Real Time Monitoring Program

Description

This is a pilot program undertaken in conjunction with Hydro One Networks Inc. The major objectives of this project are to assess residential customer behaviour and quantify potential energy savings arising from the provision of real-time usage data. About 500 homes in different areas of the Province have been provided with real-time energy usage monitors and feedback devices to record their usage from July, 2004 to August, 2005, thus capturing both winter and summer system peak periods. Brampton is participating in this pilot with 45 of these homes in our service territory.

The program will test the assumption that when provided with real-time usage data, customers will change their behaviour to reduce electricity consumption. The program will also test a customer's willingness to use such technology and monitoring devices.

Target Market

This program will apply to residential customers.

Benefits

Customers will be able to track their energy consumption in kilowatt-hours and determine their estimated expenditures, as well as experience the benefits of behaviour changes and of implementing energy efficiency measures. Results from this program will help Brampton assess the potential change in customer behaviour and the energy reduction, which can be attributed to the availability of this device and the benefits of expansion to a full program.

Budget: $40,000

Figure 26.0

($'000s)					
	2004	**2005**	**2006**	**2007**	**Total**
Real Time Monitoring Program	**40**	**0**	**0**	**0**	**40**

6. SMART Meter Pilot Program

Description

Brampton will invest in smart meters in support of the Minister of Energy's commitment to the installation of 800,000 SMART meters across Ontario by 2007.

The intent of this program is to gain experience and test the functionality and efficiency of various technologies in Brampton's service territory.

The program will be implemented once the Board has released specific guidelines.

Target Market

Residential customers

Benefits

Smart meters will be the enabler of value-added functionality. Together with appropriate rate structures, smart meters are the foundation for an energy-efficient Ontario.

Budget: $140,000

Figure 27.0

($'000s)					
	2004	**2005**	**2006**	**2007**	**Total**
SMART Meter Pilot Program	**0**	**120**	**20**	**0**	**140**

Commercial - Industrial Programs

7. Power Factor Correction Program

Description

This program will provide incentives to Brampton's commercial and industrial customers to install power factor correction equipment in their facilities. Brampton's customer base is comprised of a large manufacturing component as well as many large commercial facilities that contribute to poor power factor. This program will contribute to the improvement of Brampton's overall power factor.

Individual customer power factor analyses will determine which customers will qualify for an incentive.

Target Market

All qualifying industrial and commercial customers in Brampton.

Benefits

The major benefit will be reduction of system losses due to reduced electrical current levels in the distribution system. Other benefits include lower customer bills and increased electrical capacity on customers' premises.

Budget: $150,000

Figure 28.0

($'000s)					
	2004	**2005**	**2006**	**2007**	**Total**
Power Factor Correction Program	**0**	**0**	**100**	**50**	**150**

8. Commercial – Industrial Load Control Program

Description

In addition to the residential load management program already discussed, Brampton is committed to implementing a Load Control and Demand Response Pilot for its commercial and industrial customers. This is a pilot program undertaken in conjunction with Hydro One Networks Inc

Target Market

Commercial and Industrial General Service rate class customers, including the Municipal University, Schools and Hospital (MUSH) sector.

Benefits

Load control can contribute significantly to demand side management savings, especially at critical peak periods. A pilot project will be designed for this sector, the results of which will be assessed before expansion to a full program is warranted. Customers will experience voluntary reductions in their energy usage without a significant effect on their operations.

Budget: $500,000

Figure 29.0

($'000s)					
Commercial-Industrial Load Control Program	**2004**	**2005**	**2006**	**2007**	**Total**
	0	**100**	**300**	**100**	**500**
Pilot Component	0	100	0	0	100
Program Component	0	0	300	100	400

9. Technology Demonstration Project

Description

This program will provide an incentive to Brampton commercial, institutional or industrial customers to install emerging energy technologies. Such an initiative would serve as a new technology showcase, which could be promoted with other customers in Brampton's service territory or beyond. It would also assist in studying a number of technologies in detail and their effect on other building systems. Information gained from this initiative could be used as a basis for subsequent programs.

Target Market

Brampton's Industrial, commercial and institutional customer base. This program may also focus on new energy technologies in the residential sector.

Benefits

Technologies that are showcased will provide energy savings. A case study approach to such installations and promotion of specific technologies will increase penetration in the market place of emerging energy-efficient technologies.

Budget: $135,000

Figure 30.0

($'000s)					
	2004	**2005**	**2006**	**2007**	**Total**
Technology Demonstration Project	**0**	**40**	**60**	**35**	**135**

10. Conservation Assets Program

Description

Interval metering provides the ability to record consumption in time intervals that can be matched to price signals aligned to reflect the true cost of power. Understanding and reacting to proper pricing is an essential component to creating a conservation culture and managing customer demand.

The provincial targets for smart metering installations, established in the Minister of Energy directive, are 800,000 smart meters by 2007 and all 4.3 million meters by 2010. An integral piece of Brampton's CDM plan will be the funding of an initial deployment of smart meters in the Province.

This program will also encompass web-enabled technology that will allow all participating customers to view their consumption data on the web. The integration of smart metering and data warehousing with timely customer access to this data is essential for an improved customer understanding of consumption patterns as they occur.

Target Market

All General Service customers in Brampton with a demand greater than 50 kW that presently do not have interval meters.

Benefits

The largest benefit of smart meters is providing customers with the ability to understand their consumption patterns and make effective decisions on usage. Since LDCs do not have a supply obligation or commodity price exposure, the benefits to support expenditures reside in other areas of the market.

The infrastructure investments for smart meters can also be used as a platform for other DSM and productivity initiatives (e.g. load control). It is Brampton's intention to further study these and other potential benefits with an aim to reduce costs or increase service for customers. The CDM plan expenditures will be directed to the minimum functionality that satisfies the Minister's directive. Approval for added functionality will be presented in 2005, as proposed by the OEB working groups in their draft report.

Budget: $1,285,000

Figure 31.0

($'000s)					
	2004	**2005**	**2006**	**2007**	**Total**
Conservation Assets Program	**0**	**250**	**750**	**285**	**1,285**

11. Distribution Loss Reduction

Description

Optimization of Brampton's distribution system will be studied further, with a focus on voltage conversion, power factor correction, power system load balancing, system optimization and transformer losses.

The results of this research will dictate which aspects of Brampton's distribution system will gain the most from initiatives as listed above.

The funding also includes a pilot project.

Target Market

All Brampton customers

Benefits

Lowering the distribution system losses will reduce the overall system demand. This in turn will relieve network capacity to accommodate growth. As system losses are currently passed on to all customers, any improvement in this area will benefit all customers.

Budget: $100,000

Figure 32.0

($'000s)					
	2004	**2005**	**2006**	**2007**	**Total**
Distribution Loss Reduction	**0**	**0**	**50**	**50**	**100**

12. Research, Planning and Development

Brampton understands that the key to developing effective conservation and demand management initiatives is a commitment to research and planning. Brampton has identified several areas in which research and planning initiatives will occur.

We will conduct several customer surveys to aid the development of a portfolio of CDM programs.

These will focus on gaining a better understanding of Brampton's residential customer base by analyzing customer's load, buying behaviour, energy, and appliance information and encouraging customer feedback.

Brampton will also conduct an equipment and opinion survey of our Commercial and Industrial customers in early 2005. This will help us obtain a better understanding of market usage, opinions, interest, etc. This data will be used to help us determine what Commercial and Industrial customers will benefit from our various CDM programs.

Budget: $36,000

Figure 33.0

($'000s)					
	2004	**2005**	**2006**	**2007**	**Total**
Research, Planning & Development	**0**	**20**	**16**	**0**	**36**

13. Internal Building Efficiency

Description

This program will improve the building efficiency of Brampton's office facilities. At the time of its construction in the early 90's, the building was deemed to be very energy efficient and the design has won numerous awards. Various technologies have been incorporated including electronic T8 fluorescent lighting, lighting occupancy sensors, ground source heat pumps, individual fluid to air heat pumps and building automation. However, some technologies have not been incorporated in the entire building.

This program would assess the potential for a small lighting retrofit and better equipment scheduling through optimization of the building control system.

Benefit

The primary benefit is reduced energy consumption.

Budget: $5,000

Figure 34.0

($'000s)					
	2004	**2005**	**2006**	**2007**	**Total**
Internal Building Efficiency	**0**	**5**	**0**	**0**	**5**

A Summary of Program Expenditures

Three charts summarizing Brampton's planned CDM expenditures are provided as follows:

- Figure 35.0 – total program expenditures split by type of customer.
- Figure 36.0 – the plan and proposed expenditures grouped by customer sector and year.
- Figure 37.0 -- a breakdown of capital and operating expenditures by program and year.

hydro one Brampton

Figure 35.0
Summary of Program Expenditures

RESIDENTIAL	Total ($)	Total (%)
CFL Promotion	500,000	15
LED Holiday Light Trade In	100,000	3
Customer Education	165,000	5
Pilot Projects*	260,000	8
Residential Total	1,025,000	32

COMMERCIAL & INDUSTRIAL		
Power Factor Correction	150,000	5
C/I Load Control	500,000	15
Technology Demonstration Project	135,000	4
Conservation Assets Program	1,285,000	40
C/I Sub Total	2,070,000	64
HOB Distribution Loss Reduction	100,000	3
HOB Internal Efficiency	5,000	0
Research, Planning & Development	36,000	1
GRAND TOTAL	3,236,000	100

* A portion of this money has been allocated and spent

hydro one Brampton

Figure 36.0

Program Budget and Expenditures Detail 2004-2007

RESIDENTIAL	Total ($)	Total (%)	2004 ($)	2005 ($)	2006 ($)	2007 ($)
CFL Promotion						
Cost	450,000					
Program Marketing/Administration	50,000					
Total	**500,000**	**15**	0	0	250,000	250,000
Holiday Light Trade In						
Cost	70,000					
Program Marketing	20,000					
Community Events	10,000					
Total	**100,000**	**3**	0	0	50,000	50,000
Customer Education						
Website	75,000		0	50,000	25,000	0
DSM Literature	90,000		15,000	30,000	30,000	15,000
Total	**165,000**	**5**	15,000	80,000	55,000	15,000
Pilot Projects						
Real Time Monitoring Pilot*	40,000		40,000	0	0	0
Load Control Pilot*	80,000		80,000	0	0	0
Smart Meter Pilot	140,000		0	120,000	20,000	0
Total	**260,000**	**8**	120,000	120,000	20,000	0
Residential Total	1,025,000	32	135,000	200,000	375,000	315,000
COMMERCIAL & INDUSTRIAL						
Power Factor Correction						
Incentive	125,000					
Administration	15,000					
Promotion	10,000					
Total	**150,000**	**5**	0	0	100,000	50,000
Commercial Industrial Load Control						
Cost	450,000					
Administration	50,000					
Total	**500,000**	**15**	0	100,000	300,000	100,000
Technology Demonstration Project						
Capital Expenditure	100,000					
Promotion & Administration	35,000					
Total	**135,000**	**4**	0	40,000	60,000	35,000
Conservation Assets Program						
Meters	800,000					
System Costs/Installation	425,000					
Enabling Technologies for Smart Meters	60,000					
Total	**1,285,000**	**40**	0	250,000	750,000	285,000
Commercial Industrial Total	2,070,000	64	0	390,000	1,210,000	470,000
UTILITY EFFICIENCY						
Line Loss Reduction	100,000	3	0	0	50,000	50,000
RESEARCH PLANNING & DEVELOPMENT						
Residential Appliance Survey	10,000					
Commercial & Industrial Customer Survey	10,000					
DSM Program Research	16,000					
Total	36,000	1	0	20,000	16,000	0
INTERNAL EFFICIENCY						
Building Efficiency Improvements	5,000		0	5,000	0	0
GRAND TOTAL	3,236,000	100	135,000	615,000	1,651,000	835,000

* This money has been allocated and spent

hydro one Brampton

Figure 37.0
Proposed Budget and Timeline Summary

CDM Plan Expenditures ($000's)

PROGRAM	2004-2005		2006		2007		2004- 2007
	CAPEX	OPEX	CAPEX	OPEX	CAPEX	OPEX	TOTAL
CFL	0	0	0	250	0	250	500
LED Holiday Light	0	50	0	50	0	0	100
Customer Communications	0	95	0	55	0	15	165
Residential Load Control	0	80	0	0	0	0	80
Real Time Monitoring	0	40	0	0	0	0	40
SMART Metering Pilots	0	120	0	20	0	0	140
PF Correction	0	0	0	100	0	50	150
C-I Load Control	0	100	300	0	100	0	500
Tech. Demonstration Project	0	40	0	60	0	35	135
Conservation Assets	250	0	750	0	285	0	1,285
Distrib. Loss Reduction	0	0	0	50	0	50	100
Research Planning Develop.	0	20	0	16	0	0	36
Internal Building Efficiency	0	5	0	0	0	0	5
Total	**250**	**550**	**1,050**	**601**	**385**	**400**	**3,236**