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BY COURIER

April 3, 2009

Ms. Kirsten Walli
Secretary
Ontario Energy Board
Suite 2700, 2300 Yonge Street
P.O. Box 2319
Toronto, ON.
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Dear Ms. Walli:

2008 Annual Report, CDM Third Tranche Funding, Hydro One Networks Inc.

In accordance with the Ontario Energy Board's approval of Hydro One Networks Inc.'s Conservation and Demand Management ("CDM") Plan, EB-2005-0198, I am pleased to submit the enclosed 2008 Annual Report for CDM Initiatives funded under Third Tranche of Market Adjusted Revenue Requirement ("MARR").

This report has been prepared in accordance with the requirements set out by the Board in its letter, dated February 2, 2009, on annual reporting of CDM initiatives. As per the letter's filing instructions, please find enclosed three hard copies and two electronic copies of the Annual Report. The First electronic copy contains the entire report in PDF format, while the second copy contains the A, B, C and D Appendices in Excel format. This completes the annual reporting requirement for Hydro One Networks' CDM programs and activities that are funded under Third Tranche of MARR.

Should you have any questions, please do not hesitate to contact Philip Poon at 416-345-5064 or myself.

Sincerely,

ORIGINAL SIGNED BY

Susan Frank

Hydro One Networks Inc.

Conservation and Demand Management Plan

Annual Report to April 30, 2008

RP-2004-0203 \ EB-2005-0198

March 31, 2009

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Introduction

On February 18, 2005 Hydro One Networks Inc. (Networks) received final approval from the Board for their Conservation and Demand Management Plan (CDM Plan) covering the period 2005 – 2007, for \$39.5 million.

The approval was conditional upon the re-allocation to other projects of \$7.1 million that Networks planned for smart meters in 2006. On November 1, 2005 the Board approved the re-allocation of the funds. The CDM Plan included Market Adjusted Rate of Return (MARR) funding in the amount of \$39.5 million. The initiatives approved by the Board satisfy the Minister's condition of a financial commitment to reinvest in CDM initiatives. In the decision of the Board, Networks, along with all other LDCs, was required to file both quarterly and annual reports tracking the progress of the CDM Plans.

On October 5, 2004, the Board issued a *Procedural Order*, which contained the reporting filing requirements (paragraphs 26 through 30) applicable to MARR CDM funding. On December 21, 2005 the Board issued the *Guideline* for Annual Reporting to the OEB, which is intended to include reporting for funding for the year ended 2005 and the third tranche MARR. On March 31, 2006 Networks submitted its first CDM Annual Report.

On October 2, 2006 the Board issued a revised TRC Guide. On March 1, 2007 changes to the reporting format were released which included a new schedule (Schedule C) and revisions to the existing schedules. On March 9, 2007 clarification regarding the schedules was also released. The second Annual report was submitted on April 2, 2007, and the third was submitted on March 31, 2008.

On May 22, 2007 the Board approved an extension of the deadline for Networks to complete CDM activities from September 30, 2007 to April 30, 2008. On February 2, 2009, the Board issued updated 2008 Annual Report guidelines, including an additional summary table, Appendix D. This report provides the information requested in these Guidelines for the 2008 annual report.

Evaluation of the CDM Plan

Over the period 2005-2008, Networks has been successful at managing and rolling out programs across all sectors, including residential, farm, commercial and industrial, as well as the Municipalities, Universities, Schools, and Hospitals (MUSH) sector. Networks has worked with partners from the retail sector, as well as with community-based organizations, schools and governmental bodies for the successful delivery of Conservation and Demand Management programs and management of existing / prospective participants in various initiatives. Cooperation with other Local Distribution Companies has been a valuable strategy for the development and delivery of joint programs to all electricity customers. The portfolio of programs offered confirms the Company's commitment to contribute to the goal of culture change within the province through various communication and education activities.

Results achieved to date amount to annualized energy savings of 284 million kWh. This is the equivalent of the electricity needed to power almost 24,000 homes for one year, or 186,000 tonnes of CO₂ emission reductions. In addition, a cumulative summer peak demand reduction of 67 MW has been achieved.

The expected cumulative energy savings over the lifetime of the measures are more than 1.6 billion kWh. This translates to the electricity consumption of 137,000 homes for one year, or 1,100,000 tonnes of CO₂ emission reductions.

The CDM program portfolio to date has produced over \$3.59 of societal benefits for every \$1 spent on program costs.

Networks' CDM programs achieved a balanced approach to both conservation and load control initiatives. Our programs offered opportunities for all customers within our service territory to contribute to and benefit from a culture of conservation. As indicated in previous CDM Annual Reports, Networks' challenge is that it covers most of the geography of the province, yet it only serves about 25% of the customers, a fact that is reflected in the cost-effectiveness of some individual programs. Networks' programs delivered financial savings for our customers, as well as kilowatt hour (kWh) and kilowatt (kW) savings towards meeting the Province's goals.

Approximately 3% of the 3rd tranche MARR budget remained to be spent at the end of 2007. This report summarizes the results of this "residual" CDM activity.

The following figure provides an overview of Networks' CDM approved budget, life to date (LTD) spending as at April 30, 2008, as well as kWh and KW savings earned.

Figure 1 - Summary of LTD Spending and Cumulative Results as at April 30, 2008

(1)	(2)	(3)	(4)	(5)	(6)
Program	3 YEAR BUD ⁵ (\$k)	LTD SPENDING 2008 (\$k)	CUM SAVINGS kW	CUM ANNUAL SAVINGS kWh	CUM LIFECYCLE SAVINGS kWh
Residential					
Smart Meters	7,800	7,800	-	-	-
Real Time Monitoring Pilot	470	466	38	401,482	2,007,410
Real Time Monitoring Program	5,085	5,082	4,767	22,946,131	114,732,007
Mass Markets ¹	2,465	2,467	6,681	103,475,092	673,451,075
Seasonal LED Light Exchange	430	432	-	546,454	16,393,624
Low Income/Social Housing ²	3,200	3,167	879	8,373,080	115,751,166
Load Control Pilot	710	710	358	-	-
Load Control Program	4,660	4,536	13,198	4,113,097	48,811,867
Energy Audit (PowerSaverPlus On line Energy Audit)	215	213	-	-	-
Subtotal	25,035	24,872	25,921	139,855,336	971,147,149
Commercial/Industrial, Farm, MUSH					
Interim Time of Use	1,130	1,145	-	-	-
C/I MUSH Conservation ³	1,040	1,015	2,207	15,404,813	217,294,721
C/I Load Control (Double Return)	2,390	2,339	33,773	108,854,220	108,898,068
Farm Energy Efficiency ⁴	510	458	349	1,970,695	17,454,329
Subtotal	5,070	4,958	36,329	126,229,728	343,647,118
Common					
Distribution Loss Reduction	6,175	6,552	4,998	14,444,110	288,882,198
Program Management and Research (incl. TOU Pilot)	2,500	2,425	43	396,185	3,248,037
Communication and Education (incl. SmartPak)	765	749	140	3,649,933	30,145,133
Carrying Charge	-	25	-	-	-
Subtotal	9,440	9,752	5,181	18,490,228	322,275,368
Total	39,545	39,581	67,431	284,575,292	1,637,069,635

¹ Mass Market includes Cold Shoulder Appliance Pickup, Every Kilowatt Counts, PowerSaver Tour, Mass Market Coupon Initiative, Keep Cool and Cool Shops programs.

² Low Income/Social Housing includes Low Income Retrofit, Low Income CMHC / NRCan, First Nations Retrofits, First Nations In-Home Displays and Social Housing programs.

³ C/I MUSH conservation includes PowerSaver Business Incentive Program (Commercial / Industrial), Toronto Region Conservation Authority, Municipal Traffic Signal LED.

⁴ Farm Energy Efficiency includes PowerSaver Business Incentive Program (Farm), Leamington and Farm Energy Audit.

⁵ The budget has been reallocated from approved plan and the reallocations are within the 20% flexibility allowed by the Board.

Highlights for 2005-2008 Life-to-Date:

- The CDM program portfolio to date has produced over \$3.59 of societal benefits for every \$1 spent on program costs, as measured through the Total Resource Cost (TRC) test. Net TRC benefits of \$98 million have been produced.
- Participation in Networks' CDM programs reached almost 1.2 million participants life-to-date.
- Real-time monitors have been installed in over 31,000 homes – the largest deployment in North America. This product won BlueLine Innovations and Networks an award for best new energy efficient technology deployment from the Association of Energy Service Professionals (AESP).
- The Residential Load Control Program (SmartStat) funded by MARR was deployed in 10,000 homes. Networks initiated three load control events in 2007 and five in 2008, reducing peak demand.

- The Double Return program, launched in the winter of 2007 as a new demand response initiative targeted at Commercial/Industrial distribution-connected customers, exceeded expectations by achieving 38MW in winter peak reduction and 33 MW in summer peak reduction.
- By completion, the Distribution Loss Reduction program provided cumulative annual savings of 14 million kWh and 5MW in peak savings.
- The PowerSaver Business Incentive Program provided funding of approximately \$450,000 to 129 business and farm customers
- The Appliance Pickup Program (Cold Shoulder) funded by MARR permanently removed more than 11,000 appliances from operation and disposed of them in an environmentally responsible manner.
- The Low Income Programs provided energy efficient retrofits and upgrades to 478 single family dwellings and to social housing buildings containing more than 5,600 units.

Highlights for 2008:

In 2008, there were new participants in only three programs:

- PowerSaver Business Incentive Program – there were 12 applications approved at the end of 2007 but where measures had not been installed. These applications resulted in incentives of over \$27,000 to customers in the first 4 months of 2008, bringing the total to approximately \$450,000 in rebates provided to 129 business and farm customers.
- Distribution Loss Reduction – 67 additional projects were implemented in 43 regions in 2008 with a 2,635 kW reduction in peak demand, bringing the three year total savings to 14 million kWh per year and 5 MW in peak reduction.
- An additional 7,000 customers completed a portion of the on-line audit program and received some recommendations by April 2008, bringing the total to over 13,000 since inception. 3,120 of these additional customers proceeded to complete a full audit, bringing the total number of participants completing full audits to more than 7,000, at no additional cost.

There was minor spending in four other programs (Cold Shoulder Appliance Pickup, Seasonal LED Light Exchange, Interim Time of Use and SmartPak programs) where no new participants were added, while the on-line audit program had participation but no additional spending. Further details on these programs are provided in Appendix B.

In total, 2008 CDM expenditures were \$1.4 million, of which, \$1.2 million was Distribution Loss Reduction capital. By the end of 2007, most of Networks' CDM activity had transitioned to being funded by the OPA (not included in this report).

Discussion of the Programs

PowerSaver Business Incentive Program (Commercial/Industrial)

The PowerSaver Business Incentive Program (PBIP) brought awareness of the benefits of energy efficiency retrofits to the commercial/industrial market place. This program can be characterised as a catalyst for customers to re-prioritize their energy retrofits and proceed with implementing them.

Description:

This program provided up to \$50,000 in financial incentives per customer to all business, institutional and farm customers that undertook energy efficiency retrofits in their facilities. Incentives for technologies such as lighting, motors, cooling equipment and energy efficient transformers were provided to all these customer groups.

Design:

The program consisted of fixed financial incentives for predefined technologies (i.e. prescriptive) such as motors, cooling equipment, lighting technology transformers as well as agri-business equipment. There were also financial incentives for custom projects based on demand reduction. This program was application based and incentives were paid once retrofits were installed and operational. Qualifying customers had to obtain pre-approval for all custom applications. Under the prescriptive project, qualifying customers had the option of applying for rebates after project completion by including proof of purchase and installation with the application form. This design element was intended to influence customer energy efficiency projects that had a very short timeline, where pre-approval was not practical. It also was intended to influence customer equipment purchases that were typically unplanned such as motor replacements. The program underwent some design changes in early 2007 as agricultural technologies were added to enhance the program. In 2007 it was also necessary to increase the incentive level for the Custom portion of the program from \$150 per kW to \$250 per kW, in order to encourage customers to proceed with more comprehensive items in their facilities.

Intent:

This program addressed the need for a comprehensive CDM program targeted at the commercial, industrial, MUSH and farm sector. Segments within these sectors contained a large potential for energy conservation savings (reduced energy consumption in kilowatt hours). The intent was to promote earlier adoption of energy efficient technologies and influence purchasing decisions for all customers undertaking retrofits of their facilities.

Delivery:

Direct marketing campaigns were utilized to deliver this program to Networks' customers. Media advertising was also used to reach key customer segments. The program was designed to direct all customers to the Networks self-serve website. The interactive website was configured to provide all of the necessary applications and forms the customer required

to complete the application. The site also contained useful tools such as incentive calculators, technical guides, program guideline booklets, presentations and fact sheets.

Other marketing initiatives consisted of running workshops, engaging trade allies, such as electrical distributors, and key channel partners, such as government and industry associations. This was accomplished through face to face meetings with all of the organizations afore-mentioned as well as meeting with key customer groups.

Evaluation:

All sectors participated in PBIP: Commercial, Industrial, MUSH and Agricultural. The agricultural sector was the largest group participating in the program, with 30% of applications coming from that sector, followed by the manufacturing sector with 25% and municipal sector with 13%.

Networks customers submitted approximately 230 applications for projects under this program. Networks approved 185 of these project applications. 129 projects (including farm projects), encompassing in excess of 34,000 measures, were completed by the program close date of April 30, 2008. Of these 129 projects, 12 were implemented in 2008. These additional projects resulted in energy savings of 900,000 kWh and a peak demand reduction of 200kW.

The PowerSaver Business Incentive Program exceeded initial targets as it achieved 14 million kWh in annual energy savings and 200 million kWh energy savings on a lifecycle basis for the business sector.

Program	LTD Spending to April 2008 (\$K)	Cumulative Annual Savings kWh	Cumulative Annual Savings kW	Cumulative Lifecycle kWh
PowerSaver Business Incentive Program – Business sector (95* projects completed and paid)	588	13,726,479	2,017	200,479,087

* 34 of the 129 projects undertaken were farm projects. Results and costs for the 34 farm projects are accounted for under “Agricultural”.

Distribution System Loss Reduction (Common)

Reduces distribution line losses, directly benefiting all Networks customers as well as reducing provincial demand during peak demand periods.

Description:

The Distribution System Loss Reduction Program involves identifying and implementing projects where incremental investments will result in an overall economic benefit to customers by reducing system delivery losses.

Design:

A research report commissioned in 2005, and updated in 2006 to better reflect the distribution system, identified the areas where Networks could pursue projects that would economically reduce system delivery losses. Identified opportunities were in the areas of power factor correction (by installation of capacitor banks) and feeder phase balancing.

Intent:

Lowering distribution system delivery losses reduces overall system demand and also provides additional network capacity for growth. Without correction, system delivery losses are passed onto all customers; therefore, improvements in this area benefit all customers.

Delivery:

Distribution line studies were undertaken to determine which lines require power factor correction, what size capacitor bank is appropriate, the proper location for the capacitor bank and to establish any phase balancing that may be required. Following the study period, capacitor banks were purchased and installed, with any line balancing taking place at the time of installation.

Evaluation:

In 2008, 67 new projects were implemented in 43 regions, resulting in an additional 2,635 kW reduction in peak demand. The final 20% of spending (or \$1.2 million) for this program was done in 2008, under the extension approved by the OEB.

Program	LTD Spending to Dec 2008 (\$K)	Cumulative Annual Savings kWh	Cumulative Annual Savings kW	Cumulative Lifecycle kWh
Distribution Line Loss Reduction (286 projects completed)	6,552.4	14,444,100	4,998	288,882,198

Interim Time of Use Pilot (Industrial)

Description:

The pilot offers customers rate incentives through the application of rates that help to shift electricity demand away from periods of maximum demand and into the off-peak periods. Depending on the difference in demand between the two time periods, customers could realize substantial savings in their distribution bills. Three customers participated in the pilot.

Design:

Hydro One Distribution received approval from the Ontario Energy Board to implement distribution time of use rates for customers whose off-peak demand consumption (kW) was at least twice their on-peak demand consumption. The demand rate is set to zero for the off peak period defined as 7pm to 7am Monday to Friday, and all day on weekends and holidays.

Intent:

Determining if customers will modify their consumption patterns to take advantage of time of use rates will indicate whether Distribution charges are an impediment or a significant factor, as compared to the generation component, in promoting load shifting by customers. Encouraging commercial and industrial customers to shift their demand away from the peak will benefit both those customers and the electricity system as a whole.

Delivery:

Customers whose operation patterns qualify for the interim time of use rate will be eligible to participate in the pilot. Their demand in the off peak hours must be twice that in the on peak period.

Evaluation:

While there has been some interest in learning about the details of the time of use rate by several companies, no additional customers were willing to modify their operation patterns in order to qualify for the interim time of use rate. Indications are that the distribution component of electricity rates is not a significant enough factor in the customer's total cost structure to warrant such changes to operating procedures. Another reason that no new customers have elected this price option is the interim nature of the rate.

PowerSaverPlus Online Audits (Residential/Small Commercial)

Over 7,120 customers took the self-administered Online Energy Audit program and received recommendations on how they could lower their usage and electricity bill.

Description:

Networks launched a self-administered online energy audit in the fall of 2007. Two energy audit applications (branded Business PowerSaverPlus and Home PowerSaverPlus) were made available to Hydro One small- and medium-sized general service customers as well as residential and small farm customers.

Design:

Approximately one million Hydro One customers will be able to participate in the program and get online audit recommendations to make their homes and businesses more energy efficient.

Intent:

The PowerSaverPlus program was launched to provide customers with an assessment of their electricity usage and give recommendations on how they can lower their usage and electricity bill.

Delivery:

Aclara Software (formerly Nexus Energy Software), a leading service provider in North America, was competitively selected to provide the energy audit services for one year.

Evaluation:

The online audit program was launched in September 2007. By April 30, 2008, a total of 7,120 customers had completed a full audit.

Lessons Learned

Networks' efforts in Conservation and Demand Management have identified a number of lessons learned or key findings, which will be useful for Networks and others to be aware of as CDM continues to evolve in Ontario.

Some of these findings are on a macro level, based on broader policy, structures and inter-relationships, while others are more program specific.

Customer Feedback

- A significant fraction of customers (business and residential) are motivated to reduce their consumption of electricity and to reduce their peak demand. With access to information (in home displays, workshops, technology guides, etc.) and reasonable incentives, customers make not only technology changes, but also behavioural changes in order to reduce their electricity footprint. This was clearly demonstrated in programs such as Double Return and with In-Home Displays.
- Prescriptive measures, where feasible, are easier for customers to understand and undertake and are easier for the utility to administer. Prescriptive measures need to be expanded and targeted to individual business sub-sectors (farm, industrial, commercial) to maximize each sector's participation.
- Program timing must be aligned with customer budget cycles, in particular for the Commercial, Industrial and MUSH sectors
- Customers, especially residential customers, respond well to non-monetary incentives and seem to be motivated by environmental concerns.
- CDM programs can be a powerful mechanism in changing customer behaviour and for encouraging development of innovative market transformation technologies, such as in-home displays.
- To run successful programs in small close-knit communities, it is necessary to engage the community. Public events run in conjunction with local organizations provides an opportunity to become known to the community, to answer questions, promote the program and identify "early adopters" who are key to broad based participation.
- The use of skilled local contractors and trades people provides an additional level of comfort to participants and further enhancing the skill level of local people helps to retain expertise in the community, thereby extending the application of current energy efficiency techniques into the future and into additional houses.
- Bill Inserts are the most effective and cost-efficient method to reach residential and small business customers. They are also very useful for targeted programs where advertising spill would be an issue. For business customers direct mail and workshops have also proved effective.
- Initiatives that involve more complex decisions or newer technologies may require an educational component and have a longer purchasing decision process.
- Programs, which seek to gain greater penetration rates, require increasing marketing efforts in order to gain incremental participants.

Program Management

- A turn-key implementation approach for multifaceted or complex programs creates a clear understanding of where responsibility lies for all deliverables and results in a speedy resolution of any issues. This has been particularly useful in programs such as load control where promotion, enrolment, installation, and customer care are interdependent activities.
- For new and emerging technologies, or for new or high risk applications in the marketplace, pilots (such as for Load Control or In-Home Displays) and/or staged rollouts are very valuable in:
 - establishing the effectiveness of the device in either reducing energy consumption or shifting peak demand
 - refining logistics, incentive levels, and product selection,
 - assessing delivery channels, marketing and delivery costs,
 - determining customer acceptance and overcoming barriers to customer participation.
- Leverage existing channels such as the Social Housing Services Corporation
- Partnering with other organizations can bring existing skills and knowledge to bear and helps avoid duplicate or counter productive activities.
- The Hydro One service territory, due to its large size but low population density, is a difficult and less attractive one for retailers, suppliers and other partners to serve.
- Application based programs have a considerable “ramp up” time required to engage customers, educate them, and to receive & process applications, all of which is required before installations can take place. Interruptions in the continuity of the program offering can significantly curtail participation. Projects may take from 6-12 months or longer to design and implement, especially in the business market. In many cases the customer business cycle does not coincide with the LDC CDM cycle.
- Program incentives levels need to be at sufficient levels in order to catch the customer’s attention. Failure to set incentives at appropriate levels may result in capturing only early adopters and free riders, resulting in an inability to sustain growth in customer participation. Multi-tiered incentive structures are required to encourage the implementation of more expensive and/or more difficult measures.
- For long term success, it is necessary to have stable funding that provides the ability for LDCs to plan, design and implement CDM programs and for customers to makes decisions over a multi-year time-frame. The 3rd tranche MARR funding from 2005-2008 was a successful model that provided this stability and allowed momentum to build for the LDC and the customer.

Evaluation

- The assessment of conservation program success should be based on customer engagement and satisfaction as well as on numerical results.
- The assumption basis for TRC should provide value for winter peak, not only summer peak. Many local distribution systems, including parts of Hydro One Networks, are winter peaking.
- The assumptions for avoided costs in the OEB TRC Guide and those in an approved IPSP should be consistent.

- Savings on distribution charges only are not sufficient to encourage commercial and industrial customers to modify operations to off peak time of use rates. The generation commodity costs provide a much more significant savings opportunity for customers than do foregone distribution costs.

Lessons Learned - Program Success and Future Delivery Implications/Recommendation

	<u>Success</u>	<u>Future Delivery Implications/Recommendations</u>
Residential		
Residential In-Home Display (IHD)	successful	initial pilot indicated significant savings, TOU pilot confirmed still significant incremental value to real time IHDs under TOU rates
Residential Load Control	successful	adopted by OPA as core program offering
Cold Shoulder Appliance Pickup	successful	adopted by OPA as core program offering
Coupon Initiative/Every Kilowatt Counts	successful	adopted by OPA as core program offering and later transformed into retailer based program
Keep Cool	successful	supplanted by Cold Shoulder which covered more territory, which was in turn adopted by the OPA as core program offering
PowerSaverPlus Online Energy Audits	successful	residential version is well used, would not recommend small commercial version be deployed by others without determining how to significantly increase participation levels from those experienced
Seasonal LED Light Exchange	successful	unnecessary to continue as market has transformed - may still be some opportunities to assist community festivals to convert to LEDs
PowerSaver Tour	successful	not feasible to cover much territory, similar target market to broad coupon/rebate initiatives that are more cost effective
Low Income		
Low Income Retrofits	successful	addresses customer segment that would not otherwise be able to participate in conservation initiatives
First Nations Retrofits	successful	addresses customer segment that would not otherwise be able to participate in conservation initiatives
Social Housing Program	successful	addresses customer segment that would not otherwise be able to participate in conservation initiatives
Commercial		
Municipal Traffic Signal LED Retrofit	successful	unnecessary to continue as market has transformed
Cool Shops	successful	no significant, retrofits undertaken by customers beyond free incentives - effectively an earlier version of Power Savings Blitz, which is now an OPA core program offering
PowerSaver Business Incentive Program (PBIP)	successful	adopted by OPA as core program offering
Toronto Region Conservation Authority	unsuccessful	bench marking and peer group comparison approach had little appeal to customers and therefore limited effect on consumption
Industrial		
Industrial Energy Efficiency Double Return (Demand Response)	unsuccessful successful	customers responded better to structure of PBIP and Double Return continued and expanded to include transmission customers as a custom program with OPA funding, resulting in significant peak and energy reductions at low cost
Interim Time of Use	unsuccessful	distribution costs insufficient to warrant operational changes
Farm		
Farm Efficiency/Power Saver Business Incentive Program	successful	adopted by OPA as core program offering
Leamington	successful	one time project providing experience connecting distributed generation at the distribution level, but dispatchable by the IESO
Farm Energy Audits	successful	led to one time development of brochures, videos and government information sheets and provided into PBIP incentives
LDC System		
Distribution System Loss Reduction	successful	continue as additional feeders are identified that would benefit
Smart Meters		
Smart Meter	successful	provided processes and procedures to streamline mass deployment

Conclusions

In general, the MARR-funded CDM programs, over the entire period of the CDM Plan approved by the Board, have achieved substantial positive results.

- The CDM program portfolio to date has produced over \$3.59 of societal benefits for every \$1 spent on program costs, as measured through the Total Resource Cost (TRC) test. In addition, net TRC benefits of \$98 million have been produced.
- Participation in Networks' CDM programs reached almost 1.2 million life-to-date.
- Enrolment in the Residential Load Control Program (SmartStat) reached the target of 10,000 participants on schedule in June 2007. Hydro One initiated three control events in 2007 and five control events in 2008 in response to calls from the OPA, reducing peak demand.
- The Double Return program was launched in the winter of 2007 as a new demand response initiative targeted at Commercial/Industrial distribution-connected customers. This program exceeded expectations by achieving 38MW in winter peak demand reduction and 33MW in summer peak demand reduction.
- The PowerSaver Business Incentive Program was popular among business and institutional customers who sought to reduce their energy consumption and lower their bills. In total, the PowerSaver Business Incentive program provided incentives to 129 business and farm customers, resulting in life cycle energy savings of 217,933,416 kWh and peak demand savings of 2,366 kW.
- The Mass Market programs produced very positive results:
 - Over 1,000,000 energy efficient products were purchased through the Every Kilowatt Counts program, resulting in 444 million kWh of lifecycle savings.
 - The Cold Shoulder Appliance Pickup program gained considerable participation levels (over 11,000 appliances). Initially launched in eastern Ontario, the program was subsequently expanded to include all of southern Ontario in early 2007.
- The Residential In-Home Display program reached distribution of 31,000 units in northern Ontario. Additionally, the Association of Energy Services Professionals (AESP) awarded their Energy Efficient Technology Deployment of the Year award in 2006 to Hydro One and Blue Line Innovations (the manufacturer of the product) for the successful deployment of the Power Cost Monitor. A pilot to test the efficacy in a time-of-use rate environment showed that there is substantial incremental peak demand and energy savings value to in home displays under a time-of-use or any rate regime.
- The online audit generated participation by 13,033 residential and small business customers, with and 7,120 completed full audits.
- The Low Income and Social Housing programs were models for other organizations to follow. These customer groups are among the least able to undertake retrofits on their own and require significant financial assistance.
- Smart Pack educational initiative was delivered to 6,000 grade 5 students in 2007.
- The distribution line loss reduction program resulted in cumulative lifecycle energy savings of 288,882,198 kWh and cumulative peak demand savings of 4,998 kW.

Discussion on remaining balance of third tranche CDM budgets

Networks has completely expended its approved third tranche CDM budget and therefore has no remaining balance to be expended.

Appendices

Appendix A - Evaluation of the 2008 CDM Plan

Highlighted boxes are to be completed manually, white boxes are linked to Appendix C and will be brought forward automatically.

	Total for 2008	Residential	⁵ Low Income	Commercial	Institutional	Industrial	Agricultural	LDC System	⁴ Smart Meters	Other #1	Other #2
<i>Net TRC value (\$):</i>	\$ 9,073,354	\$ (15,158)	\$ -	\$ 350,776	\$ -	\$ -	\$ -	\$ 8,737,736		\$ -	\$ -
<i>Benefit to cost ratio:</i>	7.8	0.0	0.0	3.1	0.0	0.0	0.0	8.6		0.0	0.0
<i>Number of participants or units delivered:</i>	7,285	3,120		4,098				67			
<i>Lifecycle (kWh) Savings:</i>	151,512,786	0	0	6,783,696	0	0	0	144,729,090		0	0
<i>Report Year Total kWh saved (kWh):</i>	8,138,102	0	0	901,647	0	0	0	7,236,455		0	0
<i>Total peak demand saved (kW):</i>	2,832	0	0	197	0	0	0	2,635		0	0
<i>Total kWh saved as a percentage of total kWh delivered (%):</i>	0.03%	0.00%	Low Income consumption data unknown	0.01%	0.00%	0.00%	0.00%	0.03%			
<i>Peak kW saved as a percentage of LDC peak kW load (%):</i>	0.07%	0.00%	Low Income demand data unknown	0.02%	0.00%	0.00%	0.00%	0.06%			
¹ <i>Report Year Gross C&DM expenditures (\$):</i>	\$ 1,383,397	\$ 15,158	\$ -	\$ 66,532	\$ -	\$ 147,816	\$ -	\$ 1,153,891	\$ -	\$ -	\$ -
² <i>Expenditures per kWh saved (\$/kWh):</i>	\$ 0.01	\$ -	\$ -	\$ 0.01	\$ -	\$ -	\$ -	\$ 0.01		\$ -	\$ -
³ <i>Expenditures per kW saved (\$/kW):</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -
<i>Utility discount rate (%):</i>											5.83

¹ Expenditures are reported on accrual 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. Only actual expenditures for the year need to be reported.

⁵ Includes totals from Low Income programs that fall under both commercial and residential.

Appendix B - Discussion of the Program

A. **Name of the Program:** Cold Shoulder Appliance Pickup program

Description of the program (including intent, design, delivery, partnerships and evaluation):

The Cold Shoulder Appliance Pickup program provides customers with free in-home pickup of secondary, operating refrigerators, freezers and room air conditioners.

Measure(s):

	Refrigerators	Freezers	Room Air Conditioners
<i>Base case technology:</i>	1,200 kWh	900 kWh	900 kWh
<i>Efficient technology:</i>	0	0	0
<i>Number of participants or units delivered for reporting year:</i>	4,589	2,247	418
<i>Measure life (years):</i>	6	6	4
<i>Number of Participants or units delivered life to date</i>	7,141	3,489	695

B. <u>TRC Results:</u>	<u>Reporting Year</u>	<u>Life-to-date TRC Results:</u>
¹ TRC Benefits (\$):	\$	8,580,027
² TRC Costs (\$):		
<i>Utility program cost (excluding incentives):</i>	\$ 1,877	\$ 1,342,670
<i>Incremental Measure Costs (Equipment Costs)</i>		\$ 1,101,140
<i>Total TRC costs:</i>	\$ 1,877	\$ 2,443,810
<i>Net TRC (in year CDN \$):</i>	-\$ 1,877	\$ 6,136,217
<i>Benefit to Cost Ratio (TRC Benefits/TRC Costs):</i>		3.5

C. **Results:** (one or more category may apply) **Cumulative Results:**

Conservation Programs:

<i>Demand savings (kW):</i>	<i>Summer</i>	3,095
	<i>Winter</i>	3,390
	<i>lifecycle</i>	<i>in year</i>
<i>Energy saved (kWh):</i>	133,466,659	16,194,283
<i>Other resources saved :</i>		
<i>Natural Gas (m3):</i>		
<i>Oil (litres) :</i>		
<i>Propane (litres):</i>		

Demand Management Programs:

<i>Controlled load (kW)</i>		
<i>Energy shifted On-peak to Mid-peak (kWh):</i>		
<i>Energy shifted On-peak to Off-peak (kWh):</i>		
<i>Energy shifted Mid-peak to Off-peak (kWh):</i>		

Demand Response Programs:

Dispatchable load (kW):

Peak hours dispatched in year (hours):

Power Factor Correction Programs:

Amount of KVar installed (KVar):

Distribution system power factor at beginning of year (%):

Distribution system power factor at end of year (%):

Line Loss Reduction Programs:

Peak load savings (kW):

lifecycle *in year*

Energy savings (kWh):

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):

Energy generated (kWh):

Peak energy generated (kWh):

Fuel type:

Other Programs (specify):

Metric (specify):

D. Actual Program Costs:		Reporting Year	Cumulative Life to Date
Utility direct costs (\$):	Incremental capital:	<input type="text"/>	<input type="text"/>
	Incremental O&M:	\$ 1,877	\$ 1,342,670
	Incentive:	<input type="text"/>	\$ 79,774
	Total:	\$ 1,877	\$ 1,422,444
Utility indirect costs (\$):	Incremental capital:	<input type="text"/>	<input type="text"/>
	Incremental O&M:	<input type="text"/>	<input type="text"/>
	Total:	<input type="text"/>	<input type="text"/>

E. Assumptions & Comments:

Participants received an energy efficiency pack at time of pickup which included 2 CFLs and a timer, along with information on how customers could save energy in their home.

Assumptions for Room Air Conditioners -

1. For Base case technology 900 kWh/yr. is used (this is a conservative estimate since average model being sold today is 880 kWh/yr. as per OEB spreadsheet, and current models will be more efficient than the older models being picked up under this program). Average peak demand used is 1.129 kW (as per Keep Cool results).
2. For Measure Life 4 years is used. This is based on calculating the remaining life of a recycled unit is the same proportion of technology life as was used for Refrigerators in OEB spreadsheet (6 yrs. remaining life / 19 yrs. total life = approx. 1/3). Thus 1/3 of the technology life of 12 years for a room air conditioner is therefore 4 years.

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit benefit specified in the TRC Guide.

² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made to a third party service provider to run an incentives program are program costs, and are to be included as TRC costs under the "Utility Program Costs" line.

Appendix B - Discussion of the Program

Reporting Year: 2008

A. Name of the Program: Seasonal LED Light Exchange

Description of the program (including intent, design, delivery, partnerships and evaluation):

The SLED (Seasonal Light Emitting Diode) Program was marketed to residential customers over the holiday season. 105 communities participated in the 2006 SLED Exchange. Due to a Safety Alert related to the SLEDs, Hydro One used retailer gift cards as a replacement for the SLEDs at all exchanges. Costs incurred in 2007 were due to the recall of the Greenlite Christmas lights. The cost incurred in 2008 were the final incentive payment to the Owen Sound Festival of Lights.

Measure(s):

	Exchange - from 5 Watt bulbs	Exchange- From mini Lights	Exchange - from 7 Watt bulbs
Base case technology:	19 kWh/yr	8 kWh/yr	26 kWh/yr
Efficient technology:	1 kWh/yr	1 kWh/yr	1 kWh/yr
Number of participants or units delivered for reporting year:	-	-	-
Measure life (years):	30	30	30
Number of Participants or units delivered life to date	10,311	14,258	8,069

B. TRC Results:

	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):		\$ 796,490
² TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 7,733	\$ 213,782
Incremental Measure Costs (Equipment Costs)		\$ 55,826
Total TRC costs:	\$ 7,733	\$ 269,608
Net TRC (in year CDN \$):	-\$ 7,733	\$ 526,882
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	0.0	3.0

C. Results: (one or more category may apply)

Cumulative Results:

Conservation Programs:

Demand savings (kW):	Summer		
	Winter		240

	lifecycle	in year	Cumulative Lifecycle	Cumulative Annual Savings
Energy saved (kWh):			16,393,624	546,454
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

Controlled load (kW)		
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):		
Energy shifted Mid-peak to Off-peak (kWh):		

Demand Response Programs:

Dispatchable load (kW):		
Peak hours dispatched in year (hours):		

Power Factor Correction Programs:

Amount of KVar installed (KVar):		
Distribution system power factor at beginning of year (%):		
Distribution system power factor at end of year (%):		

Line Loss Reduction Programs:

Peak load savings (kW):		
Energy savings (kWh):		

lifecycle in year

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		
Fuel type:		

Other Programs (specify):

Metric (specify):		
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D. <u>Actual Program Costs:</u>		<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
Utility direct costs (\$):	Incremental capital:		
	Incremental O&M:	\$ 7,733	\$ 213,782
	Incentive:		\$ 217,861
	Total:	\$ 7,733	\$ 431,643
	Adjustments		
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

[Empty text box for assumptions and comments]

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

Reporting Year: 2008

A. **Name of the Program:** SmartPak Initiative

Description of the program (including intent, design, delivery, partnerships and evaluation):

The SmartPak Education initiative is targeted to Grade 5 students as they cover the energy component of the prescribed science curriculum. This initiative encouraged elementary school students and their households to adopt energy conservation practices within Hydro One Networks' service territory. Costs in 2008 were for management program fees.

Measure(s):

	SmartPaks distributed		
Base case technology:			
Efficient technology:			
Number of participants or units delivered for reporting year:	-		
Measure life (years):			
Number of Participants or units delivered life to date	6,000		

B. TRC Results:

	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):	\$ -	\$ 2,548,721
² TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 5,548	\$ 107,300
Incremental Measure Costs (Equipment Costs)	\$ -	\$ 165,744
Total TRC costs:	\$ 5,548	\$ 273,044
Net TRC (in year CDN \$):	-\$ 5,548	\$ 2,275,677
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	0.0	9.3

C. Results: (one or more category may apply)

Cumulative Results:

Conservation Programs:

	Summer	Winter	Cumulative Lifecycle	Cumulative Annual Savings
Demand savings (kW):				
				140
				639
Energy saved (kWh):			27,170,208	3,128,005
Other resources saved :				
Other (propane):			255,830	25,583
Other (Gas)			1,271,700	127,170
Other (water):			1,753,682	146,140

Demand Management Programs:

Controlled load (kW)		
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):		
Energy shifted Mid-peak to Off-peak (kWh):		

Demand Response Programs:

Dispatchable load (kW):		
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Peak hours dispatched in year (hours):

Power Factor Correction Programs:

Amount of KVar installed (KVar):

Distribution system power factor at beginning of year (%):

Distribution system power factor at end of year (%):

Line Loss Reduction Programs:

Peak load savings (kW):

Energy savings (kWh):

lifecycle

in year

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):

Energy generated (kWh):

Peak energy generated (kWh):

Fuel type:

Other Programs (specify):

Metric (specify):

D. Actual Program Costs:		Reporting Year	Cumulative Life to Date
Utility direct costs (\$):	Incremental capital:		\$ -
	Incremental O&M:	\$ 5,548	\$ 107,300
	Incentive:	\$ -	\$ 165,744
	Total:	\$ 5,548	\$ 273,044
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

TRC assumptions are based on the 2006 OEB Measures and Assumption list. The Assumptions for the LED night light is based on the survey result done by Conservation Educational Services. TRC results are reported in Appendix C under the heading "Education and Communication", as this program was budgeted under that initiative.

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

Reporting Year: 2008

A. Name of the Program: PowerSaver Business Incentive Program

Description of the program (including intent, design, delivery, partnerships and evaluation):

This program provides financial incentives to all business and institutional customers that undertake energy efficiency retrofits in their facilities in order to increase their energy efficiency and lower their costs. Incentives for technologies such as lighting, motors, cooling equipment and energy efficient transformers are provided to this customer group. In 2008, Networks provided incentives to 17 projects that installed over 4,000 measures.

Measure(s):

	Measures implemented		
Base case technology:			
Efficient technology:			
Number of participants or units delivered for reporting year:	4,098		
Measure life (years):			
Number of Participants or units delivered life to date	33,748		

B. TRC Results:	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$)	\$ 521,253	12,869,771
² TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 39,340	\$ 183,464
Incremental Measure Costs (Equipment Costs)	\$ 131,137	\$ 3,034,560
Total TRC costs:	\$ 170,477	\$ 3,218,024
Net TRC (in year CDN \$):	\$ 350,776	\$ 9,651,747
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	3.1	4.0

C. Results: (one or more category may apply)	Cumulative Results:			
Conservation Programs:				
Demand savings (kW):	Summer	197	2,017	
	Winter	180	2,000	
Energy saved (kWh):	lifecycle	in year	Cumulative Lifecycle	Cumulative Annual Savings
	6,783,696	901,647	200,479,087	13,726,479
Other resources saved :				
Natural Gas (m3):				
Other (specify):				
Demand Management Programs:				
Controlled load (kW)				
Energy shifted On-peak to Mid-peak (kWh):				
Energy shifted On-peak to Off-peak (kWh):				
Energy shifted Mid-peak to Off-peak (kWh):				

Demand Response Programs:

Dispatchable load (kW):		
Peak hours dispatched in year (hours):		

Power Factor Correction Programs:

Amount of KVar installed (KVar):		
Distribution system power factor at beginning of year (%):		
Distribution system power factor at end of year (%):		

Line Loss Reduction Programs:

Peak load savings (kW):		
Energy savings (kWh):	lifecycle	in year

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		
Fuel type:		

Other Programs (specify):

Metric (specify):		
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D. <u>Actual Program Costs:</u>		<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
Utility direct costs (\$):	Incremental capital:		
	Incremental O&M:	\$ 39,340	\$ 183,464
	Incentive:	\$ 27,192	\$ 404,912
	Total:	\$ 66,532	\$ 588,377
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

The following sources were used for assumptions in the TRC inputs:
PRESCRIPTIVE PROJECTS:
 1) 2006 OEB Measures and Assumptions list - for measures such as CFLs, Exit Signs and Occupancy sensors
 2) 2006 Marbek Study (for measures such as T8 normal and High performance, Motors, Unitary AC, Transformers)
 3) 2006 Agviro Measures and Assumptions - for prescriptive Agricultural measures;
 4) Assumptions based on estimates actual data coming for technologies such as 6 lamp T8 Fixtures and T5 technologies.
CUSTOM PROJECT:
 Project specific savings and assumptions from the consultant evaluating the applications (i.e. Marbek) were used.

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Reporting Year:** 2008
Name of the Program: Interim TOU Rate Pilot

Description of the program (including intent, design, delivery, partnerships and evaluation):

Interim Time of Use (TOU) rates were offered to general service customers who could achieve an off-peak demand (kW) at least twice their on-peak demand. Distribution rates were the same as for other comparable distribution customers but demand charges are only applied to the peak demand during on-peak hours.

The LTD costs are the difference in revenues that would have been collected at standard distribution rates and what is being collected at TOU distribution rates, plus initial set up costs. This program began in 2004 and ran until April 2008. Three customers below 5 MW participated.

Measure(s):

Base case technology:				
Efficient technology:				
Number of participants or units delivered for reporting year:				
Measure life (years):				
Number of Participants or units delivered life to date		3		

B. TRC Results:		Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$)		\$ -	\$ -
² TRC Costs (\$):			
	Utility program cost (excluding incentives):	\$ -	\$ -
	Incremental Measure Costs (Equipment Costs)		\$ -
	Total TRC costs:	\$ -	\$ -
Net TRC (in year CDN \$):			\$ -

Benefit to Cost Ratio (TRC Benefits/TRC Costs):

C. **Results:** (one or more category may apply) **Cumulative Results:**

Conservation Programs:

Demand savings (kW):	Summer		0
	Winter		0
		<i>lifecycle</i>	<i>in year</i>
Energy saved (kWh):			Cumulative Lifecycle
Other resources saved :			Cumulative Annual Savings
	Natural Gas (m3):		0
	Other (specify):		0

Demand Management Programs:

Controlled load (kW)		
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):		
Energy shifted Mid-peak to Off-peak (kWh):		

Demand Response Programs:

Dispatchable load (kW):		
Peak hours dispatched in year (hours):		

Power Factor Correction Programs:

Amount of KVar installed (KVar):		
Distribution system power factor at beginning of year (%):		
Distribution system power factor at end of year (%):		

Line Loss Reduction Programs:

Peak load savings (kW):		
Energy savings (kWh):	lifecycle	in year

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		
Fuel type:		

Other Programs (specify):

Metric (specify):		
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D. <u>Actual Program Costs:</u>		<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
Utility direct costs (\$):	Incremental capital:		
	Incremental O&M:		
	Incentive:	\$ 147,816	\$ 1,144,888
	Total:	\$ 147,816	\$ 1,144,888
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

[Redacted area for assumptions and comments]

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

Reporting Year: **2008**

A. Name of the Program: **Distribution Loss Reduction**

Description of the program (including intent, design, delivery, partnerships and evaluation):

The Distribution System Loss Reduction Program involves identifying and implementing projects where incremental investments will result in an overall economic benefit to customers by reducing system delivery losses. By December 31, 2007 over 75% of the projects had been completed. In 2008, the remainder of the projects were completed, under the extension approved by the OEB.

Measure(s):

	Projects implemented	
Base case technology:		
Efficient technology:		
Number of participants or units delivered for reporting year:	67	
Measure life (years):		
Number of Participants or units delivered life to date	286	

B. TRC Results:	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):	\$ 9,891,627	\$ 19,256,096
² TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 1,153,891	\$ 6,552,410
Incremental Measure Costs (Equipment Costs)	\$ -	\$ -
Total TRC costs:	\$ 1,153,891	\$ 6,552,410
Net TRC (in year CDN \$):	\$ 8,737,736	\$ 12,703,686
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	8.6	2.9

C. **Results:** (one or more category may apply) **Cumulative Results:**

Conservation Programs:

Demand savings (kW):	Summer	2,635	4,998
	Winter		

	lifecycle	in year	Cumulative Lifecycle	Cumulative Annual Savings
Energy saved (kWh):	144,729,090	7,236,455	288,882,198	14,444,110

Other resources saved :

Natural Gas (m3):			
Other (specify):			

Demand Management Programs:

Controlled load (kW)		
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):		
Energy shifted Mid-peak to Off-peak (kWh):		

Demand Response Programs:

Dispatchable load (kW):		
Peak hours dispatched in year (hours):		

Power Factor Correction Programs:

Amount of KVar installed (KVar):		
Distribution system power factor at beginning of year (%):		
Distribution system power factor at end of year (%):		

Line Loss Reduction Programs:

Peak load savings (kW):			
	<i>lifecycle</i>	<i>in year</i>	
Energy savings (kWh):			

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		
Fuel type:		

Other Programs (specify):

Metric (specify):		
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<u>D. Actual Program Costs:</u>		<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
Utility direct costs (\$):	Incremental capital:	\$ 1,153,891	\$ 6,552,410
	Incremental O&M:		
	Incentive:		
	Total:	\$ 1,153,891	\$ 6,552,410
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

Savings calculated are based on data from Hydro One System Investment group.

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

Reporting Year: 2008

A. **Name of the Program:** PowerSaverPlus - Online Energy Audits

Description of the program (including intent, design, delivery, partnerships and evaluation):

By the end of 2007, over 4,000 customers had completed the self-administered Online Energy Audit program and received recommendations on how they could lower their usage and electricity bill. An additional 3,120 on-line audits were completed in 2008.

Measure(s):

	2007 Participants	2008 Participants	
Base case technology:			
Efficient technology:			
Number of participants or units delivered for reporting year:	4,000	3,120	
Measure life (years):			
Number of Participants or units delivered life to date		7,120	

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):		\$ -
² TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ -	\$ 212,670
Incremental Measure Costs (Equipment Costs)		\$ -
Total TRC costs:	\$ -	\$ 212,670
Net TRC (in year CDN \$):	\$ -	-\$ 212,670
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	0.0	0.0

C. **Results:** (one or more category may apply)

Cumulative Results:

Conservation Programs:

		Cumulative Results:	
		Cumulative Lifecycle	Annual Savings
Demand savings (kW):	Summer		0
	Winter		
Energy saved (kWh):	lifecycle		-
Other resources saved :	in year		-
Other (propane):			
Other (water):			-

Demand Management Programs:

Controlled load (kW)		
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):		
Energy shifted Mid-peak to Off-peak (kWh):		

Demand Response Programs:

Dispatchable load (kW):		
Peak hours dispatched in year (hours):		

Power Factor Correction Programs:

Amount of KVar installed (KVar):		
Distribution system power factor at beginning of year (%):		
Distribution system power factor at end of year (%):		

Line Loss Reduction Programs:

Peak load savings (kW):		
Energy savings (kWh):	lifecycle	in year

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		
Fuel type:		

Other Programs (specify):

Metric (specify):		
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D. <u>Actual Program Costs:</u>		<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
Utility direct costs (\$):	Incremental capital:		\$ -
	Incremental O&M:	\$ -	\$ 212,670
	Incentive:		\$ -
	Total:	\$ -	\$ 212,670
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix C - Program and Portfolio Totals

Report Year: **2008**

1. Residential Programs

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
<i>Cold Shoulder Appliance Pick up</i>	\$ -	\$ 1,877	-\$ 1,877	0.0				\$ 1,877
<i>Seasonal LED Light Exchange</i>	\$ -	\$ 7,733	-\$ 7,733	0.0	0	0	0	\$ 7,733
<i>SmartPak Program</i>	\$ -	\$ 5,548	-\$ 5,548	0.0	0	0	0	\$ 5,548
*Totals App. B - Residential	\$ -	\$ 15,158	-\$ 15,158	0.0	0	0	0	15,158
<i>Residential Indirect Costs not attributable to any specific program</i>	→							
Total Residential TRC Costs		\$ 15,158						
**Totals TRC - Residential	\$ -	\$ 15,158	-\$ 15,158	0.0				

2. Commercial / MUSH Programs

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
<i>PowerSaver Business Incentive Program</i>	\$ 521,253	\$ 170,477	\$ 350,776	3.1	901,647	6,783,696	197	\$ 66,532
*Totals App. B - Commercial / MUSH	\$ 521,253	\$ 170,477	\$ 350,776	3.1	901,647	6,783,696	197	\$ 66,532
<i>Commercial / MUSH Indirect Costs not attributable to any specific program</i>	→							
Total TRC Costs		\$ 170,477						
**Totals TRC - Commercial / MUSH	\$ 521,253	\$ 170,477	\$ 350,776	3.1				

3. Industrial Programs

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
<i>Interim Time of Use</i>	\$ -	\$ -	\$ -	0.0	0	0	0	\$ 147,816
*Totals App. B - Industrial	\$ -	\$ -	\$ -	0.0	0	0	0	\$ 147,816
<i>Industrial Indirect Costs not attributable to any specific program</i>	→							
Total TRC Costs		\$ -						
**Totals TRC - Industrial	\$ -	\$ -	\$ -	0.0				

4. Agricultural Programs

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
*Totals App. B - Agricultural	\$ -	\$ -	\$ -	0.0	0	0	0	\$ -

Agricultural Indirect Costs not attributable to any specific program

Total TRC Costs		\$	-					
**Totals TRC - Agricultural	\$	-	\$	-	\$	-		0.0

5. LDC System Programs

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
Distribution Loss Reduction System	\$ 9,891,627	\$ 1,153,891	\$ 8,737,736	8.6	7,236,455	144,729,090	2,635	\$ 1,153,891
*Totals App. B - LDC System	\$ 9,891,627	\$ 1,153,891	\$ 8,737,736	8.6	7,236,455	144,729,090	2,635	\$ 1,153,891

LDC System Indirect Costs not attributable to any specific program

Total TRC Costs		\$	1,153,891					
**Totals TRC - LDC System	\$	9,891,627	\$	1,153,891	\$	8,737,736		8.6

6. Smart Meters Program

Only spending information that was authorized under the 3rd tranche of MARR is required to be reported for Smart Meters.

Report Year Gross C&DM Expenditures (\$)

7. Other Programs

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
*Totals App. B - Other	\$ -	\$ -	\$ -	0.0	0	0	0	\$ -
	\$ -	\$ -	\$ -	0.0	0	0	0	\$ -

Other Indirect Costs not attributable to any specific program

Total TRC Costs		\$	-					
**Totals TRC - Other	\$	-	\$	-	\$	-		0.0

LDC's CDM PORTFOLIO TOTALS

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
*TOTALS FOR ALL APPENDIX B	\$ 10,412,880	\$ 1,339,526	\$ 9,073,354	7.8	8,138,102	151,512,786	2,832	\$ 1,383,397
Any <i>other</i> Indirect Costs not attributable to any specific program								
TOTAL ALL LDC COSTS								
**LDC' PORTFOLIO TRC	\$	10,412,880	\$	1,339,526	\$	9,073,354		7.8

* The savings and spending information from this row is to be carried forward to Appendix A.

Appendix D - Total Life Evaluation of the CDM Plan

Table is to be completed manually by totalling the information from each year of activity

	⁵ Cumulative Totals Life-to-date	Residential	⁶ Low Income	Commercial	Institutional	Industrial	Agricultural	LDC System	⁴ Smart Meters	Other #1	Other #2
<i>Net TRC value (\$):</i>	\$ 97,933,537	\$ 66,259,006	\$ 3,561,622	\$ 10,301,265		\$ 6,658,407	\$ 753,202	\$ 12,703,686		-\$ 2,303,651	
<i>Benefit to cost ratio:</i>	3.59	4.24	2.13	3.78		7.41	2.08	2.94		-	
<i>Number of participants or units delivered:</i>	1,176,705	1,116,458	26,016	13,509		768	177	286	19,491	-	
<i>Lifecycle (kWh) Savings:</i>	1,637,069,635	887,452,631	115,751,166	218,631,243		108,898,068	17,454,329	288,882,198		-	
<i>Total kWh saved (kWh):</i>	284,575,293	135,374,144	8,373,080	15,559,044		108,854,220	1,970,695	14,444,110		-	
<i>Total peak demand saved (kW):</i>	67,429	25,078	1,017	2,216		33,773	349	4,997		-	
<i>Total kWh saved as a percentage of total kWh delivered (%):</i>	1.1%	1.2%	Low Income consumption data unknown	0.2%		2.1%	0.1%	0.1%			
<i>Peak kW saved as a percentage of LDC peak kW load (%):</i>	1.6%	1.2%	Low Income demand data unknown	0.2%		4.1%	0.1%	0.1%			
¹ <i>Gross C&DM expenditures (\$):</i>	39,581,436	14,686,173	3,167,816	905,826		3,634,558	457,501	6,552,410	7,800,000	2,378,652	
² <i>Expenditures per kWh saved (\$/kWh):</i>	\$ 0.02	\$ 0.01	\$ 0.03	\$ 0.00		\$ 0.02	\$ 0.02	\$ 0.02			
³ <i>Expenditures per kW saved (\$/kW):</i>	\$ 194.25	\$ 469.55	\$ -	\$ -		\$ 103.17	\$ -	\$ -			
<i>2008 Utility discount rate (%):</i>	5.83										

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 both commercial and residential.