



CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.
1500 Bishop Street, P.O. Box 1060, Cambridge, ON N1R 5X6

March 31, 2009

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street Suite 2700
P.O. Box 2319
Toronto, ON M4P 1E4

Dear Ms. Walli,

**Re: Cambridge & North Dumfries Hydro Inc. – RP–2004-0203/EB-2005-0199
2008 Conservation and Demand Management Annual Report**

Enclosed please find three (3) hard copies and two (2) electronic copies of Cambridge & North Dumfries Hydro Inc.'s 2008 Conservation and Demand Management Annual Report.

The electronic copies are provided on the enclosed CD-ROM. One copy includes the Appendices in MS-Excel format while the other copy includes the entire report in Adobe Acrobat (PDF) format.

For the reporting year 2008, Cambridge & North Dumfries Hydro Inc. was not engaged in any Conservation and Demand Management activities relating to the third tranche of MARR.

Sincerely,

CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.

A handwritten signature in blue ink, appearing to read "J. Grotheer", with a horizontal line extending to the right.

John W. Grotheer
President and CEO



CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.

Cambridge and North Dumfries Hydro Inc.

OEB Reporting # RP-2004-0203/EB-2005-0199

Conservation and Demand Management Final Report

Submitted to Board Secretary
The Ontario Energy Board

March 31st, 2009

Prepared by:

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I. INTRODUCTION

Cambridge and North Dumfries Hydro Inc. (CND Hydro) is a progressive local distribution company that serves 49,400 customers in the City of Cambridge and the Township of North Dumfries. Our vision is to exceed customer and other stakeholder expectations through operational excellence. We are also proud that when it comes to energy conservation, we as the local distribution utility, are leaders in the community.

On January 12, 2005 Cambridge and North Dumfries Hydro Inc. submitted an application to the Ontario Energy Board for an Order approving their CDM plan. Since receiving approval from the Board, we have sought out innovative means of providing C&DM programs to our customers. Our approved plan outlined elements that would be delivered to 6 different customer classes; Total Customer Base, Residential, Small Commercial, Mid to Large Scale, Government and Institutional and to our own LDC Asset Base. The total budget for the CDM Plan was consistent with the third installment of incremental Market Adjusted Revenue Requirement (MARR) in the amount of \$2,161,652.

As a result of the approved CDM budget and plan, we successfully ran numerous programs throughout 2005, 2006, and 2007. With the wrap up of the programs in September of 2007, CND Hydro transitioned into delivery of the province-wide Ontario Power Authority programs and therefore did not deliver any programs during 2008 under Third Tranche Funding.

Through the programs reported on herein, Cambridge and North Dumfries Hydro Inc. were able to take a lead role in educating and promoting energy conservation in the community. Our strong focus on conservation awareness and responsibility, for all ages, will greatly increase the development of a Culture of Conservation across our service territory.



Switch: Our Energy Champion!

II. EVALUATION OF THE CDM PLAN

A Summary of CDM programs undertaken by Cambridge and North Dumfries Hydro Inc. are reported on herein:

1.0 Total Customer Base

- 1.1 Customer Education Campaigns
- 1.2 Compact Fluorescent Bulb Giveaways
- 1.3 Earth Day Celebration
- 1.4 Conservation Kits
- 1.5 Every Kilowatt Counts Coupon Campaign
- 1.6 Switch to Cold Campaign

2.0 Residential Customer Base

- 2.1 Residential Energy Audits
- 2.2 Geothermal Heating/Solar Water Heating Installation Incentive
- 2.3 Regional Housing Program
- 2.4 Seasonal LED Light Strings
- 2.5 Fridge/Freezer Replacement Program
- 2.6 Heat Bank Program
- 2.7 Smart Thermostats

3.0 Small Business Customer Base

- 3.1 On-site Energy Audits
- 3.2 Clean Air Foundation's - Cool Shops Program
- 3.3 Church Energy Audits

4.0 Mid to Large Scale Customers

- 4.1 Power Factor Correction Program
- 4.2 Installation of Interval Meters and Data Consulting

5.0 Government and Institutional Customer Base

- 5.1 Street Light Upgrades
- 5.2 LED Traffic Light Conversions

6.0 LDC Corporate Asset Base

- 6.1 Lighting Retrofit on Corporate Office
- 6.2 LCD Monitor Replacements
- 6.3 Rooftop Heating Equipment Upgrades
- 6.4 Outdoor Conservation Sign
- 6.5 Capacitor Bank Installations

III. DISCUSSION OF THE PROGRAMS

1.0 Total Customer Base

1.1 Customer Education Campaigns

Cambridge & North Dumfries Hydro Inc. embarked on programs designed to raise awareness and promote a Culture of Conservation. These programs included, among other things, newspaper and magazine advertising, speaking engagements, corporate web site upgrades including a dedicated Conservation section and Energy Calculator and promotional graphics on one of the company's cube vans.

CND Hydro took an aggressive leadership role in educating their customers about the positive benefits of energy conservation. Several innovative new programs were designed to reinforce the culture of conservation that we strive to achieve. These programs and initiatives include;

- a. *Raising Community Awareness* - In order to promote energy conservation throughout our service territory we advertised energy saving tips in the local newspapers, the Ayr News and the Cambridge Times with a combine circulation of just over 40,000 customers. Our website contains similar energy saving information as well as details on the CDM programs that are underway and upcoming.

We have also purchased many giveaway promotional items that serve as reminders to customers about our dedication to energy conservation and our community.

In 2006, we worked in partnership with the Cambridge Chamber of Commerce to create a new Bell Business Award, the "Environment Award - Excellence in Energy Conservation", to be awarded to a business in recognition of their achievements in energy conservation. This award is presented at the Chamber's annual banquet held in March of each year.

- b. *Reaching our Youth* - Two partnerships were formed to reach our future generations with the message about learning to conserve.

The first was the sponsorship of a new Energy Conservation exhibit at the Waterloo Region Children's Museum.

The other partnership is with the Waterloo Region District School Board, where a pilot Grade 5 module, "Reduce Your Use" was created and launched in 25+ schools in March of 2007. This exciting venture has provided the opportunity to foster a sense of environmental responsibility in our youth. As part of this partnership we had a 'larger than life' energy champion, "Switch", created to visit classrooms and celebrate student's achievements in energy conservation.

- c. *Speaking Engagements* - Our President and CEO, John Grotheer, is continually looking for opportunities to reach out to customers with this important message. He has spoken with MPPs at Town Hall Meetings, Senior's Homes, the Canadian Technology Triangle, the Association for Operations Management, and the launch of a new exhibit at the Waterloo Region Children's Museum.



1.2 Compact Fluorescent Lightbulb Giveaways

Cambridge & North Dumfries Hydro Inc. distributed 22,139 13/15 watt and 23 watt compact fluorescent light bulbs through a number of initiatives and promotions. These include:

Food Bank: CFLs and energy savings tips were provided to Food Bank recipients as a means to help people conserve energy and lower their utility bills.

Golf Tournament: CFLs were distributed along with energy savings tips to participants of a charity golf tournament to raise awareness and promote conservation.

Energy Kits: Energy kits consisting of CFLs literature and energy savings tips were distributed at environmental forums, service clubs and to employees.

Other CFL distribution opportunities included the Fall Home Energy Savings Show, energy-conservation speaking engagements, and internal employee campaigns. Those receiving a complimentary CFL were also provided with educational material about the benefits and savings attributed to installing CFLs over a standard incandescent.

1.3 Earth Day Celebrations

The 2007 Earth Day weekend in April saw a very successful event held at the Cambridge Centre Mall. We ordered 3500 energy kits that included; 2 CFLs, an LED night light, a shower timer, outlet gaskets, fridge thermometer and energy saving tips. These kits were given out by our slew of employee volunteers at a booth we set up. The community was very excited about this giveaway and the chance to talk conservation with us.

1.4 Conservation Kits

In 2006, we ordered 500 energy kits for distribution internally and in the community. They contained items such as LED night lights, 13-W CFL, foam receptacle gaskets, a water heater temperature card, and a low-flow shower head. On top of this the bag also contained a header card with many tips on using the new products to save energy in customer's homes.

1.5 Every Kilowatt Counts Coupon Campaign

In both the Spring and the Fall of 2006, CND Hydro participated in the Conservation Bureau's Every Kilowatt Counts coupon campaign. All customers in our service territory received the book of coupons by mail, and also had the opportunity to use in-store coupons when purchasing any of the 6 featured energy saving products. Participation in the Fall program was much more successful than the Spring session, but both resulted in a positive TRC.

1.6 Switch to Cold Campaign

In 2005 and 2006, Cambridge & North Dumfries Hydro Inc. participated in the Canadian Energy Efficiency Alliance's "Switch to Cold" campaign in which 48,000 - \$1 off coupons were distributed. It is assumed there was a redemption rate of between 3 and 5 per-cent.



2.0 Residential Customer Base

2.1 Residential Energy Audits

In all three years, CND Hydro supported the efforts of the Residential Energy Efficiency Project (REEP) of Waterloo Region in their delivery of residential energy audits. Funding was provided to subsidize the cost of the audit to the customer, the administrative costs of the organization to provide the audits, and matching grants for customers who achieved successful improvements in retrofits as recognized by Natural Resources Canada under the EnerGuide for Houses program.

The cancellation of the EnerGuide program in May of 2006 saw a slight increase in funding to cover the cost of continuing to provide energy audits to our customers.

During the visit, customers were also offered an 'Electrical Audit' on their major appliances and received 2 complimentary CFLs.

2.2 Geothermal Heating/Solar Water Heating Installation Incentive

Cambridge & North Dumfries Hydro Inc. provided incentives of \$1,500 each for the installation of a geothermal ground source heating/cooling system or solar water heating system.

In 2005, 2 ground source heating systems and 1 solar water heating system were installed by customers and the grants were paid. In 2006, 7 customers converted to ground source heating/cooling systems and in 2008, 10 customers converted to ground source heating/cooling.

2.3 Regional Housing Program

Funding was provided to the Region of Waterloo to install Safe-T-elements in 249 Regional Housing Units in Cambridge. By lowering the element output to exactly what the user requires, the Safe-T-element boasts a savings of \$5,400 in an apartment building with 100 units. In this case the estimated savings for the Region of Waterloo Housing would be \$13,446.

2.4 Seasonal LED Light Strings

In 2005, Cambridge & North Dumfries Hydro Inc. undertook a Festive Light Exchange whereby customers could exchange up to 5 strings of old, incandescent festive lights for up to 5 strings of new, energy efficient lights. 15,000 strings of lights were exchanged at this event.

In 2006, 300 light strings were exchanged with the Cambridge Memorial Hospital Foundation for the Tree of Caring which raises money each Christmas for the Foundation. Other strands were exchanged internally with the LDC, and given away as charitable donations in gift baskets.

In 2007, we used the remaining funding for seasonal light exchanges to provided 80 strands of Festive Lights to the City of Cambridge for their Family Christmas Extravaganza to replace the incandescent strands they had been using. This also provided the opportunity for some education to the City's event about the savings they could incur if they switched out all their strands.

2.5 Fridge/Freezer Replacement Program

CND Hydro worked on creating a program to encourage the change-out of old refrigerators in bulk-metered apartment buildings. This program was created in-house to encourage the replacement of old, inefficient refrigerators in bulk-metered apartment buildings with new ENERGYSTAR models. Although uptake was slow, we had some dedicated landlords in Cambridge who embraced the program and made the change. Altogether, we had 5 property managers take part and we saw the replacement of 92 refrigerators.

2.6 Heat Bank Program

Cambridge & North Dumfries Hydro Inc. provided funds to facilitate home energy audits for recipients of heating assistance funds with the belief that it would help these people conserve energy and lower their utility bills.

2.7 Smart Thermostats

Funding was provided to the Region of Waterloo to install occupancy based thermostats in 446 Regional Housing Units in Cambridge, that are heated with electric baseboard heaters. The technology in these thermostats allows for a set back on the temperature of the heater when a motion sensor detects no activity in the room.

3.0 Small Business Customer Base

3.1 On-site Energy Audits

In 2005, an Energy Audit process was developed by in-house staff. An advertisement was placed in the Chamber of Commerce magazine offering this service to small commercial customers. Although circulated to 1,600 businesses, we did not receive any calls or requests for this service.

3.2 Clean Air Foundation's - Cool Shops

Energy audits on 202 small businesses in the City of Cambridge and the Township of North Dumfries were conducted through the Clean Air Foundation's Cool Shops program during a three month period in 2006. The results of the audits conducted were deemed a success and also saw the purchase of other lighting products at a discounted rate through the program.

3.3 Church Energy Audits

It had been our intention to run the Cool Shops program in 2007 after a highly successful campaign in 2006. Due to lack of interest by other LDCs, the Clean Air Foundation discontinued the program. As a result, we allocated some of our resources towards conducting energy audits for churches in our community.

REEP offered a church audit that modeled the residential audit they performed. Two churches in Cambridge participated and were given suggestions on light upgrades to help reduce their electrical consumption.

4.0 Mid to Large Scale Customers

4.1 Power Factor Correction Program

After providing interval metering data to our large use customers as part of a previous program, CND Hydro decided to run a Power Factor Correction Program, offering to assist our large users with correcting their power factors. We offered payment towards a study and also the installation of new equipment.

Unfortunately there was no uptake on this program, save for one study that was completed. Letters were sent out to customers with poor power factors, and follow up calls made.

4.2 Installation of Interval Meters and Data Consulting

An investment of approximately \$30,200 for new meters and ancillary equipment was made so that all customers with demands of 200 kW and above would have Interval Meters.

All customers with demands of 200 kW and above were provided with access to a web presentment product that allows the customer to log in and review their energy consumption patterns.

50 selected customers were offered 18 months of free services by a professional consulting firm to assist them in managing their energy use and looking for opportunities to reduce their demand, consumption and costs. We contracted with VIP Energy Services Inc. to provide the data and consulting to the 42 customers who chose to participate. As a result of these services, VIP is reporting decreases in total energy consumption and peak demand as shown below;

| | |
|-----------------------------|--|
| <i>Average Demand (kW)</i> | -1.01% |
| <i>Peak Demand (kW)</i> | -1.34% |
| <i>Average Power Factor</i> | 86.91% up 0.38% |
| <i>Average Load Factor</i> | 58.64% down 1.08% |
| <i>Consumption (kWh)</i> | -4.07% a reduction of 7,939 MWh |

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5.0 Government and Institutional Customer Base

5.1 Street Light Upgrades

In 2005, Cambridge & North Dumfries Hydro Inc. replaced 770 old mercury vapour (MV) streetlights with newer, more energy efficient high pressure sodium (HPS) lights.

- 216 - 100 watt HPS replaced 175 watt MV
- 499 - 150 watt HPS replaced 250 watt MV
- 55 - 250 watt HPS replaced 400 watt MV

In 2006, funding was provided to upgrade and additional 306 Mercury Vapour street lights throughout our service territory. Conversions were made to 100W, 150W and 250W bulbs.

5.2 LED Traffic Light Conversions

Cambridge & North Dumfries Hydro Inc.'s CDM Plan included funds to subsidize the conversion of older traffic lights to new, energy efficient LED systems. Traffic Signals at 87 intersections in the CND Hydro service territory were upgraded with new LED technology, reducing the operating costs to the Region.



6.0 LDC Corporate Asset Base

6.1 Lighting Retrofit on Corporate Office

Lighting in the Cambridge & North Dumfries Hydro Inc. offices were converted to more energy efficient lighting, and motion sensors were installed in selected locations.

6.2 LCD Monitor Replacements

With a focus on 'walking the talk' CND Hydro upgraded 48 CRT computer monitors with new ENERGYSTAR LCD computer monitors. The savings with this new technology has helped reduce operating costs in the office and provided a means to educate staff about purchasing electronics with the ENERGYSTAR symbol.

6.3 Rooftop Heating Equipment Upgrades

Upgrades were made to the rooftop heating system at CND Hydro's office. 6 units were replaced with a new gas/electric unit.

6.4 LDC Outdoor Sign

The office of CND Hydro is located on a busy road in Cambridge, and many of our customers still prefer to visit the office to pay their bills. As a result, we saw a great opportunity to yet again, reach our customers with the Conservation message. We installed an LED sign in front of the building where we continue to make notifications about conservation events and provide customers with tips on saving energy that can change with the season or day.

6.5 Capacitor Bank Installations

In order that we continue our own internal dedication to improving efficiency, capacitor banks were installed on Feeders from MTS#1 and Preston TS to improve our power factor above the 90% threshold and free up transformer station capacity. The equipment cost to install sixteen 1200kVar capacitor banks were charged to the conservation program, while labour, trucking, materials, etc. required for the installation was paid out from our capital budget.

IV. LESSONS LEARNED

The following provides an overview of the lessons learned by CND Hydro Inc. for the Conservation and Demand Management Programs;

2005:

- Advertising and the development of a Conservation Culture are difficult to quantify in terms of energy savings. Both the direct advertising and the indirect benefits of program promotions likely have raised awareness and resulted in conservation.
- Work needs to be done to track and quantify energy savings that result from professional audits and the recommendations that come from those audits. Smart Meters may enable measurement of improvements resulting from efficiency upgrades and lifestyle changes in the future.
- The initial implementation of Home Energy Audits in 2005 has identified additional requirements for improvement in reporting by the third-parties executing the program. These improvements will help better align measures to OEB reporting requirements.
- Programs that were planned and executed in-house yielded the highest net TRC values (Festive Light Exchange and CFL Bulb Giveaways).

2006:

- The programs resulting in the highest TRC value were those that distributed compact fluorescent light bulbs.
- There were no solar assisted water heaters installed in 2006, this could be the result of low advertising of the incentive and poor customer knowledge about the technology.
- The in-house Refrigerator Replacement Incentive Program had a low uptake in 2006. Early response indicates that there was too much paperwork involved and timing of the program did not provide the appropriate budgeting requirements needed for a large change-out of appliances.
- Many of our Mid to Large Commercial customers have been inquiring about incentives for lighting upgrades. There appears to be a need in the market for upgrades and incentives for lighting changes in mid to large scale applications.
- Our presence at the Cambridge Fall Home Show was a great way to reach our customers. We had the highest attendance for our seminar and the booth was always busy with customers who had questions or were looking for information about products and our services. More community outreach events should be held.

2007:

- The best way to reach as many customers as possible is being out in the community. Through speaking engagements, the message is getting out; but we had the most success with our weekend event for Earth Day. With small promotions, and the delivery of energy kits, we had customers lined up around the halls to get to our booth. It was a great chance to deliver energy saving products, meet the customer, and be a presence in the community.
- The successes and energy savings from the Residential Energy Audits are difficult to quantify and report on. Although it could be assumed that every customer who participates in the program makes some change, no matter how minor, it is impossible to know for sure how much energy is being saved a result.
- Our Refrigerator Replacement Program had a lower than expected uptake, this could be as a result of a short window that the program was offered during. We did extend the participation time, but eventually ended it in order to support the OPA's Great Refrigerator Roundup.
- The results from the Power Factor Correction Program were disappointing. The uptake was expected to yield some great results, especially when we spoke directly to the customers with the worst power factor. In the future it would be advantageous to work directly with the customers, one on one, to address the issues and explain how power factor correction can be of benefit to them.

V. CONCLUSION

The attached Appendix "D" summarizes total spending on Cambridge and North Dumfries Hydro Inc.'s Conservation and Demand Management Programs to the end of 2008.



VI. REMAINING BALANCE OF THIRD TRANCHE FUNDING

As of December 31, 2008 there is no balance of third tranche budget remaining. CNDHI spent the total third tranche budget at the end of September, 2007.

VII. APPENDICES

Appendix "A" - Evaluation of the Conservation and Demand Management Plan

Appendix "B" - Discussion of the Programs

Appendix "C" - Program and Portfolio Totals

Appendix "D" - Total Life Evaluation of the CDM Plan

Appendix A - Evaluation of the 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> | \$ - | \$ - | | \$ - | \$ - | \$ - | \$ - | \$ - | | \$ - | \$ - |
| <i>Benefit to cost ratio:</i> | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 |
| <i>Number of participants or units delivered:</i> | | | | | | | | | | | |
| <i>Lifecycle (kWh) Savings:</i> | 0.0 | 0.0 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 |
| <i>Report Year Total kWh saved (kWh):</i> | 0.0 | 0.0 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 |
| <i>Total peak demand saved (kW):</i> | 0.0 | 0.0 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 |
| <i>Total kWh saved as a percentage of total kWh delivered (%):</i> | | | | | | | | | | | |
| <i>Peak kW saved as a percentage of LDC peak kW load (%):</i> | | | | | | | | | | | |
| ¹ <i>Report Year Gross C&DM expenditures (\$):</i> | \$ - | \$ - | | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| ² <i>Expenditures per kWh saved (\$/kWh):</i> | \$ - | \$ - | | \$ - | \$ - | \$ - | \$ - | \$ - | | \$ - | \$ - |
| ³ <i>Expenditures per kW saved (\$/kW):</i> | \$ - | \$ - | | \$ - | \$ - | \$ - | \$ - | \$ - | | \$ - | \$ - |
| <i>Utility discount rate (%):</i> | | | | | | | | | | | |

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.

Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. **Name of the Program:**

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

Measure(s):

| | Measure 1 | Measure 2 (if applicable) | Measure 3 (if applicable) |
|---|--|--|--|
| 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 | | | |

| B. TRC Results: | Reporting Year | 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 \$): | | |
| <hr style="border-top: 3px double #000;"/> | | |
| Benefit to Cost Ratio (TRC Benefits/TRC Costs): | | |

| C. Results: (one or more category may apply) | Cumulative Results: |
|--|--|
| <u>Conservation Programs:</u> | |
| Demand savings (kW): | |
| Summer | |
| Winter | |
| lifecycle | |
| in year | |
| Energy saved (kWh): | |
| Other resources saved : | |
| Natural Gas (m3): | |
| Other (specify): | |
| <u>Demand Management Programs:</u> | |
| 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): | |
| <u>Demand Response Programs:</u> | |
| Dispatchable load (kW): | |
| Peak hours dispatched in year (hours): | |
| <u>Power Factor Correction Programs:</u> | |
| 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): | | |
|-------------------|--|--|

| <u>Actual Program Costs:</u> | | <u>Reporting Year</u> | <u>Cumulative Life to Date</u> |
|-------------------------------------|-----------------------------|------------------------------|---------------------------------------|
| Utility direct costs (\$): | <i>Incremental capital:</i> | | |
| | <i>Incremental O&M:</i> | | |
| | <i>Incentive:</i> | | |
| | <i>Total:</i> | | |
| Utility indirect costs (\$): | <i>Incremental capital:</i> | | |
| | <i>Incremental O&M:</i> | | |
| | <i>Total:</i> | | |

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 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 C - Program and Portfolio Totals

Report Year: 2008

1. Residential Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

| | 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 (\$) |
|--|-------------------|----------------|---------------------|--------------------|-----------------------------|-------------------------|------------------------------|--|
| Name of Program A | | | \$ - | 0.00 | | | | |
| Name of Program B | | | \$ - | 0.00 | | | | |
| Name of Program C | | | \$ - | 0.00 | | | | |
| Name of Program D | | | \$ - | 0.00 | | | | |
| Name of Program E | | | \$ - | 0.00 | | | | |
| Name of Program F | | | \$ - | 0.00 | | | | |
| Name of Program G | | | \$ - | 0.00 | | | | |
| Name of Program H | | | \$ - | 0.00 | | | | |
| Name of Program I | | | \$ - | 0.00 | | | | |
| Name of Program J | | | \$ - | 0.00 | | | | |
| *Totals App. B - Residential | \$ - | \$ - | \$ - | 0.00 | 0 | 0 | 0 | \$ - |
| <i>Residential Indirect Costs not attributable to any specific program</i> | → | | | | | | | |
| Total Residential TRC Costs | | \$ - | | | | | | |
| **Totals TRC - Residential | \$ - | \$ - | \$ - | 0.00 | | | | |

2. Commercial Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

| | 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 (\$) |
|------------------------------------|-------------------|----------------|---------------------|--------------------|-----------------------------|-------------------------|------------------------------|--|
| Name of Program A | | | \$ - | 0.00 | | | | |
| Name of Program B | | | \$ - | 0.00 | | | | |
| Name of Program C | | | \$ - | 0.00 | | | | |
| Name of Program D | | | \$ - | 0.00 | | | | |
| Name of Program E | | | \$ - | 0.00 | | | | |
| Name of Program F | | | \$ - | 0.00 | | | | |
| Name of Program G | | | \$ - | 0.00 | | | | |
| Name of Program H | | | \$ - | 0.00 | | | | |
| Name of Program I | | | \$ - | 0.00 | | | | |
| Name of Program J | | | \$ - | 0.00 | | | | |
| *Totals App. B - Commercial | \$ - | \$ - | \$ - | 0.00 | 0 | 0 | 0 | \$ - |

Commercial Indirect Costs not attributable to any specific program



| | | | | | | |
|----------------------------------|----|----|----|---|----|------|
| Total TRC Costs | | \$ | - | | | |
| **Totals TRC - Commercial | \$ | - | \$ | - | \$ | 0.00 |

3. Institutional Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

| | 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 (\$) |
|---------------------------------------|-------------------|----------------|---------------------|--------------------|-----------------------------|-------------------------|------------------------------|--|
| Name of Program A | | | \$ - | 0.00 | | | | |
| Name of Program B | | | \$ - | 0.00 | | | | |
| Name of Program C | | | \$ - | 0.00 | | | | |
| Name of Program D | | | \$ - | 0.00 | | | | |
| Name of Program E | | | \$ - | 0.00 | | | | |
| Name of Program C | | | \$ - | 0.00 | | | | |
| Name of Program G | | | \$ - | 0.00 | | | | |
| Name of Program H | | | \$ - | 0.00 | | | | |
| Name of Program I | | | \$ - | 0.00 | | | | |
| Name of Program J | | | \$ - | 0.00 | | | | |
| *Totals App. B - Institutional | \$ | - | \$ | - | 0 | 0 | 0 | \$ - |

Institutional Indirect Costs not attributable to any specific program



| | | | | | | |
|-------------------------------------|----|----|----|---|----|------|
| Total TRC Costs | | \$ | - | | | |
| **Totals TRC - Institutional | \$ | - | \$ | - | \$ | 0.00 |

4. Industrial Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

| | 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 (\$) |
|-------------------|-------------------|----------------|---------------------|--------------------|-----------------------------|-------------------------|------------------------------|--|
| Name of Program A | | | \$ - | 0.00 | | | | |
| Name of Program C | | | \$ - | 0.00 | | | | |
| Name of Program C | | | \$ - | 0.00 | | | | |
| Name of Program D | | | \$ - | 0.00 | | | | |
| Name of Program E | | | \$ - | 0.00 | | | | |
| Name of Program F | | | \$ - | 0.00 | | | | |
| Name of Program G | | | \$ - | 0.00 | | | | |
| Name of Program H | | | \$ - | 0.00 | | | | |

| | | | | | | | | | | | | |
|--|----|---|----|---|------|---|-------------|---|---|---|----|---|
| Name of Program I | | | \$ | - | 0.00 | | | | | | | |
| Name of Program J | | | \$ | - | 0.00 | | | | | | | |
| *Totals App. B - Industrial | \$ | - | \$ | - | \$ | - | 0.00 | 0 | 0 | 0 | \$ | - |
| Industrial Indirect Costs not attributable to any specific program | → | | | | | | | | | | | |
| Total TRC Costs | | | \$ | - | | | | | | | | |
| **Totals TRC - Industrial | \$ | - | \$ | - | \$ | - | 0.00 | | | | | |

5. Agricultural Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

| | 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 (\$) | | | |
|--|-------------------|----------------|---------------------|--------------------|-----------------------------|-------------------------|------------------------------|--|----|---|--|
| Name of Program A | | | \$ | - | 0.00 | | | | | | |
| Name of Program C | | | \$ | - | 0.00 | | | | | | |
| Name of Program C | | | \$ | - | 0.00 | | | | | | |
| Name of Program D | | | \$ | - | 0.00 | | | | | | |
| Name of Program E | | | \$ | - | 0.00 | | | | | | |
| Name of Program F | | | \$ | - | 0.00 | | | | | | |
| Name of Program G | | | \$ | - | 0.00 | | | | | | |
| Name of Program H | | | \$ | - | 0.00 | | | | | | |
| Name of Program I | | | \$ | - | 0.00 | | | | | | |
| Name of Program J | | | \$ | - | 0.00 | | | | | | |
| *Totals App. B - Agricultural | \$ | - | \$ | - | \$ | 0 | 0 | 0 | \$ | - | |
| Agricultural Indirect Costs not attributable to any specific program | → | | | | | | | | | | |
| Total TRC Costs | | | \$ | - | | | | | | | |
| **Totals TRC - Agricultural | \$ | - | \$ | - | \$ | - | 0.00 | | | | |

6. LDC System Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

| | 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 (\$) |
|-------------------|-------------------|----------------|---------------------|--------------------|-----------------------------|-------------------------|------------------------------|--|
| Name of Program A | | | \$ | - | 0.00 | | | |
| Name of Program B | | | \$ | - | 0.00 | | | |

| | | | | | | | | | |
|------------------------------------|----|---|----|---|------|---|---|---|------|
| Name of Program C | | | \$ | - | 0.00 | | | | |
| Name of Program D | | | \$ | - | 0.00 | | | | |
| Name of Program E | | | \$ | - | 0.00 | | | | |
| Name of Program F | | | \$ | - | 0.00 | | | | |
| Name of Program G | | | \$ | - | 0.00 | | | | |
| Name of Program H | | | \$ | - | 0.00 | | | | |
| Name of Program I | | | \$ | - | 0.00 | | | | |
| Name of Program C | | | \$ | - | 0.00 | | | | |
| *Totals App. B - LDC System | \$ | - | \$ | - | 0.00 | 0 | 0 | 0 | \$ - |

LDC System Indirect Costs not attributable to any specific program →

| | | | | | | | | | |
|----------------------------------|----|----|----|---|------|--|--|--|--|
| Total TRC Costs | | \$ | - | | | | | | |
| **Totals TRC - LDC System | \$ | - | \$ | - | 0.00 | | | | |

7. 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 (\$) →

8. Other #1 Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

| | 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 (\$) |
|----------------------------------|-------------------|----------------|---------------------|--------------------|-----------------------------|-------------------------|------------------------------|--|
| Name of Program A | | | \$ | - | 0.00 | | | |
| Name of Program B | | | \$ | - | 0.00 | | | |
| Name of Program C | | | \$ | - | 0.00 | | | |
| Name of Program D | | | \$ | - | 0.00 | | | |
| Name of Program E | | | \$ | - | 0.00 | | | |
| Name of Program F | | | \$ | - | 0.00 | | | |
| Name of Program G | | | \$ | - | 0.00 | | | |
| Name of Program H | | | \$ | - | 0.00 | | | |
| Name of Program I | | | \$ | - | 0.00 | | | |
| Name of Program J | | | \$ | - | 0.00 | | | |
| *Totals App. B - Other #1 | \$ | - | \$ | - | 0.00 | 0 | 0 | \$ - |

Other #1 Indirect Costs not attributable to any specific program →

| | | | | | | | | |
|--------------------------------|----|----|----|---|------|--|--|--|
| Total TRC Costs | | \$ | - | | | | | |
| **Totals TRC - Other #1 | \$ | - | \$ | - | 0.00 | | | |

9. Other #2 Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

| | 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 (\$) |
|---|-------------------|----------------|---------------------|--------------------|-----------------------------|-------------------------|------------------------------|--|
| Name of Program A | | | \$ - | 0.00 | | | | |
| Name of Program B | | | \$ - | 0.00 | | | | |
| Name of Program C | | | \$ - | 0.00 | | | | |
| Name of Program D | | | \$ - | 0.00 | | | | |
| Name of Program E | | | \$ - | 0.00 | | | | |
| Name of Program C | | | \$ - | 0.00 | | | | |
| Name of Program G | | | \$ - | 0.00 | | | | |
| Name of Program H | | | \$ - | 0.00 | | | | |
| Name of Program I | | | \$ - | 0.00 | | | | |
| Name of Program J | | | \$ - | 0.00 | | | | |
| *Totals App. B - Other #2 | \$ - | \$ - | \$ - | 0.00 | 0 | 0 | 0 | \$ - |
| <i>Other #2 Indirect Costs not attributable to any specific program</i> | | | | | | | | |
| Total TRC Costs | | \$ - | | | | | | |
| **Totals TRC - Other #2 | \$ - | \$ - | \$ - | 0.00 | | | | |

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 | \$ - | \$ - | \$ - | 0.00 | \$ - | \$ - | \$ - | \$ - |
| <i>Any other Indirect Costs not attributable to any specific program</i> | | | | | | | | |
| TOTAL ALL LDC COSTS | | \$ - | | | | | | |
| **LDC' PORTFOLIO TRC | \$ - | \$ - | \$ - | 0.00 | | | | |

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

** The TRC 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 | Total Customer Base | Other #2 |
|--|---|-------------|-------------------------|------------|---------------|------------|--------------|-------------|---------------------------|---------------------|----------|
| <i>Net TRC value (\$):</i> | -\$ 599,111 | \$ 205,418 | \$ - | \$ 17,184 | -\$ 1,684,962 | \$ - | \$ - | -\$ 243,124 | \$ - | \$ 1,106,373 | \$ - |
| <i>Benefit to cost ratio:</i> | 0.16 | 0.81 | - | 1.55 | -1.12 | - | - | -1.15 | - | 4.65 | - |
| <i>Number of participants or units delivered:</i> | 76,472 | 18,567 | - | 926 | 1,163 | - | - | 399 | 120 | 55,297 | - |
| <i>Lifecycle (kWh) Savings:</i> | 69,220,523 | 18,294,061 | - | 2,048,129 | 17,211,146 | - | - | 2,209,821 | - | 29,457,366 | - |
| <i>Total kWh saved (kWh):</i> | 8,469,478 | 755,265 | - | 236,205 | 1,730,236 | - | - | 113,954 | - | 5,633,818 | - |
| <i>Total peak demand saved (kW):</i> | 2,149 | 603 | - | 57 | 362 | - | - | 41 | - | 1,086 | - |
| <i>Total kWh saved as a percentage of total kWh delivered (%):</i> | 0.18 | 0.05 | - | 0.02 | 0.11 | - | - | 0.01 | - | 0.36 | - |
| <i>Peak kW saved as a percentage of LDC peak kW load (%):</i> | 0.23 | 0.19 | - | 0.02 | 0.12 | - | - | 0.01 | - | 0.35 | - |
| ¹ <i>Gross C&DM expenditures (\$):</i> | 2,166,635 | 798,198 | - | 48,699 | 484,254 | 136,228 | - | 362,215 | 93,186 | 243,855 | - |
| ² <i>Expenditures per kWh saved (\$/kWh):</i> | \$0.03 | \$0.04 | - | \$0.02 | \$0.03 | - | - | \$0.16 | - | \$0.01 | - |
| ³ <i>Expenditures per kW saved (\$/kW):</i> | \$1,008 | \$1,324 | - | \$854 | \$1,338 | - | - | \$8,835 | - | \$225 | - |
| <i>Utility discount rate (%):</i> | 7.50 | | | | | | | | | | |

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.