

# Cornerstone Hydro Electric Concepts Association Inc.

## CHEC-RP-2004-0203/EB-2004-0502

## Conservation and Demand Management 2006 Annual Report

## **1.0** Introduction:

This report summarizes the activity and successes of the Cornerstone Hydro Electric Concepts (CHEC) Group with respect to conservation and demand management undertaken in 2006. Included in this document are the sixteen (16) individual reports from the CHEC members that discuss their specific program activities and the associated insights of the members.

Consistent with CHEC members' cooperative effort to seek approval of their CDM plans as a combined group, the Annual Report reflects their commitment to work together to provide cost effective programs and to share and learn from each other's experience. In 2006 the CHEC group worked both individually and collectively to delivery CD&M programs. The individual reports from each utility provides to the reader a better understanding of the activity and focus of each utility while this summary report provides an overview of the impact of this combined effort.

In 2006 the level of activity varied significantly from member to member dependent on their remaining funds, resources and opportunities. Individual LDC activity level ranged from only being involved in "provincially led" initiatives to the development and delivery of a wide variety of programs. From a review of the programs it is interesting to note how opportunities, partnerships and delivery have matured at different rates in the different service territories.

Within the 16 utilities there have been a total of 104 initiatives worked on in 2006. As in the first year the initiatives represent projects specific to individual utilities and projects that are cooperative efforts between utilities or agencies (the OPA EKC Programs for example). While there were 104 initiatives included in the reporting many of the reports contained a number of separate activities joined in one Appendix B.

After the initial year where much of the ground work for future programs was started, one would expect that the majority of programs would be driving a positive TRC. On the population of 104 initiatives, 43% had a positive TRC. This low percentage of initiatives with a positive TRC indicates that many initiatives continued to focus on education, studies to prepare customers for

continued energy conservation and partnership building in the second year of the CDM program.

With the activity and experience gained in 2006 the CDM industry is moving towards the final year of third tranche funding and towards the new funding model. While the funding method will change the fundamental knowledge gained in delivering two years of CDM programming has proven and will continue to prove invaluable as programs continue to be offered to residential, commercial and industrial customers across the province.

This combined report, in addition to meeting the regulatory requirement, provides a comprehensive summary to CHEC members of the impact of their combined effort.

## 2.0 CHEC Members:

The 2006 Annual Report on Conservation and Demand Management Activities of the following utilities are included in this report:

Centre Wellington Hydro Ltd. Grand Valley Energy Inc. Lakefront Utilities Inc. Midland Power Utility Corp. Orillia Power Distribution Corp. Rideau St. Lawrence Wellington North Power Inc. Westario Power COLLUS Power Corp Innisfil Hydro Lakeland Power Distribution Orangeville Hydro Ltd Parry Sound Power Wasaga Distribution Inc. West Coast Huron Energy Inc. Woodstock Hydro Services

## **3.0 Evaluation of the CDM Plan:**

**Total Portfolio:** The 16 CHEC members collectively undertook a total of 104 initiatives. These programs fell within three categories:

- Savings: Delivery of energy saving products or processes: coupons, rebates, free products, etc.
- Education: Providing general energy management information through such activities as: website development, workshops, brochures, etc,
- Foundation: Preparatory work for future programs that include: program research and development, energy audits, system studies, demonstration projects, partnerships, etc. This is a category that one might have expected to see reduced activity however it continues to be a major component.

The 2006 initiatives represent a total energy savings (lifecycle) of 129,330,000 kWh at a combined "Utility Cost" of \$1,185,000 or approximately 1 c/kWh. This low cost of energy saved was achieved while continuing the education and foundation building programs. To put the energy savings in perspective the 129 Million kWh represent the annual energy required by 10,700 homes (at 1000

kWh/month). Comparing this to incandescent bulbs the energy saved is equivalent to removing approximately 1.5 Million, 60 W incandescent bulbs operating 4 hours per day for a year.

Figure 1 illustrates the change in program makeup from 2005 to 2006. The percentage of programs focused on "saving" and "education" have increased while the number of foundation" programs have decreased. The reduced focus on "foundation" programs in the second year is to be expected as the program mature and initiatives move from planning to delivery thereby increasing the number of "savings" and 'education' initiatives. Many "foundation" programs continue into the third year and will form the basis for conservation activities beyond third tranche by both utilities and their partners.

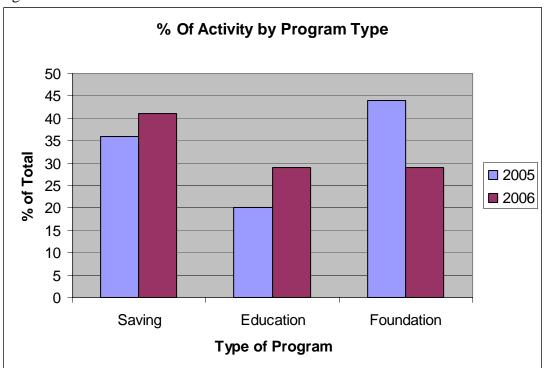


Figure 1

While the Figure provides a general breakdown it should be noted that there are many education programs that are now incorporating savings into the deliverables. The ability to incorporate savings and education provides an immediate conservation benefit, a positive TRC for the program and sets the stage for continued customer interest in conservation in the future.

**Savings Programs:** Programs were initiated both at the local and provincial level. Key to the 2006 results was the active participation of CHEC members in the OPA Every Kilowatt Counts programs. These programs in many instances provided a "savings" and "education" program that members could support without depleting their third tranche funding.

On the local level savings programs focused on local partnerships and delivery channels. Projects like municipal traffic light conversion built on the existing relationship with the municipality, provided benefits to the entire community and once installed ensured that the technology would remain in place once the benefits of lower cost and maintenance were recognized.

The use of product incentives and give-a-ways continued to play a significant role in the local programming. Capitalizing on the ability to participate in local events the provision of energy efficient product was a direct method of demonstrating the technology to the customer.

System optimization projects continue to be included in the portfolio. Nine initiatives focused on either completing the studies associated with system optimization or the implementation of field changes. System optimization continues to be an area for potential savings.

**Education Programs:** LDC's started to see opportunities to partner with others to provide programs into the education system. CHEC members along with other utilities in the service territory of Boards of Education are funding the development of programs for delivery in the schools. During 2006 third party providers (in many instances not-for-profits) made approaches to members for support and delivery of programs. As the conservation culture continues to develop the resources to provide this type of education will most likely continue to increase. The third tranche funding and the LDCs interest in partnering have helped this process.

Members have also been active in supporting education programs for the commercial and industrial sector. The challenge to date has been evaluating the results of this training. In most cases the proof of success is mostly anecdotal where mention is made of actions taken as a result of the training without any firm data. For this reason most education initiatives in this sector do not show a positive TRC.

**Foundation Program:** Many of the "foundation" type programs underway during 2006 were aimed at providing information to partners for further action. The CHEC members have actively supported alternate energy initiatives with a number of projects specific to these types of initiatives. The support provided at this stage, on the local level, can be pivotal on the success of future activities by community based groups.

In 2005 the "foundation" programs included initiatives such as: system optimization studies, smart meter preparation, customer audits and demonstration projects. In 2006 the increase in "education" and "savings" programs in some instances were the results of the 2005 foundation work. 2005 work on system optimization was a critical precursor to the project implementation in 2006 (and

2007). In some instances the full studies will only be completed in 2007 with the impact of implementation only being taken beyond the third tranche time frame.

**Net TRC Results:** The net TRC result of the combined CHEC CDM activity for 2006 is \$3,800,000 up from \$500,000 in 2005. The increase in TRC indicates the development of the industry over the first year resulting in deliverables in the second year.

Part of the development of the CDM industry was the provincial EKC programs – a program that built on the experience gained from the 2005 program coordinated by Energyshop.com and subscribed by a number of CHEC members. The involvement of CHEC members in the EKC programs resulted in 86% of the TRC results for member LDCs. The benefits of combining local support in wider based programs are clearly demonstrated by the success of these programs.

## 4.0 Discussion of Programs:

The individual program discussions from each utility are included in the following sections of this report. These discussions provide the individual utility perspective on the programs as offered in their service territory. The complete Annual CDM Report for each utility is included in the appendices.

## 5.0 Lessons Learned:

**Application of TRC:** 2005 was the introduction to the TRC tool. While the tool can be used to evaluate programs to ensure a positive TRC result in many instances the 2006 programs were set prior to experience with the tool.

The principles of TRC are generally easy to understand: energy efficiency case vs base case. However the mechanics of determining the details of the evaluation can be quite complex depending on the application. CHEC members spent considerable time ensuring the assumptions and discounted costs were properly applied. In many instances the experience of one member was utilized to assist others within the group.

One of the greatest challenges with TRC remains the carryover of familiarity with its use. While the second year of applying the TRC was a bit more familiar the application is still a challenge as the use of the tool tends to occur in discreet measures (ie to do the Annual Report).

**Funding:** CHEC members in general have funds for continued programs in 2007 (with a few exceptions). With the advent of provincial programs the ability to stretch the third tranche funding has occurred. Hence the need for additional funding based on the LDCs plan can, to a large extent, be avoided until the LDCs Funding through the OPA is available.

**Partnerships and Sharing:** The ability to partner has increased in year two of the CDM Funding. Not-for-Profit Agencies, municipalities, local groups etc. have become aware of potential for partnering and have either approached members or have been very positive to LDC initiatives. It is anticipated that the ability to partner with a wide variety of groups within our communities should continue to grow. As such, it will be an important aspect of program delivery that the LDC community will need to broach with the OPA through 2008 and beyond.

The sharing of experience and insights by CHEC members is on-going. In 2006 CHEC members had the opportunity to participate in the development of the CDM industry structure for moving forward. The perspective brought by smaller participants helps to ensure the success of program delivery across the entire province in both large and small communities.

**Customer Readiness:** The results of the 2006 programs highlights that the conservation message is starting to be understood and that residential customers will take action.

In 2007 and beyond programs will need to reach beyond the compact fluorescent light to clearly demonstrate to customers that they have a wide variety of opportunities. There may be additional challenges to overcome to move these messages forward as the cost to implement and the payback may not be as favourable.

While programs have been successful with residential customers more work is required to make inroads into the commercial and industrial sector. These sectors continue to be difficult to get actively engaged. Future programs will need to take into account the customer's limited resources, long lead times, and provide demonstrated value of conservation to their business. Experience is showing that in this sector, the progression from initial discussion, to decision, to action is slow and methodical.

**Utility Resources:** Utilities continue to utilize internal resources for much of the CDM work as it is integrated into the systems of the LDC. CDM calls received, the manager's time to promote CDM, the accountant's time to record and report, are all functions immersed in the activities of existing positions. The ability to manage these requirements as the industry moves forward will need to be addressed by LDCs.

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#### 6.0 **Conclusion:**

The second year of CDM delivered a significant increase in the kWhs saved and continues to set the stage for on-going development of the CDM industry.

LDCs continue to support CDM and the involvement at the local level. CHEC members through their local programs, involvement in provincial programs and participation in the design of the industry continue to demonstrate their support for CDM, for the provincial initiative and their customers.

#### **Appendices:** 7.0

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Woodstock Hydro Services

## INNISFIL HYDRO DISTRIBUTION SYSTEMS LIMITED ANNUAL CDM REPORT FOR THE YEAR ENDING DECEMBER 31, 2006

## INTRODUCTION

Innisfil Hydro Distribution Systems Ltd (IHDSL) is pleased to submit its Annual Report on the progress made in applying the third tranche (\$191,000) monies to conservation and demand management programs. Attached to this report is Appendix A – Evaluation of the CDM Plan, Appendix B – Discussion of the Program for the individual programs and Appendix C – Program and Portfolio Totals. IHDSL has submitted its conservation and demand management plan with the CHEC Group and has received a final order dated February 8, 2006 approving spending on the following programs:

Program	February 2005 Order	Revised Program Cost	2005 Cost	2006 Cost	2007 Cost
Website/Survey	\$ 14,500.00	\$ 9,283.34	\$ 7,243.34	\$ 2,040,00	\$ 0.00
Education/Promotion	\$ 16,500,00	\$ 15,773.05	\$ 12,924.66	\$ 2,146.11	\$ 702,28
Partnership/Sponsorship	\$ 27,000.00	\$ 34,408,74	\$ 5,528.00	\$ 626.18	\$ 28,254.56
System Optimization	\$ 51,000.00	\$ 54,534,87	\$ 3,534.87	\$ 45,000.00	\$ 6,000.00
Smart/Interval Meters	\$ 31,000.00	\$ 31,000.00	\$ 5,128.28	\$ 6,520.86	\$ 19,350.86
Renewable energy	\$ 51.000.00	\$ 46,000.00	\$ 0.00	\$ 33,280.80	\$ 12,719.20
TOTALS	\$191,000.00	\$191,000.00	\$ 34,359.15	\$ 89,613.95	\$ 67,026.90

## **OVERVIEW OF BUDGET VS PER YEAR COSTS**

## **DISCUSSION OF PROGRAMS:**

## #1. NAME OF PROGRAM: Conse

### **Conservation Website/Survey**

The intent of this program is to initiate an active conservation culture. A common conservation website is a significant avenue of opportunity to educate, inform, advertise and reach out to energy consumers. Using economies of scale the costs are shared with other members of the CHEC group and the increased buying power of the group will leverage more value to customers and shareholders. A customer survey and the administration costs of the CHEC group Coordinator has been included within this program

**Program #1:** A conservation website is a significant avenue of opportunity to educate, inform, advertise and reach out to energy consumers. Development and maintenance costs would be shared as would contribution requirements resulting in a more robust and interactive website. This website would also be linked to IHDSL's main website which would be enhanced by the availability of the combined resources. Components of the website would range from energy savings concepts to various industries and load profile services.

**Program #2:** Engaging the community as a whole and fostering the conservation culture through its infancy are the expected yield from the program. Survey success is often limited due to the rather small sample of potential customers, however, the joint survey efforts of our group will maximize the value of the survey and provide the necessary background and baseline information to enable member LDCs to make better decisions on program design and targeting funds to programs of customer value. These surveys may also be used to establish baselines for assessment of future program impacts. Utilizing economies of scale, the survey costs are shared with other members of the CHEC group.

#### TOTAL PROGRAM COST:

\$9,283.34

COSTS INCURRED At December 31, 2006;

\$9,283.34

Innisfil Hydro CDM Plan Annual Report 2006.doc

## #2. NAME OF PROGRAM: Education and Promotion

The intent of this program is to further create a foundation of an active conservation culture. Engaging the community as a whole and fostering the conservation culture through educating are the expected yield from the program.

**Program #1:** Using economies of scale the education and promotion costs are shared with other members of the CHEC group and the increased buying power of the group will leverage more value to customers and shareholders. Education brochures produced by the Ministry of Energy – "Conserve Energy and Save Money". These were purchased and provided to all residential and general service customers within our distribution territory.

**Program #2:** Working in conjunction with the Simcoe County School Board, a program focusing on developing a energy education in the Grade 5 curriculum. Lesson plans include developments and implementation of a School Energy Conservation Action Plan and a Home Energy Audit.

## TOTAL PROGRAM COST:

#### \$15,773.05

## COSTS INCURRED At December 31, 2006

#### \$15,070.77

## #3. NAME OF PROGRAM: Partnership/Sponsorship Programs

The intent of this program is to target customers through financial incentives for more energy efficient appliances. Program design included highlights of potential savings by appliance, procurement direction etc. Savings for these depend on the needs and use of the appliances and the user to limit use or alter comfort and convenience.

**Program #1:** Using the economies of scale the costs are shared with other member of the CHEC group in administering and choosing the right vendor. The coupon program was delivered with the help of local Canadian Tire as the distributor and cosponsor of this program. There are six types of energy conservation coupon programs offered. The discount coupon programs are for Seasonal LED Christmas lights, Compact Fluorescent Lights, Programmable Thermostats, Ceiling Fans, Outdoor Timers and Indoor Timers.

**Program #2:** Energy audit will be provided to our local municipality by a qualified service provider. Program design will focus on mechanisms to collect and maintain audit data for future marketing program purposes. Experience from other audit programs in Canada and internationally have shown results of between 5-10% in total energy consumption savings.

#### TOTAL PROGRAM COST:

#### \$34,408.74

COSTS INCURRED At December 31, 2006:

#### \$ 6,154.18

## #4. NAME OF PROGRAM: System Optimization & Implementation

The intent of this program is to target reductions in distribution system losses. The overall benefits of this program will be to identify and implement projects that will improve/reduce distribution system losses and improve system efficiency. Supporting corrective action by taking direct control over an upgrade resulted in system demand reductions and relieves network capacity, on both a local and system wide basis.

**Program #1:** By performing a study for voltage conversion IHDSL was able to determine the benefits of increasing the distribution system voltage which resulted in lower line losses.

Innisfil Hydro CDM Plan Annual Report 2006.doc

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## INNISFIL HYDRO DISTRIBUTION SYSTEMS LIMITED ANNUAL CDM REPORT FOR THE YEAR ENDING DECEMBER 31, 2006

**Program #2:** Within our local municipality street lights will be changed from florescence and mercury bulbs to 70 and 100 watt high pressure sodium fixtures as part of the energy conservation program with the Town of Innisfil. Anticipated results will include savings in consumption and maintenance costs as the life expectancy of the new bulbs is 8-10 times that of conventional lights.

TOTAL PROGRAM COST:

\$54,534.87

COSTS INCURRED At December 31, 2006:

\$48,534.87

## #5. NAME OF PROGRAM: Smart Metering

Pilot studies will be conducted to investigate applicability and optimum introduction of smart meters. Steps are to include the ongoing evaluation of technologies appropriate for retrofit applications including, literature and product reviews, meetings, technical and economic assessment along with the development of the plan.

IHDSL, along with other members of the CHEC group have joined the OUSM group, who has coordinated the multiple technologies. This will provide IHDSL with the ability to gain access to documented test results from a variety of vendors that were all tested using exactly the same testing process. This has provided economies of scale as ultimately all LDCs will need to compare and spend time separating the claims of vendors from the actual services and deliverables they can provide. The ability to share information and questions with other members of the group provide additional benefits in the Implementation planning as well as customer education and systems integration issues.

### TOTAL PROGRAM COST:

\$31,000.00

COSTS INCURRED At December 31, 2006:

## \$11,649.14

\$46.000.00

\$33.280.80

## #6. NAME OF PROGRAM: Renewable Energy Study

A study is being conducted to determine the feasibility of a local renewable wind energy project.

Renewable energy sources, and in particular wind power is a central focus in the supply diversity of the Ontario Government. Investigations will be conducted to determine appropriate areas where this concept can be promoted where they fit local demographic needs. Local schools will also be contacted to determine if the development of wind studies can be integrated with their program of science studies. Partnerships will be investigated to determine if a program can be designed to enhance the educational aspect of this energy source.

### TOTAL PROGRAM COST:

### COSTS INCURRED At December 31, 2006:

## INNISFIL HYDRO DISTRIBUTION SYSTEMS LIMITED ANNUAL CDM REPORT FOR THE YEAR ENDING DECEMBER 31, 2006

## EVALUATION OF CDM PLAN;

See attached Appendix "B" for each program above-noted, Appendix "A" an Evaluation of the overall CDM Plan and Appendix "C" for the Program and Portfolio totals.

#### LESSONS LEARNED and GENERAL COMMENTS:

- 1. IHDSL has successfully saved 1,424,393 kWh over the lives of the 6 programs being reporting. This translates to an estimated 106,093 kWh annually.
- 2. IHDSL has successfully reached/delivered 29,668 participants as part of the CDM programs for 2006.
- 3. The cumulative net TRC for IHDSL is a negative value of \$51,368. The coupon program and system optimization program generated a favourable TRC of \$29,041. The remaining programs generated a negative TRC value of \$80,409. When creating a foundation of an active conservation culture costs are incurred to educate the masses of the different aspects of conservation and demand management such as renewable energy studies, school education programs, brochures, web site development, program management etc.
- 4. Overall expenditures per kWh saved are \$0.08 based on the cumulative programs. IHDSL will to continue fostering CDM programs, opportunities and partnerships within the Electricity community of the Ontario
- 5. As smart metering implementation becomes reality, IHDSL believes that the combined focus of the UtilAssist OUSM Group has provided great economies of scale for the smaller LDCs. Through this group we are able to test various technologies and develop standards as a group as opposed to "going it alone".

Yours truly. George Shaparew President

# 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.

	₅ Cumulative Totals Life-to- date	Total for 2006	Residential	Commercial	Institutional	Industrial	Agricultural	LDC System	₄ Smart Meters	Other #1	Other #2	
Net TRC value (\$):	-51368.06236	-\$ 60,867	\$ (27,586)	\$-	\$-	\$-	\$-	\$-		\$ (33,281)	\$	
Benefit to cost ratio:	0.52	0.23	0.39	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Number of participants or units delivered:	29,668	1,910	1,910	0	0	0	0	0		0	0	
Lifecycle (kWh) Savings:	1424393.32	532,656	532,656	0	0	0	0	0		0	0	
Report Year Total kWh saved (kWh):	106092.991	26,634	26,633	1	0	0	0	0		0	0	
Total peak demand saved (kW):		0	0	0	0	0	0	0		0	0	
Total kWh saved as a percentage of total kWh delivered (%):		0%	0%	0%	#DIV/0!	#DIV/0!	#DIV/0!	0%		#DIV/0!	#DIV/0!	
Peak kW saved as a percentage of LDC peak kW load (%):		0%	0%	0%	0%	0%	0%	0%		0%	0%	
Report Year Gross C&DM expenditures (\$):		\$ 89,594	\$ 49,792	\$-	\$-	\$-	\$-	\$-	\$ 6,521	\$ 33,281	\$	
2 Expenditures per KWh saved (\$/kWh):	\$ 0.08	\$ 0.17	\$ 0.09	\$-	\$-	\$-	\$-	\$-		\$-	\$-	
3 Expenditures per KW saved (\$/kW):		\$ 239,299.57	\$ 132,991.35	\$-	\$-	\$-	\$-	\$-		\$-	\$-	
Utility discount rate (%):												

1 Expenditures are reported on accrual basis.

<sup>2</sup> Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate energy savings.

9.1

<sup>3</sup> 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 total for the reporting year, plus prior year, if any (for example, 2006 CDM Annual report for third tranche will include 2005 and 2004 numbers, if any.

157369296

38,082

# **Appendix C - Program and Portfolio Totals**

### **Report Year:**

## **1. Residential Programs**

List each Appendix B in the cells be Note: To ensure the integrity of the	e for	formulas, please insert the additional rows in the middle of the list below. Report Year TRC Benefits \$ Net TRC Benefit/Cost Total kWh Lifecycle (PV) TRC Costs (PV) Benefits Ratio Saved (kWh) Savings									G	eport Year ross C&DM (penditures (\$)
Website Conservation/Administration	\$	-	\$	2,040			0.00	0	0	Saved 0	\$	2,040
Education and Promotion	\$	-	\$	2,146		,	0.00	0	0	0	\$	2,146
Partnerships/Sponsorships-Coupon F	\$	-	\$	626	-\$	626	0.00	0	0	0	\$	626
System Optimization through voltage	\$	-	\$	-	\$		0.00	0	0	0	\$	-
System Optimization through Street L	\$	17,717	\$	40,491	-\$	22,774	0.44	26,633	532,656	0	\$	44,980
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	\$	17,717	\$	45,303	-\$	27,586	0.39	26,633	532,656	0	\$	49,792
Residential Indirect Costs not			<b>^</b>				Total Res	idential kWh				

45.303

45,303

-\$

\$

R \$ attributable to any specific program **Total Residential TRC Costs** \$ \*\*Totals TRC - Residential 17,717

## 2. Commercial Programs

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

Note. To ensure the integrity of an	TRC Benefits (PV)		\$ Net TRC	Benefit/Cost Ratio	Report Year	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	1			
*Totals App. B -	\$ -	\$-	\$	- 0.00	1	0	0	\$-
Commercial Indirect Costs not attributable to any specific program					mmercial kWh red in 2006	7030	)1786	
Total TRC Costs		\$ -			Commercial Pe	ak in 2006 in kW	38,082	
**Totals TRC - Commercial	\$ -	\$ -	\$	- 0.00				

27,586

Delivered in 2006

0.39

Residential Peak in 2006 in kW

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/Cos Ratio	Report Year t 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 -	\$ -	\$-	\$	- 0.00	(	0 0	0	\$-
Institutional Indirect Costs not attributable to any specific program		·			stitutional kWh ered in 2006			
Total TRC Costs		\$-			Institutional Pe	ak in 2006 in kW	38,082	
**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.

Note: To ensure the integrity of th	TRC Benefits (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 Prorgam 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 -	\$-	\$-	\$-	0.00	0	0	0	\$-
Industrial Indirect Costs not attributable to any specific program					al kWh Delivered 2006			
Total TRC Costs		\$-			Industrial Peak	c in 2006 in kW	38,082	
**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 th	re formulas, ple TRC Benefits (PV)		\$ Net TRC	the middle of t Benefit/Cost Ratio	Report Year	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 -	\$-	\$-	\$	- 0.00	(	0 0	0	\$-
Agricultural Indirect Costs not attributable to any specific program	<b></b> ,				icultural kWh ed in 2006			
Total TRC Costs		\$ -			Agricultural Pea	ak in 2006 in kW	38,082	
**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.

Note: To ensure the integrity of th	e formulas, plea TRC Benefits (PV)	ase insert the add	litional rows in \$ Net TRC Benefits	the middle of t Benefit/Cost Ratio	he list below. 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 -	\$-	\$-	\$-	0.00	0	0	0	\$-
LDC System Indirect Costs not attributable to any specific program					kWh Delivered in 006	672	7817	
Total TRC Costs		\$ -			LDC Peak ir	2006 in kW	38,082	
**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 (\$)

6,521

## 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)	Costs (PV)		\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Gro	port Year oss C&DM oenditures (\$)
Wind Energy Study	\$ -	\$ 33,281	-\$	33,281	0.00	0	0	0	\$	33,281
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 -	\$-	\$ 33,281	-\$	33,281	0.00	0	0	0	\$	33,281
Other #1 Indirect Costs not attributable to any specific program						Wh Delivered in 006				
Total TRC Costs		\$ 33,281				"Other" Peak	in 2006 in kW	38,082		
**Totals TRC - Other #1	\$ -	\$ 33,281	-\$	33,281	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 th	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC	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 -	\$-	\$-	\$-	0.00	C	0	0	\$-
Other #2 Indirect Costs not attributable to any specific program					Wh Delivered in 006			
Total TRC Costs		\$-			"Other" Peak	in 2006 in kW	38,082	
**Totals TRC - Other #2	\$ -	\$ -	\$ -	0.00				

## LDC's CDM PORTFOLIO TOTALS

	TRC Benefits (PV) TRC Costs (PV)			\$ Net TRC Benefits			Lifecycle (kWh) Savings			Total Peak emand (kW) Saved	Gro	port Year ss C&DM enditures (\$)		
<b>*TOTALS FOR ALL APPENDIX B</b>	\$	17,717	\$ 78,584	-\$	60,867	0.23	\$	26,634	\$	532,656	\$	0	\$	89,594
Any other Indirect Costs not attributable to any specific program						Total kWh D	eliv	rered in 2006	234398899					
TOTAL ALL LDC COSTS			\$ 78,584					Total Peak in	200	6 in kW		38,082		
**LDC' PORTFOLIO TRC	\$	17,717	\$ 78,584	-\$	60,867	0.23								
						Total kWh D	eliv	rered in 2005		2426	873	28		

\* 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.

## (complete this section for each program)

#### A. Name of the Program:

Website Conservation/Administration

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

The intent of this program is to create a conservation website to inform and reach out to energy consumers. The website costs are shared with other members of the CHEC group. The admin costs of the CHEC Coordinator for the CHEC group has been included within this program. Also a customer survey was deployed to better make decisions for program targets and design.

Measure(s):			
	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	0		
Efficient technology:	0		
Number of participants or units			
delivered:	800.00		
Measure life (years):	0.00		
Number of participants or units 2005	13500		
Number of Participants or units			
delivered life-to-date	14,300.00		

	TRC Results:			Reporting Year			ife-to-date TRC
В.					2005 TRC Results		Results:
	TRC Benefits (\$):		\$	-		\$	-
	<sup>2</sup> TRC Costs (\$):						
		ogram cost (less incentives):		2,040.00	\$ 7,243.34		9,283.34
	Incremental Measu	re Costs (Equipment Costs)		-		\$	-
		Total TRC costs:		2,040.00		_	9,283.34
	Net TRC (in year CDN \$):		-\$	2,040.00	-\$ 7,243.34	-\$	9,283.34
	Benefit to Cost Ratio (TRC Benefits/TR	C Costs):	0.00		\$ -	\$	-
C.	Results: (one or more category may ap	oply)			Cumulat	ive R	esults:
	Conservation Programs:						
	Demand savings (kW):	Summer	0.00		Report Winte	er Dei	mand (kW)
		Winter	0.00		(	0.00	
							umulative Annual
		lifecycle		in year	Cumulative Lifecycle	)	Savings
	Energy saved (kWh):	0.00		0.00	0 2005 Lifecycle		0
					2005 Lilecycle		2005 Annual
	Other resources saved :						
	Natural Gas (m3):	C	)	0			
	Water (I)	C		0			
		·		· ·			
	Demand Management Programs:						
	Controlled load (kW)						
	Energy shifted On-peak to Mid-peak (kl	Wh):					
	Energy shifted On-peak to Off-peak (kV	Vh):					
	Energy shifted Mid-peak to Off-peak (kl	Wh):					
	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 beg	ining of year (%):					
	Distribution system power factor at begin Distribution system power factor at end	of year (%):					
	Distribution system power ractor at end	Page	e <mark>16 of 2</mark> 9	)			

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## Line Loss Reduction Programs:

Peak load savings (kW):		
	lifecycle	in year
Energy savngs (kWh):		
Distributed Generation and Load Dis	placement Programs:	
Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		

Metric (specify):

D.	Program Costs*:		Reporting Year	<u>2(</u>	005 Costs	<u>Cu</u>	nlative Life to Date
	Utility direct costs (\$):	Incremental capital:	\$ -			\$	-
	Includes Measure's Cost - ensure full cost of measure entered in TRC!L15	Incremental O&M:	\$ 2,040.00	\$	7,243.34	\$	9,283.34
		Incentive:	\$ -			\$	-
		Total:	\$ 2,040.00	\$	7,243.34	\$	9,283.34
	Utility indirect costs (\$):	Incremental capital:	\$ -			\$	-
		Incremental O&M:	\$ -			\$	-
		Total:	\$ -	\$	-	\$	-
	Total Utility Cost of Program		\$ 2,040.00		7,243.34		9,283.34

#### Assumptions & Comments: Е.

<sup>1</sup> units times the net present value per unit b <sup>2</sup> component of the TRC costs. However, payments made

## (complete this section for each program)

- A. Name of the Program: Educ
  - Education and Promotion

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

To create a foundation of an active conservation culture by engaging the community as a whole and fostering the this culture through educating energy customers. Education brochures produced by the Ministry of Energy-"Conserve Energy and Save Money". These were purchased and provided to all residential and general service customers.

Measure(s):			
	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	0		
Efficient technology:	0		
Number of participants or units delivered:	1,000.00		
Measure life (years):	0.00		
Number of participants or units 2005	13500		
Number of Participants or units delivered life-to-date	14,500.00		

TRC Results:		Reporting Year	<u>20</u>	05 TRC Results	L	ife-to-date TRC Results:
<sup>1</sup> TRC Benefits (\$):	\$	-			\$	-
<sup>2</sup> TRC Costs (\$):						
Utility program cost (less incentives)	: \$	2,145.78	\$	12,924.66	\$	15,070.44
Incremental Measure Costs (Equipment Costs	)\$	-			\$	-
Total TRC cost	s: \$	2,145.78	\$	12,924.66	\$	15,070.44
Net TRC (in year CDN \$):	-\$	2,145.78	-\$	12,924.66	-\$	15,070.44

0.00

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

C. <u>Results:</u> (one or more category may apply)

#### **Conservation Programs:**

Demand savings (kW):	Summer	0.00		Report Winter Demand (kW) 0.00			
	Winter	0.00					
					Cumulative Annual		
	lifecycle	in year		Cumulative Lifecycle	Savings		
Energy saved (kWh):	0.00	0.00		0	0		
			ĺ	2005 Lifecycle	2005 Annual		
Other resources saved :							
Natural Gas (n	13):	0	0				

Natural Gas (m3):	0	
Water (I)	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 begining of year (%): Distribution system power factor at end of year (%):



\$

0

- \$

**Cumulative Results:** 





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## Line Loss Reduction Programs:

Peak load savings (kW):		
	lifecycle	in year
Energy savngs (kWh):		
Distributed Generation and Load Dis	placement Programs:	
Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		
Fuel type:		
Other Programs (specify):		
Metric (specify):		

Program Costs*:		Reporting Year	2005 Costs	<u>Cun</u>	nlative Life to Date
Utility direct costs (\$):	Incremental capital:	\$ -		\$	-
Includes Measure's Cost - ensure full co of measure entered in TRC!L15	Incremental O&M:	\$ 2,145.78	\$ 12,924.66	\$	15,070.44
	Incentive:	\$ -		\$	-
	Total:	\$ 2,145.78	\$ 12,924.66	\$	15,070.44
Utility indirect costs (\$):	Incremental capital:	\$ -		\$	-
	Incremental O&M:	\$ -		\$	-
	Total:	\$ -	\$ -	\$	-
Total Utility Cost of Program		\$ 2,145.78	12,924.66		15,070.44

#### Ε. Assumptions & Comments:

<sup>1</sup> units times the net present value per unit b
<sup>2</sup> component of the TRC costs. However, payments made

## (complete this section for each program)

### A. Name of the Program:

Partnerships/Sponsorships-Coupon Program

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

Coupon program offering rebates to residential customers on a range of energy efficient technologies utilized by Canadian Tire Corporation.

	Measure(s):						
	measure(s).	Measure 1	Ν	leasure 2 (if applicable)	Measure 3	(if applicable)	
	Base case technology:	0					
	Efficient technology:	0					
	Number of participants or units delivered:	0.00					
	Measure life (years):	0.00					
		757					
	Number of participants or units 2005 Number of Participants or units	757					
	delivered life-to-date	757.00					
				Deporting Veer		Life to date TR	
В.	TRC Results:			Reporting Year	2005 TRC Results	Life-to-date TR Results:	
	TRC Benefits (\$):		\$		\$ 34,749.00		.00
	TRC Costs (\$):		Ψ		φ οι,ποιοσ	φ οι,πο	.00
		ogram cost (less incentives):	\$	626.18	\$ 5,528.00	\$ 6,154	.18
		ire Costs (Equipment Costs)		-	¢ 0,020.00	\$	-
		Total TRC costs:		626.18	\$ 5,528.00		.18
	Net TRC (in year CDN \$):		-\$	626.18			
	····· ···· ···························		- <b>-</b>				
	Benefit to Cost Ratio (TRC Benefits/TR	C Costs):	0.00		\$ 6.29	\$ 5	.65
C.	Results: (one or more category may ap	oply)			Cumulativ	ve Results:	
	Conservation Programs:						
	Demand savings (kW):	Summer	0.00		-	r Demand (kW)	
		Winter	0.00		0.	.00	
						Cumulative Annu	ual
		lifecycle		in year	Cumulative Lifecycle		
	Energy saved (kWh):	0.00		0.00	775012.5	74791.2	
					2005 Lifecycle	2005 Annual	
	Other recourses sayed :				775012.5	5 7479	91.2
	Other resources saved :						
	Natural Gas (m3):	0			)		
	Water (I)	0			0		
	Demand Management Programs						
	Demand Management Programs: Controlled load (kW)						
	. ,	A/L-).					
	Energy shifted On-peak to Mid-peak (k)						
	Energy shifted On-peak to Off-peak (kV Energy shifted Mid-peak to Off-peak (kV						
	Energy shined wid-peak to On-peak (K	wn).					
	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 bega	ining of year (%):					
	Distribution system power factor at end	of year (%):	00 -£ (	20			
		Page	20 of 2	29			

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## Line Loss Reduction Programs:

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	lifecycle	in year
Energy savngs (kWh):		
Distributed Generation and Load Di	splacement Programs:	
Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		
r oan onorgy generator (n.m.).		

Metric (specify):

D.	Program Costs*:		Reporting Year	2005 Costs	<u>Cur</u>	mlative Life to Date
	Utility direct costs (\$):	Incremental capital:	\$ -		\$	-
	Includes Measure's Cost - ensure full cost of measure entered in TRC!L15	Incremental O&M:	\$ 626.18	\$ 2,780.00	\$	3,406.18
		Incentive:	\$ -	\$ 2,748.00	\$	2,748.00
		Total:	\$ 626.18	\$ 5,528.00	\$	6,154.18
	Utility indirect costs (\$):	Incremental capital:	\$ -		\$	-
		Incremental O&M:	\$ -		\$	-
		Total:	\$ -	\$ -	\$	-
	Total Utility Cost of Program		\$ 626.18	5,528.00		6,154.18

#### Assumptions & Comments: Ε.

<sup>1</sup> units times the net present value per unit b <sup>2</sup> component of the TRC costs. However, payments made

## (complete this section for each program)

A. Name of the Program:

System Optimization through voltage conversion

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

A study for voltage conversion program determined the benefits of increasing the distriubtuion system voltage which resulted in lower line losses.

Measure(s):	Measure 1	Measure 2 (if applica	able)	Measure 3	(if applicable)	
Base case technology:	0					
Efficient technology:	0					
Number of participants or units						
delivered:	0.00					
Measure life (years):	0.00					
Number of participants or units 2005	1					
Number of Participants or units						
delivered life-to-date	1.00					
TRC Results:		Reporting Year			Life-to-da	te TRC
				2005 TRC Results	Resu	lts:
<sup>1</sup> TRC Benefits (\$):		\$	-	\$ 3,980.91	\$	3,980.9
<sup>2</sup> TRC Costs (\$):						
Utility pre	ogram cost (less incentives):	\$	-	\$ 3,534.87	\$	3,534.8
Incremental Measu	re Costs (Equipment Costs)	\$	-		\$	-
	Total TRC costs:	\$	-	\$ 3,534.87	\$	3,534.8
Net TRC (in year CDN \$):		\$	-	\$ 446.04	-	446.0
Benefit to Cost Ratio (TRC Benefits/TR	C Costs):	#DIV/0!		\$ 1.13	\$	1.1
Results: (one or more category may ap	oply)			Cumulati	ve Results:	
<u>Conservation Programs:</u> Demand savings (kW):	Summer	0.00		Poport Winto	r Demand (kV	(/)
Demand Savings (KW).	Winter	0.00			.00	v)
	winter	0.00		L L	Cumulative	Δηριο
	lifecycle	in year		Cumulative Lifecycle		
Energy saved (kWh):	0.00	0.00		116725	466	
			ĺ	2005 Lifecycle	2005 Aı	nnual
Other recourses actual i			ļ	11672	5	466
Other resources saved :						
Natural Gas (m3):	0		0			
Water (I)	0		0			
Demand Management Programs:						
Controlled load (kW)						
	Nh):					
Energy shifted On-peak to Mid-peak (k)						
	Vh):					
Energy shifted On-peak to Mid-peak (k\ Energy shifted On-peak to Off-peak (k\ Energy shifted Mid-peak to Off-peak (k\	Vh):					
Energy shifted On-peak to Mid-peak (k) Energy shifted On-peak to Off-peak (k) Energy shifted Mid-peak to Off-peak (k) Demand Response Programs:	Vh):					
Energy shifted On-peak to Mid-peak (kV Energy shifted On-peak to Off-peak (kV Energy shifted Mid-peak to Off-peak (kV Demand Response Programs: Dispatchable load (kW):	Vh):					
Energy shifted On-peak to Mid-peak (k) Energy shifted On-peak to Off-peak (k) Energy shifted Mid-peak to Off-peak (k) Demand Response Programs:	Vh):					
Energy shifted On-peak to Mid-peak (kV Energy shifted On-peak to Off-peak (kV Energy shifted Mid-peak to Off-peak (kV Demand Response Programs: Dispatchable load (kW):	Vh):					
Energy shifted On-peak to Mid-peak (kV Energy shifted On-peak to Off-peak (kV Energy shifted Mid-peak to Off-peak (kV <u>Demand Response Programs:</u> Dispatchable load (kW): Peak hours dispatched in year (hours):	Vh):					
Energy shifted On-peak to Mid-peak (kl Energy shifted On-peak to Off-peak (kl Energy shifted Mid-peak to Off-peak (kl Demand Response Programs: Dispatchable load (kW): Peak hours dispatched in year (hours): Power Factor Correction Programs:	Vh): Nh):					

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## Line Loss Reduction Programs:

Peak load savings (kW):			0.5
	lifecycle	in year	
Energy savngs (kWh):	116725		4669
Distributed Generation and Load Disp	placement Programs:		
Amount of DG installed (kW):			
Energy generated (kWh):			
Peak energy generated (kWh):			
Fuel type:			
Other Programs (specify): Metric (specify):			

Program Costs*:		Reporting Year		2	005 Costs	<u>cun</u>	nlative Life to Date
Utility direct costs (\$):	Incremental capital:	\$	-	\$	3,534.87	\$	3,534.8
Includes Measure's Cost - ensure full cost of measure entered in TRC!L15	Incremental O&M:	\$	-			\$	-
	Incentive:	\$	-			\$	-
	Total:	\$	-	\$	3,534.87	\$	3,534.8
Utility indirect costs (\$):	Incremental capital:	\$	-			\$	-
	Incremental O&M:	\$	-			\$	-
	Total:	\$	-	\$	-	\$	-
Total Utility Cost of Program		\$	-		3,534.87		3,534.8

#### Assumptions & Comments: Ε.

- Denote chose of contracter a contraction and the contractory has been appropriate before the process tracter in the manual of
units times the net present value per unit b
- i or toormologioo minor nato not boon appoyed bactor minor ato the notation of the net of a process that bactor monitor (org. tobator) non ato the a datation ato not a
<sup>2</sup> component of the TRC costs. However, payments made
- component of the LRC costs. However, payments made

## (complete this section for each program)

A. Name of the Program:

System Optimization through Street Light Conversion

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

Convert municipal streetlight from fluorescent and mecury to high pressure sodium. Program to save energy and reduce streetlight demand. Replacement of 11 units from 120w fluorescent to 100HPS, 53 units from 120w fluorescent to 70 HPS, 32 units from 125w mercury to 70 HPS and 14 units from 175w mecury to 100 HPS.

Measure(	-1.	
wicasule(	J.	

В.

	Measure 1		Measure 2	Measure 3		Measure 4
Base case technology:	120 watt Fluorescent	1	120 watt Fluorescent	125 watt mercury	17	5 watt mercury
Efficient technology:	100 HPS		70 HPS	70 HPS		100 HPS
Number of participants or units						
delivered:	11.00		53.00	32.00		14.00
Measure life (years):	20.00		20.00	20.00		20.00
Number of participants or units 2005						
Number of Participants or units						
delivered life-to-date	11.00		53.00	32.00		14.00
TRC Results:			Reporting Year		Lit	fe-to-date TRC
				2005 TRC Results		Results:
TRC Benefits (\$):		\$	17,716.66		\$	17,716.66
Measure's Costs (\$):						
U	tility program cost (less incentives):	\$	-		\$	-
Incremental Me	asure Costs (Equipment Costs)	\$	40,491.00		\$	40,491.00

Total TRC costs:	\$ 40,491.00	\$-	\$	40,491.00
Net TRC (in year CDN \$):	-\$22,774.34	\$-	-\$	22,774.34

0.44

#DIV/0!

\$

**Cumulative Results:** 

0.44

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

#### C. <u>Results:</u> (one or more category may apply)

Demand savings (kW):	Summer	0.00	0.00 0.37		Report Winter Demand (kW)			
	Winter	0.37			0.00			
	lifecycle		in year	Ī	Cumulative Lifecycle	Cumulative Annual Savings		
Energy saved (kWh):	532,655.82		26,632.79		532655.82	26632.791		
				ſ	2005 Lifecycle	2005 Annual		
Other resources saved :				_				
Natural Gas (m3):		0		0				
Water (I)		0		0				

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

#### Line Loss Reduction Programs:

Peak load savings (kW):

Energy savngs (kWh):

lifecycle

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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.	Program Costs*:				2005 Costs	<b>Cumlative</b>	Life to Date
	Utility direct costs (\$):	Incremental capital:	\$	-		\$	-
	Error Choose Measures Cost Paid By on TRC5	Incremental O&M:	\$	44,980.00		\$	44,980.00
		Incentive:	<u>\$</u>	-		\$	-
		Total:	\$	44,980.00	\$-	\$	44,980.00
	Utility indirect costs (\$):	Incremental capital:	\$	-		\$	-
		Incremental O&M:	\$	-		\$	-
		Total:	\$	-	\$-	\$	-
	Total Utility Cost of Program		\$	44,980.00	-		44,980.00

#### E. Assumptions & Comments:

<sup>1</sup> 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.

<sup>2</sup> 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.

## (complete this section for each program)

A. Name of the Program:

Smart and interval meters

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

Pilot studies to be conducted to investigate applicability and optimum introduction of smart meters. Through joining the OUSM group, this provides IHDSL an ability to gain access to documented test results from a viariety of vendors. IHDSL will also be providing interval meters to GS>50 customers in order to education on conservation and demand load shifting.

Measure(s):			
	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	0		
Efficient technology:	0		
Number of participants or units delivered:	0.00		
Measure life (years):	0.00		
Number of participants or units 2005			
Number of Participants or units delivered life-to-date	0.00		

TRC Results:			Reporting Year		Life-to-date TRC
				2005 TRC Results	Results:
<sup>1</sup> TRC Benefits (\$):		\$	-		\$-
<sup>2</sup> TRC Costs (\$):					
	ity program cost (less incentives):		6,520.86	\$ 5,128.28	\$ 11,649.1
Incremental N	leasure Costs (Equipment Costs)		-		\$-
	Total TRC costs		6,520.86		
Net TRC (in year CDN \$):		-\$	6,520.86	-\$ 5,128.28	-\$ 11,649.1
Benefit to Cost Ratio (TRC Benefit	ts/TRC Costs):	0.00		\$ -	\$ -
Results: (one or more category m	ay apply)			Cumulativ	ve Results:
Conservation Programs:					
Demand savings (kW):	Summer	0.00		Report Winter	Demand (kW)
	Winter	0.00			00
					Cumulative Annua
	lifecycle		in year	Cumulative Lifecycle	Savings
Energy saved (kWh):	0.00		0.00	0	0
				2005 Lifecycle	2005 Annual
Other resources saved :					
Natural Gas (		0	0		
Wat	er (l)	0	0		
Demand Management Programs	<u>::</u>				
Controlled load (kW)					
Energy shifted On-peak to Mid-pea	ak (kWh):				
Energy shifted On-peak to Off-pea	nk (kWh):				
Energy shifted Mid-peak to Off-pea	ak (kWh):				
Demand Response Programs:					
Dispatchable load (kW):					
Peak hours dispatched in year (ho	purs):				
Power Easter Correction Progra	me				
Power Factor Correction Progra	<u>1115.</u>				

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

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

## Line Loss Reduction Programs:

Peak load savings (kW):		
	lifecycle	in year
Energy savngs (kWh):		
Distributed Generation and Load Dis	splacement Programs:	
Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		

Metric (specify):

D.	Program Costs*:			Reporting Year	2005 Costs	<u>Cu</u>	mlative Life to Date
	Utility direct costs (\$):	Incremental capital:	\$	-		\$	-
	Includes Measure's Cost - ensure full cost of measure entered in TRC!L15	Incremental O&M: Incentive:	\$ \$	6,520.86 -	\$ 5,128.28	\$ \$	11,649.14 -
		Total:	\$	6,520.86	\$ 5,128.28	\$	11,649.14
	Utility indirect costs (\$):	Incremental capital: Incremental O&M:	\$ \$	-		\$ \$	-
		Total:	\$		\$ -	Ψ \$	-
	Total Utility Cost of Program		\$	6,520.86	5,128.28		11,649.14

#### Ε. Assumptions & Comments:

<sup>1</sup> units times the net present value per unit b <sup>2</sup> component of the TRC costs. However, payments made

## (complete this section for each program)

A. Name of the Program:

Wind Energy Study

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

Pilot study being conducted to investigate applicability of a sustainable windmill.

Measure(s):			
	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	0		
Efficient technology:	0		
Number of participants or units			
delivered:	0.00		
Measure life (years):	0.00		
Number of participants or units 2005			
Number of Participants or units			
delivered life-to-date	0.00		

	TRC Results:			Reporting Year		Life-to-date TRC
В.					2005 TRC Results	Results:
	<sup>1</sup> TRC Benefits (\$):		\$	-		\$-
:	<sup>2</sup> TRC Costs (\$):					
	Utility pro	ogram cost (less incentives):	\$	33,280.80		\$ 33,280.80
	Incremental Measu	re Costs (Equipment Costs)	\$	-		\$-
		Total TRC costs:	\$	33,280.80	\$-	\$ 33,280.80
	Net TRC (in year CDN \$):		-\$	33,280.80	\$-	-\$ 33,280.80
	Benefit to Cost Ratio (TRC Benefits/TR	C Costs):	0.00		#DIV/0!	\$ -
C.	Results: (one or more category may ap	oply)			Cumulativ	e Results:
	Conservation Programs:				-	
	Demand savings (kW):	Summer	0.00		Report Winter	· · ·
		Winter	0.00		0.0	
		116		in the n	Cumulative Lifecycle	Cumulative Annual Savings
		lifecycle 0.00		in year 0.00		-
	Energy saved (kWh):	0.00		0.00	0 2005 Lifecycle	0 2005 Annual
					2000 Lilecycle	2003 Annuai
	Other resources saved :					
		0		0		
	Natural Gas (m3):	0		0		
	Water (I)	0		0		
	Demand Management Programs:					
	Controlled load (kW)					
	Energy shifted On-peak to Mid-peak (k)	1/h):				
	Energy shifted On-peak to Off-peak (kV					
	Energy shifted Mid-peak to Off-peak (k)	·				
	Energy shinted wid-peak to On-peak (ki	, , , , , , , , , , , , , , , , , , ,				
	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 bag	ining of yoor (0/);				

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

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## Line Loss Reduction Programs:

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	lifecycle	in year
Energy savngs (kWh):		
Distributed Generation and Load Disp	placement Programs:	
Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		

Metric (specify):

D.	Program Costs*:		Reporting Year	2005 Costs	<u>Cu</u>	mlative Life to Date
	Utility direct costs (\$):	Incremental capital:	\$ -		\$	-
	Includes Measure's Cost - ensure full cost of measure entered in TRC!L15	Incremental O&M:	\$ 33,280.80		\$	33,280.80
		Incentive:	\$ -		\$	-
		Total:	\$ 33,280.80	\$ -	\$	33,280.80
	Utility indirect costs (\$):	Incremental capital:	\$ -		\$	-
		Incremental O&M:	\$ -		\$	-
		Total:	\$ -	\$ -	\$	-
	Total Utility Cost of Program		\$ 33,280.80	-		33,280.80

#### Assumptions & Comments: Ε.

<sup>1</sup> units times the net present value per unit b
<sup>2</sup> component of the TRC costs. However, payments made