CHEC

Cornerstone Hydro Electric Concepts Association Inc.

2005
Conservation and Demand Annual Report

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

March 29, 2006

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

Conservation and Demand 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 2005. 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. Although this report is submitted as one document it is clear from the individual reports that each utility brings its own perspective and goals to the CDM activities.

Within the 16 utilities there have been a total of ninety-two (92) initiatives. These initiatives represent projects specific to individual utilities and others that are similar or a cooperative effort between utilities (Conservation Website, EnergyShop.com). Some utilities have focused on promoting and providing energy efficient technology to their customers with the associated kWh savings, while others have been more focused on laying the foundation for future programs. To achieve the "conservation culture", the overriding goal in Ontario, both types play an important role.

CHEC with its dynamic relationship, positions members well to learn from and leverage the experience of others. The combined report as well as meeting the regulatory requirement, provides a comprehensive summary to CHEC members. This report will help to provide additional insights, as utility staff plan and implement the 2006 and 2007 programs.

The experiences gained in 2005 will be invaluable for the continued development of CDM and the ability to move forward programs that save energy and develop the conservation culture. The experiences gained over 2005 add to the collective knowledge of the industry and sets the stage for on-going improvement in the development, delivery, monitoring and reporting of CDM initiatives.

2.0 CHEC Members:

The 2005 Annual Report on Conservation and Demand Management Activities of the following utilities are included in this report:

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

3.0 Evaluation of the CDM Plan:

Total Portfolio: The 16 CHEC members collectively ran a total of 92 programs. 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.

The program results represent a total energy savings of 29,760,749 kWh at a combined "Utility Cost" of $908,387 or approximately 3c/kWh. This low cost of energy saved was achieved while providing both education and foundation building programs in addition to the specific initiatives aimed at savings kWh. To put the energy savings in perspective the 29.7 Million kWh represent the annual energy required by 2,400 homes (at 1000 kWh/month).

Figure 1 and Figure 2 illustrates the breakdown of the programs into the three types. From the figure it can be seen that cost and activity generally correlate. Programs aimed at immediate kWh savings represent 36% of the cost while they represent 27% of the programs delivered during the year. Education and Foundation programs, that are expected to return improved kWh savings in the future, represent 64% of the cost and 73% of the activity. **From the spending and activity level in the different categories it can be seen that 2005 while providing energy savings has focused on preparing for year two and three of CDM delivery.**

Figure 1

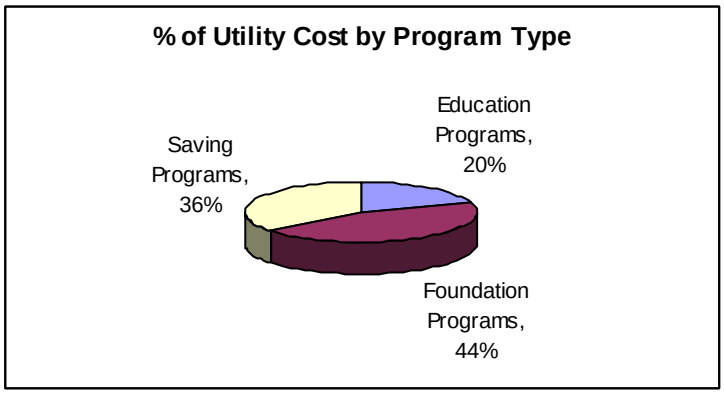
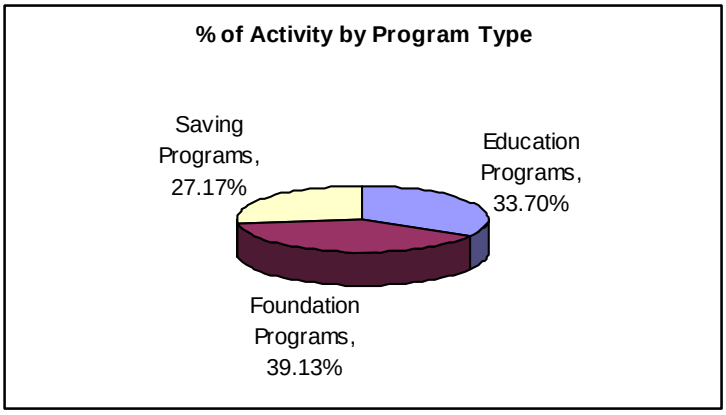


Figure 2



Savings Programs: The programs aimed at immediate results focused on energy savings rather than peak demand. The average cost of energy saved through the "Energy Savings" programs was 1.1c/kWh.

The use of product incentives and give-a-ways contributed significantly to achieving immediate energy savings. Programs such as the "Lighten Your Electricity Bill" and local product incentives such as CFL distribution programs resulted in energy savings throughout the membership. The wide scale programs provided an economy of scale while the local programs built on relationships and resources within the community. The product focused programs represented a utility cost of $163,400 and a lifetime energy savings of 15,692,800 kWh or 1.1c/kWh.

Four system optimization projects (out of a total of twelve) involved field changes completed in 2005 that captured energy savings. The four field projects represent a utility cost of $163,300 and a lifetime energy savings of 12,793,000 kWh or 1.3c/kWh (note: one program pending review to confirm savings).

Education Programs: These programs while not generating any immediate savings represent the future of CDM within the Province. Incentive programs while providing immediate savings cannot on their own change behaviour within the customer group. Programs aimed at increasing the customer's knowledge of energy use is required if long term savings are desired. As the saying goes – If you give a person a CFL you provide energy savings for 4 years. If you provide a person with the knowledge to save energy you provide energy savings for a lifetime. This is the role of the education programs.

Twenty percent of the total utility cost was spent on providing education to the customers. The activities within this classification vary from providing brochures to detailed customer workshops. Although the results of these programs are not immediate it is believed that they will impact positively on customer participation in future programs and prepare customers to make informed decisions with regards to energy use.

CHEC is in the process of developing a website focused on energy conservation. The website in addition to providing energy management knowledge to the customers will also allow the effective exchange of CDM information between CHEC members. The website funding includes dollars to allow the CHEC membership to engage external resources to assist in developing the site and also assist members with CDM issues of common interest.

It is interesting to note in the "Education" section the experience of one CHEC member (Orillia) with success from an industrial workshop. As a direct result of a "Dollar to Sense" workshop changes were made in an industrial setting that resulted in quantifiable savings. These results were captured because the customer communicated the action and potential energy savings to the utility. The savings of 255,000 kWh annually, clearly illustrates the role "education" can play in obtaining significant energy savings.

Foundation Program: These programs are those initiatives aimed at developing programs that will provide savings in the future. Thirty nine percent of the programs (44% of utility cost) focused on research and development of programs that will be delivered in year two and three of the CDM Plan. At the end of the reporting period however the programs have not been rolled out or have not generated any savings to date. For the purpose of reporting, projected savings have generally not been utilized.

Foundation Programs include initiatives such as: system optimization studies, smart meter preparation, customer audits, demonstration projects and relationship building, to name a few. Unlike education, where the activity is geared to the customer, these programs are aimed at ensuring the appropriate information and processes for the CDM activity of future years. Approaching the end of the first quarter of 2006 it is apparent that there are a number of programs that are moving

forward as a direct result of the foundation work completed in 2005 (e.g. Woodstock finance plan, Orangeville Reduce the Juice)

Net TRC Results: The net TRC result of the combined CHEC CDM activity for 2005 is $499,756. Although a large number, it is difficult to determine if this represents good success of the overall portfolio. While net TRC measures the dollar benefits of avoided electrical energy cost it does not measure the education and development work that is associated with an on-going CDM program.

Reviewing the individual reports of the CHEC members indicates that ten of the members had positive Net TRCs while six had negative Net TRCs. In isolation one may conclude that anything but a positive TRC is undesirable. However it is proposed that the TRC for the first year of a multi-year program does not reflect the overall value of the effort undertaken and that the overall activity of the utility should be taken into account.

As noted above there has been a significant amount of education and foundation work undertaken by CHEC members. The individual reports indicate a mix of approaches with some focusing on preparatory work, others on immediate deliverables and others on a mix of programs. Depending on the success of programs aimed at delivering immediate savings and the cost of education and foundation programs the Net TRC will vary**. Through the sharing of program information and outcomes CHEC members will be able to learn from each others' experiences to continue to deliver effective CDM programs in the future.**

4.0 Discussion of Programs:

The individual program discussions from each utility should be examined. 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. One copy of the SeeLine Total Resource Cost Test Assessment of the '2005 Lighten Your Electricity Bill' Program is also included in the appendices as a sample of the program evaluation process for the coupon program as reported in CHEC members' reports.

5.0 Lessons Learned:

Each utility report included in the attached appendices includes lessons learned from the 2005 CDM experience for each utility. Although a flavour of the "lessons learned" is summarized in this section the reader is encouraged to review the individual reports for additional insights.

Application of TRC: This report represents the first large scale application of TRC for the evaluation of CD&M programs in Ontario. The TRC model, while forming a base, is seen to encourage "quick return" programs and does not provide any measure of foundation or education programs that are so critical to developing a "conservation culture". It is believed that for future year evaluation of CDM activities the TRC tool needs to be expanded to take into account education and foundation type programs.

Familiarity has been gained with the TRC tool over the past reporting year. The OEB's initiative to provide a set of assumptions assisted with the evaluation of programs and reporting. The need to continue to refine and add to the list of assumptions for cost effective evaluation is evident. The evaluation process for programs also fails to capture additional activities of customers that are driven through exposure to programs where consumers are not directly taking advantage of a particular coupon or rebate.

Experience gained in reporting the activities of 2005 also indicates the need to ensure that measures of programs are understood at the program design stage. For education programs, in addition to some modification of the TRC model to better recognize the benefits of these programs, mechanisms for obtaining feedback from customers is required. These mechanisms however must be cost effective.

Funding: There remains significant third tranche dollars for the continued delivery of CDM programs in 2006 and potentially 2007. However, if CDM is to continue members will be required to submit applications for additional CDM expenditures. A simplified approval process is required to allow utilities to obtain appropriate CDM funding without being encumbered with a full rate hearing on these items. In addition, as noted above, the TRC tool requires modification to provide value to education and foundation programs. A continued lack of recognition of the value of these types of programs will focus utilities on programs that deliver immediate positive TRC result, a condition that will not foster a "conservation culture".

Partnerships and Sharing: CHEC by its' very existence is about partnerships and sharing. CHEC members are working together to move forward CDM in their service territories. In addition CHEC members have been active participants in local and provincial wide initiatives to build relationships and take advantage of scale. It is believed through these types of endeavours, the "best bang for the buck" can be achieved for the customer.

Province wide initiatives are generally supported by CHEC members as a good way to enter into partnerships with the OPA, manufacturers, contractors, and retail outlets in order to deliver cost effective programming. Within these programs the ability to provide local support and branding is important to allow the existing positive relationship that the local utility enjoys with its customers to be leveraged.

Foundation Year: Many of the CHEC members note in their report the "foundation building" nature of 2005. The ability of the industry to come up to speed is noted as well as the development of programs and guidelines associated with CDM. All CDM participants have been learning over 2005.

Much of the work completed in 2005 sets the stage for the next two years. With a mix of delivered savings, education and investigation of programs CHEC and the industry have prepared for continued CDM over the next two years and beyond.

Customer Readiness: The success of the residential programs offered to customers indicates the readiness of customers to take action to control their energy use and costs. Obtaining resources for utilities to design and deliver commercial and industrial programs requires further attention. The energy savings within these sectors can be extensive, however the lead time for design, delivery and customer implementation is much longer. Members recognize that much of the issue with this sector is the limited resources (time and money) the customers have to put on energy management. Successfully meeting the needs of this sector will require further effort and sharing of projects that have proved successful.

Utility Resources: To-date utilities have not generally increased internal resources to address the CDM portfolio. Utilities have worked the additional CDM demands into existing work loads by placing other issues at a lower priority. Continuation of this arrangement is not sustainable over the long term. Recognition of the impact that continued CDM programming has on resources is required in both the funding and reporting requirements. As noted above under "Funding" a simplified method for accessing CDM funding is required to ensure the appropriate resources are put in place to support the appropriate level of CDM activity.

6.0 Conclusion:

The first year of CDM has been a learning or foundation year. The CHEC members look back on their projects to date and recognize there has been significant learning. As the individual reports indicate there continues to be a commitment to CDM with utilities looking to capture future benefits from the work done in 2005.

CHEC members have delivered energy savings while increasing the collective knowledge of the CDM industry. CHEC members have demonstrated a willingness to be fully engaged in the process. Through the continued sharing of information and programs between members and other organizations, CHEC will continue to play an important role in the design, delivery and reporting of CDM for the benefit of their customers.

7.0 Appendices:

Appendix 1	Summary of CHEC Appendix A's	page	9
	Individual Utility CDM 2005 Annual Report RP-2004-0203/EB-2004-0502		
Appendix 2	Centre Wellington	page	10
Appendix 3	Collus Power	page	21
Appendix 4	Grand Valley	page	40
Appendix 5	Innisfil Hydro	page	48
Appendix 6	Lakefront Utilities	page	63
Appendix 7	Lakeland Power Distribution	page	75
Appendix 8	Midland Power Utility	page	86
Appendix 9	Orangeville Hydro Ltd	page	109
Appendix 10	Orillia Power Distribution	page	129
Appendix 11	Parry Sound Power	page	152
Appendix 12	Rideau St. Lawrence	page	167
Appendix 13	Wasaga Distribution Inc.	page	184
Appendix 14	Wellington North Power	page	203
Appendix 15	West Coast Huron Energy	page	232
Appendix 16	Westario Power	page	249
Appendix 17	Woodstock Hydro Services	page	263
Appendix 18	SeeLine TRC Assessment for 2005 Lighten Your Electricity Bill	page	294

Appendix A - Evaluation of the CDM Plan

	Total	Residential	Commercial	Institutional	Industrial	Agricultural	LDC System				
Net TRC value ($):	*$499,756*										
Benefit to cost ratio:	*1.582*										
Number of participants or units delivered:	*115,815.00*		**Summary of CHEC Appendices A**								
Total KWh to be saved over the lifecycle of the plan (kWh):	*29,760,746.70*		Detailed A's follow for all CHEC Utilities								
Total in year kWh saved (kWh):	*3,048,702.30*		Utilities arranged alphabetically								
Total peak demand saved (kW):	*329.19*										
Total kWh saved as a percentage of total kWh delivered (%):											
Peak kW saved as a percentage of LDC peak kW load (%):											
Gross in year C&DM expenditures ($):	*$908,385.27*										
Expenditures per KWh saved ($/kWh):*	$0.0305										
*Expenditures per KW saved ($/kW)**:*	$2,759.4849										

ORANGEVILLE HYDRO

CDM PLAN ANNUAL REPORT
FOR THE YEAR ENDED DECEMBER 31, 2005

INTRODUCTION

Orangeville Hydro Limited (OHL) is pleased to submit our Annual Report on the progress made in applying the third tranche ($290,000) monies to conservation and demand management programs. Attached to this report is Appendix A – Evaluation of the CDM Plan, along with Appendix B – Discussion of the Program for the individual programs. OHL has submitted its conservation and demand management plan with the CHEC Group and has received a final order dated February 8, 2005 approving spending on the following programs.

DISCUSSION OF PROGRAMS

1. NAME OF PROGRAM: CUSTOMER SURVEY

DESCRIPTION OF PROGRAM: The intent of this program is to create an active conservation culture. Engaging the community as a whole and fostering the conservation culture through its infancy are the expected yield from the program. Using economies of scale the survey 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.

The importance of customer feedback and opinion cannot be underestimated. The CHEC Group seized the opportunity of combining resources to produce one uniform survey which greatly reduced costs and increases the depth and validity of the survey findings.

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.

TOTAL PROGRAM COST: **$1,000.00**

COSTS INCURRED
Per RRR submitted to OEB Jan 31/06 **$20.68**

2. NAME OF PROGRAM: WEBSITE

DESCRIPTION OF PROGRAM: The intent of this program is to create an active conservation culture. Engaging the community as a whole and fostering the conservation culture through its infancy are the expected yield from the program. Using economies of scale the website 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 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 OHL'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.

Savings could be measured on up-take of programs, message penetration analysis and reports on the number of hits and website traffic.

TOTAL PROGRAM COST: **$10,000.00**

COSTS INCURRED
Per RRR submitted to OEB Jan 31/06 **$1,123.28**

3. NAME OF PROGRAM: EDUCATION/PROMOTION

DESCRIPTION OF PROGRAM: The intent of this program is to create an active conservation culture. Engaging the community as a whole and fostering the conservation culture through its infancy are the expected yield from the program. 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.

Advancing the importance of understanding conservation to customers in all market sectors and in turn facilitating the programs to permit customers acting on the energy saving opportunities requires significant effort and consistent marketing. Common messages and approaches are implemented to achieve greatest possible penetration. It is also very important that LDC staff understand how the various activities included in the CDM plan will not only help the consumer but the LDC as well. The level of knowledge the staff has on the benefits of various programs can significantly affect the success level of any program.

Although savings cannot be quantitatively measured, it is through the education and promotion activities that the consumer will take up the conservation culture such as the conservation radio message that was aired by OHL in July, 2005 to assist customers with tips on how to conserve power on those hot humid days.

In 2005 the brochures produced by the Ministry of Energy – "Conserve Energy and Save Money" were purchased and were provided to all residential and small general service customers.

OHL organized a seminar on energy management for the Manufacturers Association of Orangeville. Representatives from the IESO attended and demonstrated the importance of demand management activities on the bottom line. Interval customers were encouraged to sign up on a website that will help monitor their usage. OHL mailed the IESO brochure "The Bottom Line on Energy Management" to >50 kW customers.

OHL implemented a high bill complaint program to encourage customers to use energy efficiently.

OHL has participated with financial sponsorship in a Home Energy Lifestyle Exhibition and we have been working with the Reduce the Juice program that will be launched in late spring of 2006 in conjunction with a light bulb give-away.

TOTAL PROGRAM COST: **$29,000.00**

COSTS INCURRED
Per RRR submitted to OEB Jan 31/06 **$10,545.36**

4. NAME OF PROGRAM: ENERGY AUDITS/PROJECTS

DESCRIPTION OF PROGRAM: The intent of this program is to create an active conservation culture. Engaging the community as a whole and fostering the conservation culture through its infancy are the expected yield from the program. Using economies of scale the website 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.

Energy audits will be provided through internal resources or partnerships with existing service providers. LDCs will promote energy audits as a mechanism for identifying conservation opportunities within homes, businesses and industries. Where applicable, coordination will be conducted with NRCan Office of Energy Efficiency (OEE) rebate programs and/or gas utility DSM programs to leverage available funding thereby reducing the impact on LDC C&DM costs and consumer costs. Program design will focus on mechanisms to collect and maintain audit data for future marketing and program purposes, possibly for financial assistance of longer payback technical options, which fail to result in consumer implementation due to unfavorable economic reasons.

With this knowledge we are discussing an association with "Cool Shops" that will focus on the small commercial businesses in Orangeville to conduct an audit and advise where energy savings can be met. Another part of the program design will target a cross-section of the > 50 kW customers including the MUSH sector.

From no- and low-cost options alone, experience from other audit programs in Canada and internationally have shown results of between 5% and 10% in total energy consumption savings. With effective follow-up and support of complimentary programs, it is believed that implementation rates of recommended measures can achieve in excess of 50%.

Program design will need to focus on unique local needs, LDC coordination requirements, and qualifying local audit service providers to name but a few issues.

TOTAL PROGRAM COST: $100,000.00

COSTS INCURRED
Per RRR submitted to OEB Jan 31/06 $2,067.80

5. NAME OF PROGRAM: SYSTEM OPTIMIZATION

DESCRIPTION OF PROGRAM: 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 either by taking direct control over an upgrade or support customer action will result in system demand reductions and relieve network capacity, on both a local and system wide basis.

Program #1: Line Loss Reductions: System Optimization Study & Phase Balancing
This study will investigate and identify the benefits of optimizing the distribution system. It will indicate areas of losses resulting from undersized conductors and undersized transformers. It will further indicate where improvements may be made to the system through the implementation of proper feeder balancing. The study will recommend system changes which will improve line losses and system reliability.

Program #2: Voltage Conversion Substation Upgrade
This study will investigate the benefits of increasing the distribution system voltage which will result in lower line losses, and may result in the elimination of either one or two of the existing municipal substations.

TOTAL PROGRAM COST: **$25,000.00**

COSTS INCURRED
Per RRR submitted to OEB Jan 31/06 **$515.45**

6. NAME OF PROGRAM: Renewable Energy Study

DESCRIPTION OF PROGRAM: A study has been conducted to identify and determine the feasibility of biomass energy. It was determined by this Green Energy Feasibility Study in cooperation with the University of Waterloo that the Orangeville sewage plant cannot generate enough electricity as a stand-alone project. Our intent is also to investigate other initiatives.

We will also proceed with investigation into a Wind Study. Investigation of the concept this renewable energy source will be conducted to determine what applications can be successfully implemented in Orangeville. 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 secondary schools will also be contacted as part of the "Reduce the Juice" program to develop renewable energy trailers to be constructed as a green power project. Partnerships will be investigated to determine if a program can be designed to enhance the educational aspect of this energy source.

TOTAL PROGRAM COST: **$25,000.00**

COSTS INCURRED
Per RRR submitted to OEB Jan 31/06 **$6,087.48**

7. NAME OF PROGRAM: Smart/Interval Meters

DESCRIPTION OF PROGRAM: 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.

OHL, along with other members of the CHEC group have joined the OUSM group, who have coordinated the multiple technologies. This will provide Midland 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 economics 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.

Interval meters will be installed where under the energy audit program our findings indicated there is a benefit to do so.

TOTAL PROGRAM COST: **$100,000.00**

COSTS INCURRED
Per RRR submitted to OEB Jan 31/06 **$7,196.08**

LESSONS LEARNED and GENERAL COMMENTS:

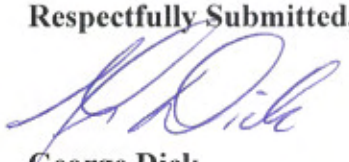
1. **Administration and coordination of programs and the supply of reporting documentation costs have been allocated to all programs on a prorata sharing, based on the gross amount allocated to each program in the year. OHL believes that more administrative type costing will be incurred on larger programs. Once the program has been completed no future administration costs will be allocated to the program.**

2. **For the year 2005, there was no net TRC benefit due to some programs that have no measurable technologies and other programs that have so far been investigative in nature.**

3. **As smart metering implementation becomes reality, OHL believes that the combined focus of the UtilAssist OUSM Group has provided great economies of scale for smaller LDCs. Through this group we are able to test various technologies and develop standards as a group as opposed to "going it alone".**

4. **The bulk of OHL's programs are in the development stage and 2005 set the foundation for future program development.**

Respectfully Submitted,



George Dick
President
ORANGEVILLE HYDRO LIMITED

Appendix A - Evaluation of the CDM Plan

	Total	Residential	Commercial	Institutional	Industrial	Agricultural	LDC System	Other 1	Other 2	Other 3	Other 4
Net TRC value ($):	*-34331.85*	-$30,657	-$3,245		-$429						
Benefit to cost ratio:	*0*										
Number of participants or units delivered:	*9927*	8,865	938		124						
Total KWh to be saved over the lifecycle of the plan (kWh):											
Total in year kWh saved (kWh):											
Total peak demand saved (kW):											
Total kWh saved as a percentage of total kWh delivered (%):											
Peak kW saved as a percentage of LDC peak kW load (%):											
Gross in year C&DM expenditures ($):	*27556.13*	$23,050	$2,439		$2,068						
Expenditures per KWh saved ($/kWh):*											
*Expenditures per KW saved ($/kW)**:*											

Utility discount rate (%):	8.56

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

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Conservation Website

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

Administration and web design costs for preliminary plans for the +CHEC website

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		

B. **TRC Results:**

TRC Benefits ($):		*$*	-
Measure's Costs ($):		*$*	-
	Utility program cost (less incentives):	$	1,582.05
	Participant cost:	$	-
	Total TRC costs:	$	1,582.05
Net TRC (in year CDN $):			-$1,582.05

Benefit to Cost Ratio (TRC Benefits/TRC Costs): 0.00

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

Conservation Programs:

Demand savings (kW):	*Summer*		0.00
	Winter		0.00
		lifecycle	*in year*
Energy saved (kWh):		*0.00*	0.00
Other resources saved :			
	Natural Gas (m3):	0	0
	Water (l)	0	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 (%):

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):	

D. **Program Costs*:**

Utility direct costs ($):	*Incremental capital:*	$	-
	Incremental O&M:	$	1,123.28
	Measures Cost:	$	-
	Incentive:	$	-
	Total:	$	1,123.28
Utility indirect costs ($):	*Incremental capital:*	$	-
	Incremental O&M:	$	-
	Total:	$	-
Total Utility Cost of Program		$	1,123.28
Participant costs ($):	*Incremental equipment:*	$	-
	Incremental O&M:	$	-
	Measures Cost:	$	-
	Total:	$	-
Grand Total Program Cost		$	1,123.28

E. Comments:

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Customer Survey

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

CHEC CDM Administrator costs have been applied to the survey and the survey is expected to commence in the summer of 2006

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		

B. **TRC Results:**

TRC Benefits ($):		*$*	-
Measure's Costs ($):		*$*	-
	Utility program cost (less incentives):	$	154.89
	Participant cost:	$	-
	Total TRC costs:	$	154.89
Net TRC (in year CDN $):			-$154.89

Benefit to Cost Ratio (TRC Benefits/TRC Costs): 0.00

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

Conservation Programs:

Demand savings (kW):	*Summer*	0.00	
	Winter	0.00	
		lifecycle	*in year*
Energy saved (kWh):		*0.00*	0.00
Other resources saved :			
Natural Gas (m3):		0	0
Water (l)		0	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 (%):

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):	

D. **Program Costs*:**

Utility direct costs ($):	*Incremental capital:*	$ -
	Incremental O&M:	$ -
	Measures Cost:	$ -
	Incentive:	$ -
	Total:	$ -
Utility indirect costs ($):	*Incremental capital:*	$ -
	Incremental O&M:	$ 20.68
	Total:	$ 20.68
Total Utility Cost of Program		$ 20.68
Participant costs ($):	*Incremental equipment:*	$ -
	Incremental O&M:	$ -
	Measures Cost:	$ -
	Total:	$ -
Grand Total Program Cost		$ 20.68

E. Comments:

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Education & Promotion

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

Organized breakfast meeting on energy management for the manufacturers. A conservation radio message to assist customer to conserve power. Implemented a high bill complaint program to encourage customers to use energy efficiently. Mailed Ontario government Conserve Energy and Save Money pamphets to low volume customers. Participated with financial sponsorship in a Home Energy Lifestyle Exhibition. IESO brochure, The Bottom Line on Energy Management distributed to >50 kW customers. We have been working with the Reduce the Juice program and it will be launched in late spring 2006.

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		

B. **TRC Results:**

TRC Benefits ($):		*$*	-
Measure's Costs ($):		*$*	-
	Utility program cost (less incentives):	$	10,994.34
	Participant cost:	$	-
	Total TRC costs:	$	10,994.34
Net TRC (in year CDN $):			-$10,994.34

Benefit to Cost Ratio (TRC Benefits/TRC Costs): 0.00

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

Conservation Programs:

Demand savings (kW):	*Summer*	0.00	
	Winter	0.00	
	lifecycle	*in year*	
Energy saved (kWh):	*0.00*	0.00	
Other resources saved :			
Natural Gas (m3):	0	0	
Water (l)	0	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 (%):		
Line Loss Reduction Programs:		
Peak load savings (kW):		
	lifecycle	*in year*
Energy savngs (kWh):		
Distributed Generation and Load Displacement Programs:		
Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		
Fuel type:		
Other Programs (specify):		
Metric (specify):		

D. **Program Costs*:**

Utility direct costs ($):	*Incremental capital:*	$	-
	Incremental O&M:	$	9,945.71
	Measures Cost:	$	-
	Incentive:	$	-
	Total:	$	9,945.71
Utility indirect costs ($):	*Incremental capital:*	$	-
	Incremental O&M:	$	599.65
	Total:	$	599.65
Total Utility Cost of Program		$	10,545.36
Participant costs ($):	*Incremental equipment:*	$	-
	Incremental O&M:	$	-
	Measures Cost:	$	-
	Total:	$	-
Grand Total Program Cost		$	10,545.36

E. Comments:

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Energy Audits/Projects

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

Adminstration costs for investigation into the type of program.

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		

B. **TRC Results:**

TRC Benefits ($):		*$*	-
Measure's Costs ($):		*$*	-
	Utility program cost (less incentives):	$	2,882.09
	Participant cost:	$	-
	Total TRC costs:	$	2,882.09
Net TRC (in year CDN $):			-$2,882.09

Benefit to Cost Ratio (TRC Benefits/TRC Costs): 0.00

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

Conservation Programs:

Demand savings (kW):	*Summer*		0.00
	Winter		0.00
		lifecycle	*in year*
Energy saved (kWh):		*0.00*	0.00
Other resources saved :			
	Natural Gas (m3):	0	0
	Water (l)	0	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 (%):

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):	

D. **Program Costs*:**

Utility direct costs ($):	*Incremental capital:*	$ -
	Incremental O&M:	$ -
	Measures Cost:	$ -
	Incentive:	$ -
	Total:	$ -
Utility indirect costs ($):	*Incremental capital:*	$ -
	Incremental O&M:	$ 2,067.80
	Total:	$ 2,067.80
Total Utility Cost of Program		$ 2,067.80
Participant costs ($):	*Incremental equipment:*	$ -
	Incremental O&M:	$ -
	Measures Cost:	$ -
	Total:	$ -
Grand Total Program Cost		$ 2,067.80

E. Comments:

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Renewable Energy Projects

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

Meetings held to investigate large renewable energy project. Renewable Energy Handbook for reference purposes. Attended the Living Off the Grid Workshop. Green Energy Feasibility Study in cooperation with the University of Waterloo and found that our sewage plant cannot generate enought electricity as a stand-alone project. Attended EDA Policy & Industry Environment conference.

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		

B. **TRC Results:**

TRC Benefits ($):		*$*	-
Measure's Costs ($):		*$*	-
	Utility program cost (less incentives):	$	9,239.79
	Participant cost:	$	-
	Total TRC costs:	$	9,239.79
Net TRC (in year CDN $):			-$9,239.79
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		0.00	

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

Conservation Programs:

Demand savings (kW):	*Summer*	0.00	
	Winter	0.00	
	lifecycle	*in year*	
Energy saved (kWh):	*0.00*	0.00	
Other resources saved :			
Natural Gas (m3):	0	0	
Water (l)	0	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 (%):	

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):	

D. **Program Costs*:**

Utility direct costs ($):	*Incremental capital:*	$	-
	Incremental O&M:	$	6,087.48
	Measures Cost:	ERROR	
	Incentive:	$	-
	Total:	$	6,087.48
Utility indirect costs ($):	*Incremental capital:*	$	-
	Incremental O&M:	$	-
	Total:	$	-
Total Utility Cost of Program		$	6,087.48
Participant costs ($):	*Incremental equipment:*	$	-
	Incremental O&M:	$	-
	Measures Cost:	ERROR	
	Total:	$	-
Grand Total Program Cost		$	6,087.48

E. Comments:

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Smart/Interval Meters

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

Participation in the OUSM working group, attending meetings

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		

B. **TRC Results:**

TRC Benefits ($):		*$*	-
Measure's Costs ($):		*$*	-
	Utility program cost (less incentives):	$	8,837.15
	Participant cost:	$	-
	Total TRC costs:	$	8,837.15
Net TRC (in year CDN $):			-$8,837.15

Benefit to Cost Ratio (TRC Benefits/TRC Costs): 0.00

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

Conservation Programs:

Demand savings (kW):	*Summer*		0.00
	Winter		0.00
		lifecycle	*in year*
Energy saved (kWh):		*0.00*	0.00
Other resources saved :			
	Natural Gas (m3):	0	0
	Water (l)	0	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 (%):

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):	

D. **Program Costs*:**

Utility direct costs ($):	*Incremental capital:*	$	-
	Incremental O&M:	$	7,196.08
	Measures Cost:	$	-
	Incentive:	$	-
	Total:	$	7,196.08
Utility indirect costs ($):	*Incremental capital:*	$	-
	Incremental O&M:	$	-
	Total:	$	-
Total Utility Cost of Program		$	7,196.08
Participant costs ($):	*Incremental equipment:*	$	-
	Incremental O&M:	$	-
	Measures Cost:	$	-
	Total:	$	-
Grand Total Program Cost		$	7,196.08

E. Comments:

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** System Optimization

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

Administration costs to research pricing and working collectively CHEC members.

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		

B. **TRC Results:**

TRC Benefits ($):		*$*	-
Measure's Costs ($):		*$*	-
	Utility program cost (less incentives):	$	641.54
	Participant cost:	$	-
	Total TRC costs:	$	641.54
Net TRC (in year CDN $):			-$641.54

Benefit to Cost Ratio (TRC Benefits/TRC Costs): 0.00

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

Conservation Programs:

Demand savings (kW):	*Summer*		0.00
	Winter		0.00
		lifecycle	*in year*
Energy saved (kWh):		*0.00*	0.00
Other resources saved :			
	Natural Gas (m3):	0	0
	Water (l)	0	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 (%):

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):	

D. **Program Costs*:**

Utility direct costs ($):	*Incremental capital:*	$ -
	Incremental O&M:	$ -
	Measures Cost:	$ -
	Incentive:	$ -
	Total:	$ -
Utility indirect costs ($):	*Incremental capital:*	$ -
	Incremental O&M:	$ 515.45
	Total:	$ 515.45
Total Utility Cost of Program		$ 515.45
Participant costs ($):	*Incremental equipment:*	$ -
	Incremental O&M:	$ -
	Measures Cost:	$ -
	Total:	$ -
Grand Total Program Cost		$ 515.45

E. Comments:

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.