

March 31, 2008

Ontario Energy Board  
P.O. Box 2319,  
2300 Yonge Street, 27<sup>th</sup> Floor  
Toronto ON M4P 1E4

**Attention: Kirsten Walli  
Board Secretary**

Dear Kirsten:

RE: 2007 Annual Report, CDM Third Tranche Funding, Festival Hydro

Please find enclosed three hard copies of the 2007 CDM Third Tranche Funding Report for Festival Hydro Inc. Also enclosed are two electronic copies of the report (one in PDF, the other in Excel format).

Please contact me at Festival Hydro should you have any questions regarding this report.

Yours truly,

Festival Hydro Inc.

Debbie Reece,  
Secretary Treasurer

Enclosed



**2007 ANNUAL REPORT  
CDM THIRD TRANCHE FUNDING  
FOR  
FESTIVAL HYDRO INC.  
(EB-2002-0513)**

**December 31, 2007**

**Prepared by  
Festival Hydro Inc.  
187 Erie Street, PO Box 397  
Stratford, ON N5A 6T5  
March 31, 2008**

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### APPENDIX A – EVALUATION OF THE CDM PROGRAM

### APPENDIX B - DISCUSSION OF THE PROGRAM

- Load Control System
- Voltage Conversions
- Compact Flourescent Light Bulbs
- LED Seasonal Lights
- Residential Energy Awareness
- General Service Energy Awareness

### APPENDIX C – PROGRAM AND PORTFOLIO TOTALS

# 1. Introduction

In 2007, Festival Hydro continued with the delivery of a number of CDM programs funded by the 3<sup>rd</sup> installment of Festival Hydro's Market Adjustment Revenue Requirement (MARR). The programs focused on reducing system demand and conservation of electricity. These initiatives run from 2005 through to September 2007, targeting all customer classes. The total budget for the three years is based on the third installment of Festival Hydro's MARR of \$661,623.

Our original CDM plan submitted to the OEB on November 18, 2004 reported a total CDM budget amount of \$811,000. That budget has been revised proportionately, by category, to equal the third installment of the MARR at \$661,623.

The table below summarizes the various planned initiatives, the total budget dollars, the actual spent and the variance for each initiative:

	Total Budget	Actual Spent over 3 years	Over (under) budget	Percent (under) over budget
1. Load Control System	\$369,970	\$373,210	\$ 3,240	0.88%
2. Voltage Conversions	\$134,610	\$134,610**	\$ 0	0.00%
3. Compact Fluorescent Light Bulbs	\$ 53,841	\$ 54,195	\$ 354	0.07%
4. LED Seasonal Lighting	\$ 26,924	\$ 26,889	\$ (35)	(0.12%)
5. Energy Awareness (Residential)	\$ 27,330	\$ 27,044**	\$ (286)	(1.03%)
6. Energy Awareness (General Service)	\$ 48,948	\$ 45,675	\$ (3,273)	6.68%
Total	\$661,623	\$661,623	\$ 0	0.00

*\*\* - Actual amount spent on voltage conversions in the 3-year period was \$2,875 in excess of our CDM budget. This amount was charged to FHI's 2007 capital budget. An extra \$251 was also incurred above budget for residential awareness, which was charged to Festival Hydro's 2007 administration costs.*

Festival Hydro has worked in conjunction with a number of local environmental committees such as the City of Stratford Energy & Environmental Committee, the St. Marys Green Committee, the local high school environmental group (CARE) and others to assist in delivery of the residential focus programs. We find it is very effective to work with these "grass roots" agencies because of their passion for the environment and conservation and their commitment to seeing conservation become a reality. We also partnered with the OPA in their spring and fall "Every Kilowatt Counts Campaigns". Energy specialists were utilized to deliver energy audits offered to 17 of our larger general service customers.

Festival Hydro's initiatives have also received plenty of free publicity thanks to the local newspapers. Throughout the year there have been articles along with pictures in the local newspapers relating to

- Load control program, in particular, the new PeakSaver program,
- "Back in Black" community event and
- General Service customer seminars.

## **2. EVALUATION OF THE CDM PLAN**

As indicated on the attached Appendix A, Festival Hydro implemented a number of effective programs with its third tranche funding. All the initiatives undertaken had good participation rates and generated positive returns in terms of energy saved or load shifted. We would recommend all of these programs to fellow LDCs.

## **3. DISCUSSION OF THE PROGRAMS**

The attached Appendix B provides for each program details on the intent of the program, the design, delivery, partners we worked with and the evaluation of its success. It also includes the resource costing which proves the effectiveness of the plans.

## **4. LESSONS LEARNED**

The most important lesson we learned was the importance of personal interaction with customers to get the conservation message across and to get people thinking about and acting on conservation. We took part in events like the City of Stratford's Energy & Environment Committee "Back in Black", an annual event held August 14<sup>th</sup> with emphasis on reduction of electricity for a 5 hour period, manning of conservation booths at home shows and other conservation events, and sponsoring of conservation related seminars. These types of events allow Festival Hydro staff to talk to customers about conservation and to get the message out. Our recommendation to all LDCs is that the more involvement in the community to personally pass along the conservation message, the better the results will be for the whole province.

The following are other general observations made by Festival Hydro when evaluating the overall success of our plans:

- There appears to be a much higher degree of energy awareness and environmental awareness amongst residential and commercial customers at the end of September 2007 compared to the awareness levels when we first began our programs back in 2005. All levels of Canadian government have placed higher priorities on the environment which has greatly enhanced public awareness. Worldwide, the environment has become a concern, and in 2006 in Canada the environment was the number one issue in Canada, ahead of other key issues like health care.
- Many customers look for conservation programs that have minimal impact on their life style. Programs like the water heater load control program and replacement of CFL lights and LED Christmas lights are very successful for this reason.
- Programs like the voltage conversions are very successful because not only does it reduce the losses of electricity but the consumer also benefits due to lower line losses on their bills.
- The energy audits offered at no charge to industrial and commercial customers proved to be very beneficial as the audits dove-tailed into the OPAs ERIP program. Most had their energy audits completed well in advance of the commencement of the OPA programs.
- The seminars for general service customers are quite popular, with the lighting seminar generating the greatest results.
- Taking part in public events, like the Home Shows and the Back in Black event provide tremendous exposure to the public.
- Partnering with “grass roots” environmental groups and committees is extremely valuable as these committees are committed to conservation and are eager to assist in delivery of our programs.
- Having a good working relationship with the local media is very important in terms of obtaining coverage of local conservation events.

In terms of the specific successes of Festival Hydro’s programs, the following is a brief summary:

## **Load Control Program**

In 2006, the load control program was expanded to offer an air conditioner Peak Saver program, modeled after Toronto Hydro's Peak Saver program. In 2007, we continued with the water heater control program and finished the PeakSaver program under the third tranche. Our 3<sup>rd</sup> tranche funded load control program has now evolved into the OPA PeakSaver program. In 2007, an additional 58 load controllers were installed on water heaters and residential air conditioning units as part of the 3<sup>rd</sup> tranche funded program. By the end of the program period in September 2007, 1,408 water heater controllers had been installed and 238 Air conditioners PeakSavers for a final total of 1,646 units being controlled.

The introduction of the OPA PeakSaver program has allowed us to continue on with the load control program. Air conditioning installations are now funded via the OPA program and any water heater installations are funded through Festival Hydro's capital budget. In order to entice residents to participate in the Peak Saver program, a \$25 payment was given in the form of a credit to their electrical bill. This same incentive is available under the OPA PeakSaver program. The \$3.50 credit paid monthly for controlling of water heaters ceased at September 30, 2007 as no further funding was available.

This program is very successful with residential customers because it's a form of conservation that occurs without generally impacting anyone's lifestyle. As noted in Appendix B, the program has delivered positive TRC results in 2005 through to 2007.

Festival Hydro plans in 2008 to continue on with the three-year PeakSaver program being offered through the OPA.

## **Voltage Conversions**

This initiative has been a positive undertaking for Festival Hydro because it targets all customer classes, and is complimentary from an LDC perspective as it is accomplished in conjunction with the replacement of "end-of-life" infrastructure. We are accomplishing a reduction in system losses by converting 4kV distribution to higher voltages (in effect decreasing the amount of current needed to deliver the same amount of energy).

Perhaps our greatest success with this initiative is that we exceeded our estimated kW savings in all three years, with our actual kW savings through voltage conversion for the three years being much greater than budgeted to date. The reduced line losses will, through subsequent rate applications, marginally reduce the amount charged on each customer's bill for system losses. Festival Hydro is continuing with 4 kV conversions, regardless of the fact it is no longer partially funded.

While this initiative does not have a high profile media/consumer profile, it does produce positive TRC results. We would highly recommend this to any LDC who still has a large amount of 4kV infrastructure.

### **Compact Fluorescent (C. F.) Light Bulbs**

During 2007, there were 11,474 CFL light bulbs distributed. Being the OPA offered lucrative coupons on CFLs in their 2006 campaigns, we deferred most of our light bulb distribution until 2007. The initial part of our distribution activity took place on June 27, 2007 from our main office in Stratford. In the fall of 2007, we had one full-time employee and two co-op students deliver packs of 3 light bulbs to residential customers in the towns of Seaforth, Brussels, Dashwood, Hensall and Zurich, which are all part of Festival Hydro's territory. We also had a distribution day in August 2007 from the Town Hall in St. Marys. All distribution events were very successful. In addition to Festival Hydro distributions, 524 - 3 pack sets were given to the Housing Departments of the City of Stratford, Town of St. Marys and Municipality of Huron East for installation into their public housing units.

### **LED Seasonal Lighting**

This program was highly successful with all available lights being distributed in a couple of hours in November of 2005. Distribution took place at our main office, from Town Hall in St. Marys and from our service centre in Seaforth, so that we can cover off our entire service territory. One strength to this program was that Festival Hydro required an exchange of an old incandescent set for a set of LED seasonal lights. We knew through this exchange process that the old inefficient lights would never be reused. It was also very popular because the lights were free. In 2006, we gave away 8 additional sets of lights, which were part of draw baskets (containing a number of conservation items) given away at the manned booths at the Stratford Home Show, Back in Black and other events. There were no give aways in 2007 as our budget was all spent.

According to Appendix B, a positive TRC is not projected. However, the model uses five years as the measurement years, when in fact many of our customers will probably be using these lights for the next 8 to 10 years.

Many customers called in to our office in both 2006 and 2007 asking whether there would be another exchange and for that reason we would highly recommend other LDCs to take part in a similar exchange.

## **Residential Energy Awareness**

Even though we cannot quantify the success of these programs, this is the starting point in terms of customer awareness and the beginning on the road to a conservation culture. As noted above, based on the interaction with customers while manning booths at Home shows and other conservation events, and based on the responses to the conservation questions included on the 2006 Cost of Service study, customers are keen on finding ways to conserve energy and to take care of the environment.

Some of the local events where Festival Hydro took part and manned conservation booths in during 2007 include:

- Stratford Home Show (3 day event)
- Community in Blooms Event
- Back in Black (August 14<sup>th</sup>) Event
- Earth Day Symposium
- Canada Day Celebrations in both Stratford and Seaforth
- Festival Market Place mall (unmanned – 3 week display)

In addition, Festival Hydro made available other tools such as the Kill a Watt usage meter. In 2006, a rental program of the Kill-A- Watt meter was set up through the local libraries in Stratford and St. Marys. In discussion with the libraries, these tools are borrowed on a frequent basis.

In 2007, Festival Hydro also implemented a school conservation program in conjunction with its School Safety program. The safety program was provided to approximately 1,200 students in 17 schools within our service territory. At the end of the safety presentation, there was a 20 minutes presentation on conservation for these students. Overall, we found the children to be very supportive for the need to conserve.

Festival Hydro also participated in the Spring and Fall Every Kilowatt Counts campaign and actively promoted it through local newspapers and at the local events as part of our manned booths. Retailer audits were also conducted by Festival Hydro Inc as part of this program.

Overall we feel our residential awareness activities were very successful in delivering the conservation message to our customers over the three year period.

## **General Service Energy Awareness**

Four general service breakfast conservation seminars (two hours in length each) were held in 2007 on the following topics:

- Energy Star Homes presented to the Stratford and Area Builder' Association - 31 attendees
- Using Utilismart for Load Management Seminar– 25 attendees
- Philips Canada Lighting Seminar– 62 attendees
- Variable Speed Motor Seminar – 9 attendees

Most seminars were well attended with plenty of interaction between the speakers and customers. For these seminars, Festival Hydro partnered with industry energy specialist to provide expert information in order for general service customers to make proper energy decisions.

In order to encourage industry to take a closer look at deficiencies in their operations, Festival Hydro offered to conduct free energy audits to our larger commercial and industrial customers. An energy expert was hired on behalf of Festival Hydro to conduct these audits. Most of the audits addressed savings in the area of lighting.

Festival commenced offering these audits in the spring of 2007, prior to any knowledge of the ERIP programs to be introduced. Offering these audits has really paid dividends, in that Festival Hydro has already had 7 of the 17 companies who took part in the energy audits submit an ERIP application.

In 2007, Festival Hydro also supported energy conservation projects undertaken by the local municipal housing department. Festival Hydro supplied CFL light bulbs, receptacle insulation covers and LED night lights to be installed in each of their 524 public housing units in the City of Stratford, Town of St. Marys and to the Municipality of Huron East. Even though the products were installed in residential units, this was considered a general service program because our customers, in this case the City of Stratford, Town of St. Marys and Municipality of Huron East, are general service customer. (The CFLs were funded from the CFL budget while the receptacle covers and the LED night lights came from the General Service Awareness budget).

Festival Hydro also put up conservation displays in four new model homes as part of the local builders association's Parade of Homes in the spring of 2007.

Overall, our general service energy awareness seminars held over the past three years have been very successful in terms of enhancing energy awareness. We would highly recommend this process as a means to communicate the conservation message to general service customers. The timing of the energy audits in year three of the CDM program worked out real well because industry now appreciates the savings which can be obtained through lighting retrofits, power factor correction, replace of motors with more energy efficient models. When we first started out in 2005, very few industrial consumers recognized the potential for savings available through activities such as

lighting retrofits. Today, industrial customers are more conscious and are actively pursuing avenues to reduce their consumption.

## **5. CONCLUSION**

Section 3 (Discussion of the Programs) provides a fairly detailed summary of each of the CDM programs for 2007. Section 4 (Lessons Learned) provides a detailed description of what we have learned, and recommendations of programs for others to adopt. In conclusion, it is the opinion of Management at Festival Hydro that we have delivered many successful CDM programs, on a low cost basis, over the three year period. Festival Hydro spent all funds available through 3<sup>rd</sup> tranche funding and slightly more. The excess was charged to Festival's current capital budget and administration expense.

In closing, it is our belief that LDCs can effectively deliver conservation and demand side management programs. We have on-going contact with our customers and customers recognize us as being knowledgeable in electrical conservation. The OPA programs have been a natural progression from the original 3<sup>rd</sup> tranche funded CDM programs.

With greater involvement by the OPA and the EDA in 2006 and forward, coordination of programs amongst the LDCs has lead to greater consistency of programs with hopefully the added benefit of lower cost to each LDC. We actively plan to continue to take part in any new LDC initiatives being offered through the OPA for 2008 and forward.

## **6. 2006 RATE APPLICATION APPROVED CDM FUNDING**

In the 2006 rate application, Festival Hydro received approval to recover \$9,000 through the residential distribution rates for the purpose of CFL bulb distribution. Since the OPA Every Kilowatt Counts campaign offered lucrative coupons on the purchase of CFL bulbs in 2006, Festival Hydro decided to defer both the remaining CDM plan CFL funds and the additional 2006 rate application CFL funds to be spent and distributed in 2007.

In 2006, an RFP had been issued and the supplier was selected to provide the CFL bulbs. Receipt of the bulbs and payment for the bulbs took place in the 2006 rate year. The actual distribution of light bulbs took place throughout 2007. In total, 3,346 packages containing 3 CFL were distributed to our residential customers, funded by the \$9,000 recovered through the 2006 distribution rates. A separate CDM report will be submitted for the CDM expenditures funded through rates, due April 30, 2008.

## 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.

FESTIVAL HYDRO INC. 2007

	<sup>5</sup> Cumulative Totals Life-to-date	Total for 2007	Residential	Commercial	Institutional	Industrial	Agricultural	LDC System	<sup>4</sup> Smart Meters	Other #1	Other #2
Net TRC value (\$):	\$ 3,994,151	\$ 662,081	\$ 273,825	\$ -	\$ -	\$ -	\$ -	\$ 388,257		\$ -	\$ -
Benefit to cost ratio:		11.02	38.85	0.00	0.00	0.00	0.00	7.60		0.00	0.00
Number of participants or units delivered:	4044	1239	724	143				372			
Lifecycle (kWh) Savings:	30,339,187	13,671,707	4,775,067	0	0	0	0	8,896,640		0	0
Report Year Total kWh saved (kWh):	2,790,776	1,638,599	1,193,767	0	0	0	0	444,832		0	0
Total peak demand saved (kW):	136	51	0	0	0	0	0	51		0	0
Total kWh saved as a percentage of total kWh delivered (%):	0.2170%	0.2579%	0.0510%					0.0700%			
Peak kW saved as a percentage of LDC peak kW load (%):		0.0976%						0.0976%			
<sup>1</sup> Report Year Gross C&DM expenditures (\$):	\$ 399,424	\$ 170,148	\$ 42,863	\$ 24,032	\$ -	\$ -	\$ -	\$ 103,253	\$ -	\$ -	\$ -
<sup>2</sup> Expenditures per kWh saved (\$/kWh):	0.143123097	\$ 0.01	\$ 0.01	\$ -	\$ -	\$ -	\$ -	\$ 0.01		\$ -	\$ -
<sup>3</sup> Expenditures per kW saved (\$/kW):	2,936.94	\$ 3,336.24	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,024.57		\$ -	\$ -
Utility discount rate (%):											

<sup>1</sup> 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.

<sup>3</sup> Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate capacity savings.

<sup>4</sup> 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.

<sup>5</sup> 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).

# Appendix B - Discussion of the Program

**(complete this Appendix for each program)**

A. **Name of the Program:** 2007 - Load Control Program

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

Intent - Through the use of the water heater load control system, Festival Hydro assists the province in the reduction of peak demand by shifting the use of electricity from on-peak to off-peak periods. Design - Festival Hydro, previous to market opening, operated a load control system which controlled approx. 1,200 water heaters. This system was reintroduced in mid-2005 along with hardware and software upgrades to meet future control capabilities. Approx. 181 new water heater devices were installed in 2006 and another 27 in 2007. In addition, Festival Hydro in the summer of 2006 introduced the Peak Saver Program fashioned after Toronto Hydro's program with 191 air conditioner controllers installed in 2006 and another 47 in 2007. Delivery - Load controllers were promoted at the local Home Show in April 2007. In conjunction with this program, Festival Hydro also joined in 2007 the OPA program promoting A/C/ Peak Savers. To encourage customers to participate in the Peak Saver Program, a one-time \$25 credit incentive was given. We gave a \$3.50 credit monthly to the water heater load control program participants, but cease payment of the monthly incentive at the end of September 2007 when third tranche funding ended. Partnerships - Festival Hydro worked with a group of other LDCs on LCR implementation issues in 2005, but have managed the remainder of the program by ourselves. Our Peak Saver program was developed based on Toronto Hydro's Peak Saver program. Evaluation - This has been a very successful project over the past three years. Through this program, customers can take part in conservation with minimal impact on their lifestyle. It has successfully assisted in reducing the provincial peak particularly on day's of high usage. This program has now been superseded by the OPA Peak Saver program.

**Measure(s):**

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	No control devices		
Efficient technology:	Load control devices		
Number of participants or units delivered for reporting year:	58		
Measure life (years):	12		
Number of Participants or units delivered life to date	1646		

	Reporting Year	Life-to-date TRC Results:
<b>B. TRC Results:</b>		
<sup>1</sup> TRC Benefits (\$):	\$ 55,918.88	3,649,493.86
<sup>2</sup> TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 36,116.98	252,162.24
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	\$ 36,116.98	252,162.24
<hr/>		
Net TRC (in year CDN \$):		
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	\$ 1.55	14.47

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

**Conservation Programs:**

	Summer			
	Winter			
			Cumulative Lifecycle	Cumulative Annual Savings
Energy saved (kWh):				
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

**Demand Management Programs:**

Controlled load (kW)	64	5285
Energy shifted On-peak to Mid-peak (kWh):	37240	2299514
Energy shifted On-peak to Off-peak (kWh):	4930	139910
Energy shifted Mid-peak to Off-peak (kWh):	0	0

**Demand Response Programs:**

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

**Power Factor Correction Programs:**

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

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

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**Line Loss Reduction Programs:**

Peak load savings (kW):

--	--

*lifecycle*

*in year*

Energy savings (kWh):

--	--

**Distributed Generation and Load Displacement Programs:**

Amount of DG installed (kW):

--	--

Energy generated (kWh):

--	--

Peak energy generated (kWh):

--	--

Fuel type:

--	--

**Other Programs (specify):**

Metric (specify):

--	--

**D. Actual Program Costs:**

		<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
Utility direct costs (\$):	Incremental capital:	\$ 24,601.65	\$ 229,144.80
	Incremental O&M:	\$ 11,515.33	\$ 23,017.44
	Incentive:	\$ 44,441.10	\$ 121,047.93
	Total:	\$ 80,558.08	\$ 373,210.17
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

**E. Assumptions & Comments:**

Controlling of water heater load is an effective means to reduce peak consumption and more consideration should be made for province wide control of water heaters.

<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.

# Appendix B - Discussion of the Program

**(complete this Appendix for each program)**

A. **Name of the Program:** 2007 - Voltage Conversions

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

Intent - To reduce line losses in order to minimize the loss of electricity and conserve energy. Also, to reduce electrical costs for customers due to lower line losses. Design - Festival Hydro has been working aggressively over the past decade to reduce system losses by converting existing 4kV distribution to higher voltages. These conversion are taking place as the infrastructure reaches "end of life status". A number of conversion projects have been completed from 2005 to 2007. Delivery - Festival Hydro completes its own capital work, with an emphasis on converting 4 kV to higher voltages as infrastructure is replaced. Partnerships - All capital work completed solely by Festival Hydro. - Evaluation - Festival Hydro successfully completed all the 4 kV conversion work planned for 2005, 2006 and 2007.. The savings in system losses are calculated based on the amount of load converted to the higher voltage. Line losses are reduced by approx. 70% due to the conversions. The incremental costs (based on previous projects, estimated at 5% of the total project costs) are considered to be conservation assets. The remaining 95% is treated as normal infrastructure capital.

**Measure(s):**

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	distribution using 4 kV		
Efficient technology:	distribution using 27 kV		
Number of participants or units delivered for reporting year:	3500 kW converted		
Measure life (years):	20		
Number of Participants or units delivered life to date			

	Reporting Year	Life-to-date TRC Results:
<b>B. TRC Results:</b>		
<sup>1</sup> TRC Benefits (\$):	\$ 391,150.00	1,885,655.00
<sup>2</sup> TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 22,695.08	134,610.00
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	\$ 22,695.08	134,610.00
<hr/>		
<b>Net TRC (in year CDN \$):</b>		
<hr/>		
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	\$ 17.24	14.01

<b>C. Results:</b> (one or more category may apply)	<b>Cumulative Results:</b>	
<b><u>Conservation Programs:</u></b>		
Demand savings (kW):	Summer	
	Winter	
	lifecycle	in year
Energy saved (kWh):		Cumulative Lifecycle
Other resources saved :		Cumulative Annual Savings
Natural Gas (m3):		
Other (specify):		
<b><u>Demand Management Programs:</u></b>		
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):		
<b><u>Demand Response Programs:</u></b>		

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

**Power Factor Correction Programs:**

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

**Line Loss Reduction Programs:**

Peak load savings (kW):		51	244.8
	<i>lifecycle</i>	<i>in year</i>	
Energy savings (kWh):	8896640	444832	2142520

**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. <b>Actual Program Costs:</b>		<b>Reporting Year</b>	<b>Cumulative Life to Date</b>
Utility direct costs (\$):	<i>Incremental capital:</i>	\$ 22,695.08	\$ 134,610.00
	<i>Incremental O&amp;M:</i>	\$ -	\$ -
	<i>Incentive:</i>	\$ -	\$ -
	<i>Total:</i>	\$ 22,695.08	\$ 134,610.00
Utility indirect costs (\$):	<i>Incremental capital:</i>	_____	_____
	<i>Incremental O&amp;M:</i>	_____	_____
	<i>Total:</i>	_____	_____

**E. Assumptions & Comments:**

Festival Hydro is continuing with 4kV conversions, despite the end to the 3rd tranche funding. It is in the best interest of the Company and the customers in terms of reducing line losses.

<sup>1</sup> \

<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.

# Appendix B - Discussion of the Program

**(complete this Appendix for each program)**

A. **Name of the Program:** 2007 - Compact Fluorescent Light Bulbs (CFL Bulbs)

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

Intent - Encourage customers to replace incandescent light bulbs with CFL bulbs in order to reduce electrical consumption. Design - Festival purchased 4,000 light bulbs in 2005 and a summer student hand delivered CFLs to all customers in the towns of Brussels (579), Hensall (539), Zurich (445) and Dashwood (235). At the Stratford Home show in April 2005, 798 light bulbs were handed out to participating residents of the City of Stratford. In early 2006, light bulbs were distributed from our service centre in Seaforth to 400 customers (approx. 25% of Seaforth covered) and approx 300 light bulbs were given for the Stratford and area Christmas Basket Fund. In 2007, a major distribution took place with the delivery of over 11,400 bulbs. Door to door delivery of 3 pack bulbs was completed in the towns of Brussels, Dashwood, Hensall, Zurich and Seaforth. In St. Marys, a one day distribution took place from the Friendship Centre. There was also a one day distribution from Festival Hydro's main office in Stratford. In addition, approx. 524 bulbs were given to the Public Housing Departments of the City of Stratford, Town of St. Marys and the Municipality of Huron East to be installed in their public housing units. Delivery - Festival Hydro staff delivered the bulbs, with 2 co-op students taking part in the hand delivery. Partnerships - The Kiwanis Club in Stratford took care of the CFL distribution through the Christmas Basket Fund for 2005 and 2006. There were no bulbs left at the end of 2007 to donate to their work. City of Stratford's, Town of St. Marys and Municipality of Huron East Public Housing divisions installed the CFLs in their public housing units. Evaluation - A telephone survey was conducted in the later part of the summer of 2005. The survey results indicated that for the most part, customers had put the free light bulbs to use. Conservation questions completed as part of the 2006 Cost of service appliance study also indicated customers were actively converting to CFL lighting. Customers continue to install CFLs as they do see real savings on their hydro bills.

**Measure(s):**

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	incandescent light bulbs		
Efficient technology:	CFL bulbs		
Number of participants or units delivered for reporting year:	11434		
Measure life (years):	5		
Number of Participants or units delivered life to date	15654		

B. <b>TRC Results:</b>	Reporting Year	Life-to-date TRC Results:
<sup>1</sup> TRC Benefits (\$):	\$ 281,059.00	384,791.00
<sup>2</sup> TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 7,145.39	9,467.52
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	\$ 7,145.39	9,467.52
<b>Net TRC (in year CDN \$):</b>		
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	\$ 39.33	40.64

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

**Cumulative Results:**

**Conservation Programs:**

Demand savings (kW):	Summer		Cumulative Lifecycle	Cumulative Annual Savings
	lifecycle	in year		
Energy saved (kWh):	4775067.08	1193766.77	6537423.48	384,791.00
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

**Demand Management Programs:**

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

**Demand Response Programs:**

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

**Power Factor Correction Programs:**

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

**Line Loss Reduction Programs:**

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

**Distributed Generation and Load Displacement Programs:**

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

**Other Programs (specify):**

Metric (specify):		
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<b>D. <u>Actual Program Costs:</u></b>		<b><u>Reporting Year</u></b>	<b><u>Cumulative Life to Date</u></b>
Utility direct costs (\$):	Incremental capital:	\$ -	\$ -
	Incremental O&M:	\$ 7,145.39	\$ 9,467.52
	Incentive:	\$ 31,338.00	\$ 44,727.03
	Total:	\$ 38,483.39	\$ 54,194.55
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

**E. Assumptions & Comments:**

This is a very popular program with real savings, which we highly recommend.

<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.

# Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. 2007 - LED Seasonal Light Exchange

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

**Intent** - To encourage customer to replace conventional seasonal lights with LED seasonal lights to conserve energy. **Design** - In the original CDM plan, Festival Hydro planned to give a \$5 coupon for customers to present to a local participating retailer in exchange for a conventional set of lights. Due to the administrative work with coupons, Festival decided to purchase the LEDs and distribute them from three distribution centres in our territory. In addition, rather than spending one-half the budget in 2005 and the other half in 2006, we decided to spend it all in 2005 so we could have 2,200 sets to distribute rather than 1,100 each year. There were no distributions in 2007. **Delivery** - One set of LEDs were given in exchange for one set of conventional lighting, with a maximum of 2 per household. A computer program kept track of the names, so that customers could not go to multiple centers to get more than two. At all three locations the demand was overwhelming and the lights were gone in 2 hours. In 2006, only 8 additional light sets were distributed as door prizes at the Stratford Home Show and at other events. None were distributed in 2007.

**Partnerships** - On the day of the distribution in Stratford, Festival Hydro had assistance from the local high school environmental group (CARE) and from the City of Stratford Energy & Environment Committee. In St. Mary, the St. Marys environment group assisted.

**Evaluation** - The LED exchange program was very popular with all lights distributed in less than 2 hours. The TRC indicates a negative return however the model uses a 5 year measurement fact when in fact many customers will probably use them for 8 to 10 years.

**Measure(s):**

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	set of conventional lights		
Efficient technology:	set of LED lights		
Number of participants or units delivered for reporting year:	0		
Measure life (years):	5		
Number of Participants or units delivered life to date	2228		

B. **TRC Results:**

**Reporting Year**

<sup>1</sup> TRC Benefits (\$):		11,090.18
<sup>2</sup> TRC Costs (\$):		
Utility program cost (excluding incentives):		264.57
Incremental Measure Costs (Equipment Costs)		
Total TRC costs: \$	-	264.57
<b>Net TRC (in year CDN \$):</b>		
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	\$ -	41.92

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

**Cumulative Results:**

**Conservation Programs:**

	Summer		Cumulative Lifecycle	Cumulative Annual Savings
	lifecycle	in year		
Demand savings (kW):				
Energy saved (kWh):	0	0	211660	11,090.18
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

**Demand Management Programs:**

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

Energy shifted Mid-peak to Off-peak (kWh):

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**Demand Response Programs:**

Dispatchable load (kW):

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Peak hours dispatched in year (hours):

--	--

**Power Factor Correction Programs:**

Amount of KVar installed (KVar):

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

--	--

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

--	--

**Line Loss Reduction Programs:**

Peak load savings (kW):

--	--

*lifecycle*

*in year*

Energy savings (kWh):

--	--

**Distributed Generation and Load Displacement Programs:**

Amount of DG installed (kW):

--	--

Energy generated (kWh):

--	--

Peak energy generated (kWh):

--	--

Fuel type:

--	--

**Other Programs (specify):**

Metric (specify):

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**D. Actual Program Costs:**

Utility direct costs (\$):

*Incremental capital:*

	<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
	\$ -	\$ -
		\$ 264.57
	\$ -	\$ 26,624.57
	\$ -	\$ 26,889.14

*Incremental O&M:*

*Incentive:*

*Total:*

Utility indirect costs (\$):

*Incremental capital:*

*Incremental O&M:*

*Total:*


**E. Assumptions & Comments:**

Program completed in 2006. Very successful.

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<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.

# Appendix B - Discussion of the Program

**(complete this Appendix for each program)**

A. **Name of the Program:** 2007 - Residential Energy Awareness

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

**Intent** - To make residential customers aware of the need to conserve energy, to encourage customers to change their lifestyle to use less electricity and to promote replacement of existing products with more energy efficient, preferably EnergyStar products. **Design:** Most programs have been designed to promote awareness primarily through interaction with our customers and through the distribution of free information and literature at local events. **Delivery:** The following are the various initiatives undertaken during 2007. (For 2005 & 2006 events please refer to 2005/6's Appendix B.) 2007 Events: 1. Stratford Home Show - This is a three day event. A booth included a constructed window and door in frame with proper insulation, caulking and weather stripping; a water heater with load controller and various conservation literature was also available. 2. Earth Day Symposium - Manned a booth with conservation material at the earth day symposium. Back in Black - Manned a booth at the 4th annual Back In Black (Aug 14th) event. Also manned conservation booths at the following: Stratford Community in blooms event, Stratford Canada Day celebration,

and Seaforth Canada Day celebrations. At the Stratford Mall, Festival Hydro an unmanned booth was set up for approx three weeks in 2007, with various material and a sign up sheet to join our Load control program. Also, included a conservation program for grade 5 students at 17 schools as part of our school safety program. Kill -A Watt Meters: In addition to being available at Festival Hydro for customer use, the libraries in the City of Stratford and Town of St. Marys have a program with Festival Hydro whereby they loan out Kill-a-Watt meters to customers on our behalf. Bill Inserts: Each month a different conservation tip is printed on the Festival Hydro bills. Every Kilowatt Counts Program - Festival Hydro participated in both the spring and fall campaigns. **Participation:** Festival Hydro partnered with a number of grass roots organizations such as CARE Stratford, City of Stratford Energy & Environment Committee, and the local municipal offices of St. Marys, Seaforth and Bluewater. **Evaluation** - It is difficult to measure the energy savings produced as a result of these programs, however, we know it heightens the awareness of the need to conserve.

**Measure(s):**

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered for reporting year:			
Measure life (years):			
Number of Participants or units delivered life to date			

B. <b>TRC Results:</b>	Reporting Year	Life-to-date TRC Results:
<sup>1</sup> TRC Benefits (\$):		
<sup>2</sup> TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 4,379.90	\$ 21,648.46
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:		
<b>Net TRC (in year CDN \$):</b>		
<hr/>		
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		

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

**Conservation Programs:**

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

**Demand Management Programs:**

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

**Demand Response Programs:**

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

**Power Factor Correction Programs:**

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

**Line Loss Reduction Programs:**

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

**Distributed Generation and Load Displacement Programs:**

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

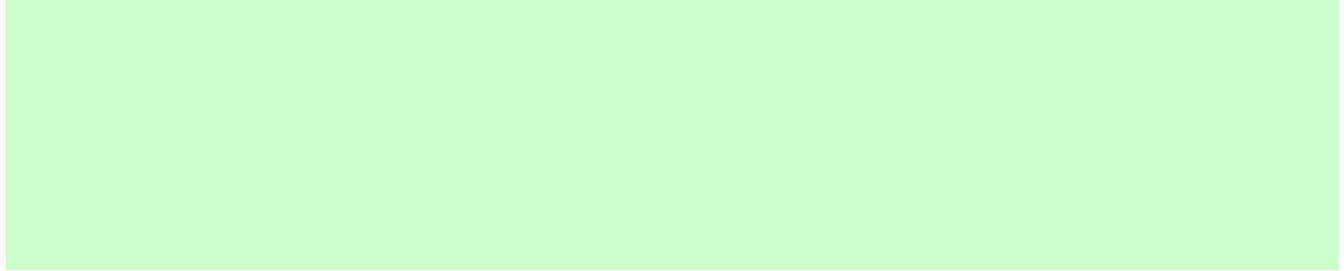
**Other Programs (specify):**

Metric (specify): [ ] [ ]

<b>D. Actual Program Costs:</b>		<b>Reporting Year</b>	<b>Cumulative Life to Date</b>
Utility direct costs (\$):	Incremental capital:	[ ]	[ ]
	Incremental O&M:	\$ 4,379.90	\$ 21,648.46
	Incentive:	[ ]	\$ 5,395.60
	Total:	\$ 4,379.90	\$ 27,044.06
Utility indirect costs (\$):	Incremental capital:	[ ]	[ ]
	Incremental O&M:	[ ]	[ ]
	Total:	[ ]	[ ]

**E. Assumptions & Comments:**

Awareness and education are the essential first steps in conservation. We feel we have been successful in getting the message out. Interaction with customers is key.



<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.

# Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. **Name of the Program:** 2007 General Service Energy Awareness

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

Intent - To offer programs to educate our general service customers on energy efficiency opportunities so they can make better decisions on their energy use and take steps to conserve electricity. Design - In 2007, Festival Hydro held four breakfast seminars. The breakfast seminar allows an opportunity for customers to get a high level understanding of the conservation ideas being promoted. It gives customers a chance to network with the third party presenters, and to take advantage of professional services available. The seminars are kept short (approx. 2 hours), so that we can attract local business representatives. The four seminars held in 2007 included: Energy Star Homes, Utilismart load management training, Phillips Canada Lighting Seminar and a Variable Speed Motor presentation. In addition, Festival Hydro offered to industrial companies the completion of energy audits at no charge. Seventeen (17) industrial companies had audits completed. Many of those companies used the audit results to take part in the ERIP program offered by the OPA. Delivery - In advance of the seminars, Festival Hydro would mail/fax invitations to customers.

Industry specialist used power point presentations, product displays and handouts as part of their presentations. At the end of each session, there was time for questions and to meet with the presenters to arrange future follow up. For the energy audits, Festival Hydro contacted by letter and phoned large industrial customers to let them know that funding was available for completion of energy audits. Partnerships - The four breakfast seminars were conducted by energy efficiency specialist who could provide the expert information required by our customers. The energy audits were completed by a energy company qualified in the field. Evaluation: The lighting seminar resulted in the greatest number attending, as it was offered to and of interest to all general service customers. The other seminars held were primarily focused on industrial and commercial customers. The energy audits were offered without knowledge that the ERIP program would take place. It turned out these energy audits worked hand in hand with the ERIP program.

**Measure(s):**

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
<i>Base case technology:</i>	No seminars	No energy audits	
<i>Efficient technology:</i>	4 seminars held in 2007	17 energy audits	
<i>Number of participants or units delivered for reporting year:</i>	127 participants	17 audits	
<i>Measure life (years):</i>			
<i>Number of Participants or units delivered life to date</i>	385 participants	17 audits	

B. <b>TRC Results:</b>	Reporting Year	Life-to-date TRC Results:
<sup>1</sup> TRC Benefits (\$):		
<sup>2</sup> TRC Costs (\$):		
<i>Utility program cost (excluding incentives):</i>	\$ 5,996.44	\$ 15,139.50
<i>Incremental Measure Costs (Equipment Costs)</i>		
<i>Total TRC costs:</i>		
<hr/> <i>Net TRC (in year CDN \$):</i>		
<i>Benefit to Cost Ratio (TRC Benefits/TRC Costs):</i>		

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

**Conservation Programs:**

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

**Demand Management Programs:**

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

**Demand Response Programs:**

Dispatchable load (kW):

Peak hours dispatched in year (hours):

**Power Factor Correction Programs:**

Amount of KVar installed (KVar):

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

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

**Line Loss Reduction Programs:**

Peak load savings (kW):

lifecycle in year

Energy savings (kWh):

**Distributed Generation and Load Displacement Programs:**

Amount of DG installed (kW):

Energy generated (kWh):

Peak energy generated (kWh):

Fuel type:

**Other Programs (specify):**

Metric (specify):

<b>D. Actual Program Costs:</b>		<b>Reporting Year</b>	<b>Cumulative Life to Date</b>
<i>Utility direct costs (\$):</i>	<i>Incremental capital:</i>		
	<i>Incremental O&amp;M:</i>	\$ 5,996.44	\$ 15,139.50
	<i>Incentive:</i>	\$ 18,035.58	\$ 30,535.58
	<i>Total:</i>	\$ 24,032.02	\$ 45,675.08
<i>Utility indirect costs (\$):</i>	<i>Incremental capital:</i>		
	<i>Incremental O&amp;M:</i>		
	<i>Total:</i>		

**E. Assumptions & Comments:**

The energy audits dove-tailed directly into the ERIP program. Breakfast seminars continued to raise awareness.

<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.