KINGSTON ELECTRICITY DISTRIBUTION LIMITED

Conservation and Demand Management Annual Report

2005

Prepared by Utilities Kingston for
Kingston Electricity Distribution Limited

CONTACTS
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INTRODUCTION

Kingston Electricity Distribution Limited hereby submits its Conservation and Demand Management (CDM) Annual Report to the Ontario Energy Board.

Of the 5 items approved in its CDM Approved Plan, Program 1 - LED retrofits - was started and completed in 2005 and Program 2 – Smart Meters was started.

The other 3 approved programs were not begun in 2005; therefore this report provides a complete analysis for Program 1.

For Program 2 – Smart Meters - the only activity for the year was the purchase of the meters and as such that program is not reflected in Appendix A or Appendix B.

EVALUATION OF THE CDM PLAN

The attached Appendix A provides an overview of the effectiveness of our CDM Plan. It includes only the LED retrofit program under the "Other 1" column.

DISCUSSION OF THE PROGRAMS

Program 1 – LED Retrofits

LED is a highly reliable lighting technology that is becoming increasingly popular for various lighting applications. LEDs offer many benefits relative to traditional lighting including significant energy savings.

We examined opportunities to reduce energy use by working with the municipality to determine intersections where replacement of lights would be most practical and cost effective.

During 2005, we replaced 206 traffic lights with a calculated Net TRC of $268. Included in this calculation are participant costs of $8,175.80 to install the new bulbs less $877.24, the present value of the equipment that will not need to be replaced annually as a result of the longer lasting bulbs. The $8,175.80 would have been incurred regardless of whether or not the CDM program was implemented because the incandescent bulbs would have needed to be replaced anyway. However these costs are included are included as they were incurred to install the LED bulbs.

Program 2 – Smart Meters

To enable Kingston Electricity Distribution Limited in supporting the Minister of Energy's commitment to the installation of SMART meters, a pilot program for residential SMART meters commenced in 2005.

This program will provide Kingston Electricity Distribution Limited with the experience and knowledge needed to efficiently expand the use of SMART meters over the next several years. It will also provide customers participating in the pilot program with an incentive to conserve or shift energy use. One of the key elements of the program will be in the assessment of communication technologies. Sub-metering opportunities for the purposes of customer information in bulk-metered situations (i.e. condominiums) are being considered.

Kingston Electricity Distribution Limited will look to make an investment to further the use of SMART or interval meters by commercial, industrial and institutional customers. This initiative will target Commercial, Industrial and Institutional customers with demand greater than 50kW who currently do not have interval meters. In conjunction with appropriate rate structures, they will encourage customers to conserve or shift energy use.

During 2005, we purchased Smart Meters at a cost of $25,219; however we did not install any meters as final plans for deployment were still being developed.

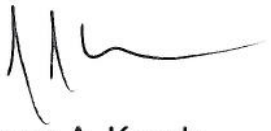
LESSONS LEARNED

Kingston Electricity Distribution Limited has learned that conservation comes at cost. Upfront costs are necessary to reduce demand; however the monetary benefits will be recovered over time.

CONCLUSION

Kingston Electricity Distribution Limited is striving to meet the Minister's direction which is consistent with the direction of our Shareholder and a number of community partners. We began by working with our Shareholder and have achieved a reduction in demand for electricity with our first initiative at a very small cost.

Kingston Electricity will continue to promote a culture of conservation in 2006 through its approved CDM programs.



James A. Keech
President & CEO

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 ($):	$268.44							$ 268.44			
Benefit to cost ratio:	$1.01							$ 1.01			
Number of participants or units delivered:	206.00							206			
Total KWh to be saved over the lifecycle of the plan (kWh):	439,278.00							439,278			
Total in year kWh saved (kWh):	87,855.00							87,855			
Total peak demand saved (kW):	10.03							10.03			
Total kWh saved as a percentage of total kWh delivered (%):	0.0116%							0.0116%			
Peak kW saved as a percentage of LDC peak kW load (%):	0.0070%							0.0070%			
Gross in year C&DM expenditures ($):	$22,680							$22,680			
Expenditures per KWh saved ($/kWh)*:	$0.07							$0.068			
Expenditures per KW saved ($/kW)**:	$2,989							$ 2,988.89			

Utility discount rate (%):	9.00

*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:** LED Retrofits

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

Replace incandescent traffic light bulbs with LED bulbs.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Incandescent bulbs		
Efficient technology:	LED bulbs		
Number of participants or units delive	206		
Measure life (years):	5		

B. **TRC Results:**

TRC Benefits ($):	*$*	*30,247.00*
TRC Costs ($):		
Utility program cost (less incentives):	$	22,680.00
Participant cost:	$	7,298.56
Total TRC costs:	$	29,978.56
Net TRC (in year CDN $):	$	268.44
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$	1.01

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

Conservation Programs:

Demand savings (kW):	*Summer*		
	Winter		
	lifecycle		*in year*
Energy saved (kWh):	*439,278*		87,855
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 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:*	$	22,680.00
	Incremental O&M:	$	-
	Incentive:	$	-
	Total:	$	22,680.00
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		
Participant costs ($):	*Incremental equipment:*	$	7,298.56
	Incremental O&M:		
	Total:	$	7,298.56

E. **Comments:**

Participant Costs include installation costs incurred by the customer to install the L.E.D. bulbs in their traffic lights less the present value of the annual equipment costs that would have been incurred.

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