Conservation and Demand Management Plan

Annual Report - 2005

Introduction

E.L.K. Energy Inc. ("E.L.K.") filed an application dated December 23, 2004 with the Ontario Energy Board ("OEB") for an Order pre-approving its Conservation and Demand Management ("CDM") Plan.

A Notice of Application and Written Hearing was issued by the OEB on February 4, 2005. E.L.K. served and published the Notice. The intervention period expired on February 26, 2005, with no intervenors.

On March 15, 2005, E.L.K. was granted approval of the CDM Plan as submitted.

CDM programs were designed with the following objectives:

- ✓ Energy efficiency
- ✓ Behavioral and operations changes;
- ✓ Load management measures.

Evaluation of CDM Plan

The core of E.L.K.'s CDM plans targets residential customers. The net TRC value as at the end of 2005 is in a negative position as a result of two programs that do not have quantifiable benefits and a project in progress that has no quantifiable benefits at this time. Both the introduction of CustomerVu and conservation education are vital parts of E.L.K.'s CDM plan. CustomerVu provides a tool to customers wanting to gain a stronger understanding of their consumption patterns. Conservation education at the elementary level is imperative to shaping the consumption patterns of the next generation of electricity consumers. Despite having no quantifiable benefits these two programs have been delivered to a total of 1,172 participants, this represents over 10% of our customer base.

Gross CDM expenditures during the year were $23,060. Total approved CDM expenditures are $230,939.

See Appendix A – Evaluation of the CDM Plan

Discussion of the Programs

Please refer to Appendix B for program details for programs started.

The following programs are completed:

- ✓ Christmas Light Buy Out Program
- ✓ CustomerVu Implementation

Christmas Light Buy Out Program

L.E.D. holiday lights have become increasingly available during recent years and offers consumers many advantages including:

- A high level of brightness with only a small fraction of energy – the 90% to 99% savings in electricity quickly adds up.
- Unbreakable & constructed of solid flameproof epoxy plastic.
- Lights operate much cooler than conventional lights making them safer to use either indoors or outdoors.
- Several shapes are available including: mini-ice, raspberry & strawberry with color options including: red, gold, blue, white or multi-colored.

Unfortunately, the higher initial purchase cost can discourage consumers from purchasing these more expensive Christmas lighting option in the short term. It is hoped that once consumers trade incandescent lights for L.E.D. lights their advantages will be evident and future Christmas light purchases made by the consumer will be L.E.D. purchases.

The Christmas light buy out program was introduced in December 2005 and allowed customers to trade in two strands of incandescent holiday lights for one strand of L.E.D.

CustomerVu Implementation

CustomerVu is an internet bill presentment, bill payment and customer service solution which will provide customers with a significant amount of customer specific information including consumption. Registered users will be able to:

- Enter meter readings during the transitional phase to smart metering.
- Review billed usage information in a graph format.
- Internet bill presentment will eliminate the delay in getting the most current statement of account reading information to the customer.

Although the direct consumption impact of this initiative is not determinable, customers will have access to their consumption information for review and obtain a better understanding of their consumption patterns.

CustomerVu became fully functional in the fourth quarter of 2005. No promotion efforts have been made to date, however we now have 61 customers registered

and using the service (March 2006) compared to 38 at December 31, 2005. This represents an increase of 60% in less than 3 months.

The following programs are in progress:

- ✓ Cottam Conversion
- ✓ Conservation Education Program
- ✓ Smart Metering Initiative

Cottam Conversion Program

Beginning in 2006 E.L.K. will convert their distribution system in our Cottam service area from 8,320/4,160 volts to 27,600/16,000 volts. Several efficiencies can be achieved through this conversion. The first being the elimination of the supply from the Distribution Station. Since the Transmission Station supplies at 27,600/16,000 volts the supply can be provided directly to the service area as opposed to being further transformed at the Distribution Station. With each transformation of voltage there are inefficiencies in losses. By eliminating the Distribution Station losses will be reduced.

In converting to the higher distribution voltage most of the transformers will have to be replaced. The new transformers will be constructed to the latest standards and more efficient than the transformers currently in service.

The higher distribution voltage affords for less voltage drop on the system thusly making the system more efficient.

E.L.K. intends to convert approximately 65% of the Cottam Service Area in 2006 with an initial impact of approximately 227,014 kwh's saved annually due to reduced line losses. The balance of the Cottom Service Area will be converted in 2007 with an additional 34,663 kwh's saved annually due to reduced line losses. Capital investment has a 25 year life cycle and theses efficiencies will be enjoyed for their entire life cycle.

Conservation Education Program

Conservation is an effort which every single electricity consumer can participate in. Conservation can require a consumer to make an investment in an Energy Star rated appliance to a simple change in habits which has no incremental cost such as turning off lights not in use. Educating consumers in conservation is key to achieving a positive conservation education program.

In educating our elementary aged children, they can actively participate in conservation by encouraging their parents today and practicing in the future when they become a primary consumer. Conservation programs will include suggestions such as:

- Installation of programmable thermostat with a built in timer.

- Keeping blinds, shades and drapes during the hottest part of the day in the summer and open south-facing blinds on sunny winter days.
- Using a solar blanket to keep swimming pool water warm overnight.
- Replacing traditional light bulbs with compact fluorescent light bulbs.
- Reducing phantom loads by unplugging appliances not in use.
- Purchasing of ENERGY STAR appliances.

During the Fall of 2005, the conservation Education program was brought to two elementary schools in our Kingsville service area.

Smart Metering Initiative

The introduction of smart metering will shift overall demand of electricity by encouraging consumers to use electricity at off-peak times and rewarding those consumers with lower commodity rates for consumption used in off-peak hours. It was E.L.K's intentions to begin the installation of smart meters in 2005 once the final guidelines for smart metering are released. As final guidelines are still pending, installation has been deferred. E.L.K.'s plan will see all new connections and meter reverification completed with smart meters.

Year	Meters to be reverified	New installations	Smart meters installed
2006	611	200	811
2007	519	200	719

This smart meter initiative will be in advance of the requirements for smart meter installations in 2010. In selecting the smart meter to be used E.L.K. will be reviewing systems that may allow for demand management through third party packages to allow for load shedding at peak or critical times or as an ongoing control offered to the customer. Some of the items being considered are:

- Pool pumps
- Electric water heaters
- Air conditioners

All of these units could be controlled remotely to limit their use during peak times or operated as rotational load shedding during critical times.

The following programs have not been started:

- ✓ Bulb Exchange Program

Bulb Exchange Program

Compact fluorescent lamps have several advantages over the incandescent lamps including:

- Energy efficient alternative using as little as one-fifth of the power of an incandescent bulb.
- Lasts up to 13 times longer thus lowering maintenance costs.
- Now available in a variety of shapes and colors increasing their versatility.

- High initial cost can be recouped in a short time period.
- Environmentally friendly as it is believed that a single compact fluorescent bulb can save enough electricity (coal fired) to keep a ton of carbon dioxide out of the atmoshphere.

Our bulb exchange program will allow all customer to trade an incandescent bulbs for a compact fluorescent bulbs.

The following program is expected to be canceled:

- ✓ Regrigerator Buy Out Program

Refrigerator Buy Out Program

Consumers often do not realize that old beer fridges are significant energy consumers. For example the typical 20 cubic foot refrigerator in use in 1992 used 94 kwh a month. An energy efficient model built in 2001 uses only 39 kwh a month. This represents a savings to the consumer of 55 kwh a month. Realizing that consumers may be reluctant to give up on a supply of cold beverages, E.L.K. will work with a selected group of appliance dealers within our service area and provide consumers with up to $150 rebate on the purchase of an ENERGY STAR refrigerator provided that an older unit is traded in on purchase. This will guarantee that older units are not just relocated and still consuming significant electricity and addresses short comings of other rebate programs based solely on purchase rather than trade in.

Since inclusion in our original Demand Side Management Plan, there have been considerable concerns with the feasibility of this program including: limited funding, environmental disposal of old units. Given the success of the LED seasonal light exchange, the funds from this program will most likely be transferred to the LED seasonal light exchange.

Lessons Learned

Christmas Light Buy Out Program
Initially there were concerns with how customers would receive this program including:

- Would one strand be sufficient to encourage customers to make the change from traditional incandescent lights?
- Would customers dislike the look of LED's and prevent customers from converting to LED's?

Based on the budget, a total of 44 LED strands were available. These units lasted only 5 business days. Although, some customers did raise concerns with disliking the look of LEDs' the majority of customers were very interested in converting. In addition to energy savings, customers noted other benefits relating to the unbreakable constructed of solid flameproof epoxy plastic, especially with pets or children and the fact that the epoxy plastic would not have the colour peel off which can be experience with the incandescent bulbs used outdoor.

We also found it beneficial to have samples of both lights in the lobby so that customers could see the differences in the two types of lights.

Conclusion

Changing customer attitudes regarding conservation will not be accomplished over a short period of time. However the task is not impossible. CDM programs are essential in re-enforcing the importance of conservation programs.

E.L.K. looks forward to continuing this education process in the next year and reminding customers that "... electricity – learn to conserve …"

E.L.K. Energy Inc.

Electricity... Learn to conserve!

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 ($):		-$22,362									
Benefit to cost ratio:		$0.03									
Number of participants or units delivered:		1,172									
Total KWh to be saved over the lifecycle of the plan (kWh):		905,445									
Total in year kWh saved (kWh):		702									
Total peak demand saved (kW):		N/A									
Total kWh saved as a percentage of total kWh delivered (%):		0.5%									
Peak kW saved as a percentage of LDC peak kW load (%):		N/A									
Gross in year C&DM expenditures ($):		$22,998									
Expenditures per KWh saved ($/kWh):*		$0.03									
*Expenditures per KW saved ($/kW)**:*		N/A									

Utility discount rate (%):	10%

*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:** Christmas Light Buy Out Progam

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

LED holiday lgihts have been increasingly availaable during recent years and offers consumers a high level of brigtness with only a fraction of energy. The higher purchase cost can discourage consumers from purchasing LED. Introducted in December 2005, the program was completely expended within 5 business days. This program allowed to exchange two working strings of old incancdescent holidays lights (either C-7 or mini-lights) for one string of new LED holiday lights.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Incandescent Mini Lights	5 watt Christmas lights C-7	
Efficient technology:	LED Christmas Lights	LED Christmas Lights	
Number of participants or units delive	11	33	
Measure life (years):	1,290	1,290	

B. **TRC Results:**

TRC Benefits ($):	*$*	*697.42*
TRC Costs ($):		
Utility program cost (less incentives):	$	379.68
Participant cost:	$	-
Total TRC costs:	$	379.68
Net TRC (in year CDN $):	$	317.74
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$	1.84

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

Conservation Programs:

		lifecycle	in year
Demand savings (kW):	*Summer*		
	Winter		
Energy saved (kWh):		*905,445*	702
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:*	
	Incremental O&M:	$ 379.68
	Incentive:	
	Total:	$ 379.68
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	
Participant costs ($):	*Incremental equipment:*	
	Incremental O&M:	
	Total:	

E. Comments:

This program was very successful. We are considering canceling the refridgerator buy out program and allocating the funds to this program for the 2006 holiday season.

*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:** CustomerVu Implementation

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

CustomerVu is an internet bill presentment, bill payment and customer service solution which will provide customers with a signifcant amount of customer specific information including consumption. Although the direct consumption impact of this initiative is not determinable, customers will have access to their consumption information for review and to obtain a better understanding of their consumption patterns.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	N/A		
Efficient technology:	N/A		
Number of participants or units delive	38		
Measure life (years):	N/A		

B. **TRC Results:**

TRC Benefits ($):		
TRC Costs ($):		
Utility program cost (less incentives):	$	563.00
Participant cost:		
Total TRC costs:	$	563.00
Net TRC (in year CDN $):	-$	563.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$	-

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

Conservation Programs:

		lifecycle	in year
Demand savings (kW):	*Summer*		
	Winter		
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 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:	$ 563.00
	Incentive:	
	Total:	$ 563.00
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	
Participant costs ($):	*Incremental equipment:*	
	Incremental O&M:	
	Total:	

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:** Cottam Conversion

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

Conversion of distribution in our Cottam Service area from 8,320/4, 160 volts to 27,600/16,000 volts achieves several efficienies including the elimination of the supply from the Distribution Station

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits ($):		
TRC Costs ($):		
Utility program cost (less incentives):	$	20,597.06
Participant cost:		
Total TRC costs:	$	20,597.06
Net TRC (in year CDN $):	-$	20,597.06
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$	-

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

Conservation Programs:

Demand savings (kW):	*Summer*		
	Winter		
		lifecycle	*in year*
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 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:*	$ 20,597.06
	Incremental O&M:	
	Incentive:	
	Total:	$ 20,597.06
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	
Participant costs ($):	*Incremental equipment:*	
	Incremental O&M:	
	Total:	

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:** Conservation Program

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

Conservation is an effort which every single electricity consumer can partipate in. In educating our elementary aged childre, they can actively partipcate in conservation by encourageing their parents today and parcticing in the future when they become a primary consumer. During the fall of 2005, the conservation Education program was brought to two elementary schools in our Kingsville service area.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	N/A		
Efficient technology:	N/A		
Number of participants or units delive	1090		
Measure life (years):	N/A		

B. **TRC Results:**

TRC Benefits ($):		
TRC Costs ($):		
Utility program cost (less incentives):	$	1,520.00
Participant cost:		
Total TRC costs:	$	1,520.00
Net TRC (in year CDN $):	-$	1,520.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$	-

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

Conservation Programs:

Demand savings (kW):	*Summer*		
	Winter		
	lifecycle	*in year*	
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 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:	$ 1,520.00
	Incentive:	
	Total:	$ 1,520.00
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	
Participant costs ($):	*Incremental equipment:*	
	Incremental O&M:	
	Total:	

E. Comments:

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