Conservation and Demand Management
2005 Annual Report

Ontario Energy Board File No. RP-2004-0203/EB-2004-0554

March 31, 2006

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1. Introduction

Brant County Power Inc. distributes electricity to approximately 9,000 customers in the County of Brant. Our customer base is made up of a unique combination of rural and suburban customers stretching over 250 square kilometres. BCP concurs with the Ministry of Energy initiative to create a conservation culture, and has a strong desire to promote a sustainable conservation culture within Ontario. Conservation and Demand Management approved budgeted plans are specific to each LDC's territory. Geographically we are challenged in the deliver of programs specific to our customers due to the "pockets" of Hydro One customers.

On December 23, 2004 the Ontario Energy Board ("Board") issued its Notice of Application and Written Hearing in the RP-2004-0203 proceeding, with respect to Brant County Power Inc. application. This report is a requirement of that decision. In respect of the application filed by Brant County Power Inc. the Board issued its Final Order under docket number RP-2004-0203/EB-2004-0554.

The Board's decision indicated that annual reporting "should be done on a calendar year and should be filed with the Board no later than March 31st of the following year" and would be subject to a public review. On December 21, 2005 the Board issued a Guideline for Annual Reporting of CDM Initiatives that explained more fully the requirements. This report has been prepared in accordance with those guidelines.

The following table shows the approved plan expenditures[1] by project as well as actual expenditures to December 31, 2005.

Project	Target Customers	Approved Expenditures	Actual Expenditures to Dec. 31, 2005
Distribution System improvements	All Users	$125,000	$12,843[2]
Smart Metering / Prepaid Metering Program	Residential	$70,000	$76,129[3]
Garage Door Replacement	In house – Commercial <50kw	$12,000	$12,000
Conservation County	Residential, Commercial <50kw and Commercial >50kw	$82,000	$57,383
Staff Development		$15,000	$1,062
Other[4]			$11,940
Planning, Administration and Monitoring		$20,000	$12,473
Total		**$324,000**	**$183,830**

[1] It was noted in our approval that the budget overage is due to estimating cost and final budget will be $314,802.

[2] In this case the results may not totally coincide with the quarterly reports previously submitted. This is due to transformers being purchased and installed early in 2005. On December 21, 2005 the Ontario Energy Board issued the Guideline for Annual Reporting of CDM. Total cost of transformers was previously reported. Corrections have been made and only incremental costs are now showing.

[3] In this case the results may not totally coincide with the quarterly reports previously submitted. This is due to total meter cost was previously reported. Corrections have been made and only incremental costs are now showing.

[4] Noting the importance of creating a conservation culture and as an active member with NEPPA, BCP has participated in additional CDM projects.

Brant County Power Inc. has been active in implementing all of the programs in 2005 as well as participated in the Niagara Erie Public Power Alliance (NEPPA) shared programs. Some of the highlights are:

- Replacement of transformers with more efficient ones
- Launched a Pay-As-You-Go (smart meter) pilot program
- Installation of more energy efficient garage doors
- Launched a County wide Conservation competition "Conservation County" that included a lighting retro fit at a County owned building.
- Participated in shared NEPPA activities - introduction of the "Conserver Family"
- Participated in shared Provincial initiatives - "Lighten Your Electricity Bill" coupon program

Program projected (or final) results as shown in Appendices B for each program have been forecasted with the best information currently available.

Shared Provincial Initiatives

BCPI took part in the "Lighten Your Electricity Bill" coupon program. It was well accepted by our customers with a 5.8% participation rate.

In addition we participated in the Proctor and Gamble cold water wash coupon program.

BCPI is a member of the Ontario Utility Smart Metering working group (OUSM) and have shared costs and the results of that group initiative.

Shared NEPPA Activities

As an active participant with the NEPPA group we helped to develop the "Conserver Family" customer education and information program. This program includes (at this time) an introductory booklet, energy saving bill inserts, radio scripts and a web site for "Conserver Family" energy saving tips (http://www.conserverjoe.com/np/). BCPI has distributed the booklets to all customers.

NEPPA utilities also developed and distributed a Request For Proposals from energy audit firms and, based on the responses and follow up presentations, produced a list of "approved" firms to recommend to larger customers (>50 KW) interested in energy audits of their facilities.

BCPI/Local Activities

The following is a listing and an overview of local programs initiated by BCPI specifically for our customers:

- Educational programs:
  - Conservation County
  - Along with the IESO and other companies we hosted a ½ day seminar. The focus was on pricing, supplying information and tools to assist them in better energy management.

- Staff training
  - Presented training sessions for all customer contact office staff on energy efficiency information and current programs.
  - Training was given to our Operations department on the use of new equipment for our smart meter pilot program.

- Electrical Distribution System Improvements.
  - In 2005 more energy efficient transformers were purchased and installed throughout the County of Brant.
  - In 2006 we will be upgrading the voltage in older areas from 8KV the current practice of 27.6KV.

- Smart Meter Pilot Program – Pay-As-You-Go
  - Installed all hardware and software needed to have this pre-paid metering system in place.
  - Connected some residential consumers to the system.
  - Contacted local retail outlets to act as a payment centre.
  - Started on draft information flyers to be distributed for promotion.

2. Evaluation of the CDM Plan

As shown in Appendix A, the BCPI plan has some very effective components with forecasted program results being very positive. Examples of this type of program include:

- Distribution system improvements
- Lighten Your Electricity Bill – In conjunction with other NEPPA members and LDC's across the province.

Some programs are not designed to have specific quantifiable energy savings but are nevertheless effective and important in our view. Examples of this category of program include:

- Educational components like the "Conserver Family" information and
- "Conservation County Competition" and
- The ½ day seminar on electricity, pricing and savings and
- Staff training

A third category of programs is those programs that show a negative NPV of the TRC analysis. With guidelines now in place it is expected that there will not be programs initiated that have a negative NPV. Examples of these types of programs are:

- In house upgrade for operations department-garage doors
- Smart Meter Pilot – Pre-paid meter "Pay-As-You-Go"
  -It is the cost of a smart meter that drives this to a negative NPV of the TRC analysis.

Our overall plan shows a NPV based on the Total Resource Cost analysis of the individual programs of $714,668. The costs to achieve this energy savings are expected to be $286,136.

Appendix A - Evaluation of the CDM Plan

	Total	Residential	General Service	LDC System	Other 1	Other 2	Other 3	Other 4
Net TRC value ($):	*$714,668*	$23,168	$ 8,000	$683,500				
Benefit to cost ratio:	33.94	0.26	0.33	103,053.22				
Number of participants or units delivered:	*11,186*	1,865	112	9,209				
Total KWh to be saved over the lifecycle of the plan (kWh):	*35,802,830*	2,541,253	13,908,515	19,353,061				
Total in year kWh saved (kWh):	*1,344,450*	124,772	557,494	662,184				
Total peak demand saved (kW):	*271.4*	71.7	11	189				
Total kWh saved as a percentage of total kWh delivered (%):	0.57%	0.05%	0.24%	0.28%				
Peak kW saved as a percentage of LDC peak kW load (%):	0.83%	N/A	0.03%	0.58%				
Gross C&DM expenditures ($):	*$286,831*	$145,741	$ 25,247	$115,843				
Expenditures per KWh saved ($/kWh):*	$0.213	$1.168	$ 0.045	$0.175				
*Expenditures per KW saved ($/kW)**:*	$1,056.94	$2,033.22	$ 2,295.20	$613.90				

Utility discount rate (%):	6.43%

*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.

3. Discussion of Programs

Detailed information about our CDM plan is attached to this report in the Appendix B for each program. In the following information we provide an overview of the various programs, current status and information about projections for savings that are a part of each Appendix B. Summary data for all program components is found in Appendix A of this section.

Distribution System Improvements

This program component was started in 2005 with the purchasing of 60 high efficiency transformers. In 2006 we plan on upgrading the voltage in older areas from 8KV to the current practice of 27.6KV. The total planned expenditure for this program component is $125,000 with a NPV of the expenditures of $683,500.

Transformers purchased have a $101,200 NPV based on the TRC calculation for the forecasted results of this part of this program.

Upgrading the voltage in older areas has a $582,300 NPV based on the TRC calculation for the forecasted results of this part of this program.

System loss reduction is variable depending on system loading and customer growth. Therefore system loss calculations and expected results are calculated as an average during a "normal" year. Over time the results are expected to meet or exceed the calculated outcome.

Assumptions made to estimate the benefits of this program were:

- All customers benefit through reduced Distribution System costs.
- Total system loss reduction will be 1/2 of 1 percent.
- Loss reduction will apply to all load periods.
- Estimated savings are based on overall system loss reduction of 0.25%

NPV based on the TRC calculation for the forecasted results of this total program component is $683,500. The cost to achieve this energy savings are expected to be $115,843.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Distribution System Improvements

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

BCPI is committed to increasing the efficiency of its distribution system. We identified a number of distribution system improvement opportunities for 2005, including: voltage conversions, a power system optimization study and installation of high efficiency transformers. BCPI does need to further investigate these opportunities in order to place a priority on the next most cost effective project that would optimize savings and overall benefits to it distribution system. We felt that the purchase of 60 upgraded transformes would be the first step.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Standard Transformers		
Efficient technology:	Low Loss Transformers		
Number of participants or units delivered:	60		
Measure life (years):	25		

B. **TRC Results:**

TRC Benefits ($):		*$ 114,043.00*
TRC Costs ($):		
	Utility program cost (less incentives):	$ 12,843.00
	Participant cost:	$ -
	Total TRC costs:	$ 12,843.00
Net TRC (in year CDN $):		$ 101,200.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		8.88

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):		11.7
	lifecycle	*in year*
Energy savngs (kWh):	2,562,300	102,492

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:*	$ 12,843.00
	Incremental O&M:	
	Incentive:	
	Total:	$ 12,843.00
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	$ -
Participant costs ($):	*Incremental equipment:*	$ -
	Incremental O&M:	
	Total:	$ -

E. **Comments:**

Utility capital costs are the incremental cost to upgrade to low loss transformers. Results are based on 60 transformers installed in 2005.

*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:** Line Loss Reduction through voltage conversion.

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

LDC System program to reduce system losses through upgrading the voltage in older areas from 8kv to 27.6.

Measure(s):

	Measure 1	easure 2 (if applicabl	Measure 3 (if applicable)
Base case technology:	Do Nothing		
Efficient technology:	Voltage Conversion		
Number of participants or units delivered:	9149		
Measure life (years):	30		

B. **TRC Results:**

TRC Benefits ($):		$ 685,300.00
TRC Costs ($):		
Utility program cost (less incentives):		$ 103,000.00
Participant cost:		$ -
Total TRC costs:		$ 103,000.00
Net TRC (in year CDN $):		$ 582,300.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		6.65

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):		177
	lifecycle	*in year*
Energy savngs (kWh):	16,790,761	559,692

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:*	$ 103,000.00
	Incremental O&M:	
	Incentive:	
	Total:	$ 103,000.00
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	$ -
Participant costs ($):	*Incremental equipment:*	$ -
	Incremental O&M:	
	Total:	$ -

E. **Comments:**

Utility capital costs are the costs for voltage conversion from 8 kV to 16 kV distribution. This work is planned to be completed in 2006. Estimated savings are based on overall system loss reduction of 0.25%.

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

Smart Meter Pilot Program

Brant County Power Inc. implemented the Pay-As-You-Go smart metering. The Pay-As-You-Go program requires customers to use cards similar to pre-paid long distance telephone cards. Customers can buy power on these cards at BCPI or at any participating retail outlet.

Part of this type of smart meter that BCPI found most inline with meeting our goal was the display unit. The display unit can be placed anywhere there is an electrical socket available. The display unit provides the customer with information including: real time information on dollar consumption, amount spent on power over the pervious day and month and amount of funds remaining in the meter.

By providing customers with this information we have found that the current users of this program have reduced their consumption by 12.85%.

The incremental expense for this program was $ $76,129. NPV based on the TRC calculation for the forecasted results of this program component is ($26,800.00).

Assumptions made to estimate the benefits of this program were:

- All 100 meters are installed
- All customers had a consumption reduction of 12.85%

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Smart Meter Pilot Program

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

This program includes all costs for the deployment of all meters (100 residential customers). The implementation in Brant County was pre-paid metering, (Pay-As-You-Go). Actual results of the first customer group were extrapolated to calculated total program impacts for the full 100 customers.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Regular metering		
Efficient technology:	Pre-paid metering		
Number of participants or units delivered:	100		
Measure life (years):	10		

B. **TRC Results:**

TRC Benefits ($):		$ 49,329.25
TRC Costs ($):		
	Utility program cost (less incentives):	$ 76,129.25
	Participant cost:	
	Total TRC costs:	$ 76,129.25
Net TRC (in year CDN $):		($26,800.00)
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		0.65

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

Conservation Programs:

Demand savings (kW):	*Summer*		10
	Winter		10
		lifecycle	*in year*
Energy saved (kWh):		860,730	86,073
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:	$ 76,129.25
	Incentive:	$ -
	Total:	$ 76,129.25
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	$ -
Participant costs ($):	*Incremental equipment:*	$ -
	Incremental O&M:	
	Total:	$ -

E. **Comments:**

Most fixed program costs were incurred in late 2005 with only 5 customers participating by the end of that year. It is anticipated that the additional 95 customers will be on the pre-paid metering in 2006.

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

House In Order – Operations Garage Door Replacement Upgrade

Brant County Power Inc had scheduled to replace the truck bay doors at our operations center. It was felt that since the existing doors were manually operated and were of little to zero R rating, C&DM could contribute funds to upgrade. The upgrade was from a R5 to a R10.5 door with remote controls. The shorter opening/closing times and improved insulation of the doors will substantially contribute to energy savings.

The incremental expense for this program was $12,000. NPV based on the TRC calculation for this program component is ($6,600.00).

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Smart Meter Pilot Program

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

This program includes all costs for the deployment of all meters (100 residential customers). The implementation in Brant County was pre-paid metering, (Pay-As-You-Go). Actual results of the first customer group were extrapolated to calculated total program impacts for the full 100 customers.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Regular metering		
Efficient technology:	Pre-paid metering		
Number of participants or units delivered:	100		
Measure life (years):	10		

B. **TRC Results:**

TRC Benefits ($):		$ 49,329.25
TRC Costs ($):		
	Utility program cost (less incentives):	$ 76,129.25
	Participant cost:	
	Total TRC costs:	$ 76,129.25
Net TRC (in year CDN $):		($26,800.00)
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		0.65

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

Conservation Programs:

Demand savings (kW):	*Summer*		10
	Winter		10
		lifecycle	*in year*
Energy saved (kWh):		860,730	86,073
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:	$ 76,129.25
	Incentive:	$ -
	Total:	$ 76,129.25
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	$ -
Participant costs ($):	*Incremental equipment:*	$ -
	Incremental O&M:	
	Total:	$ -

E. **Comments:**

Most fixed program costs were incurred in late 2005 with only 5 customers participating by the end of that year. It is anticipated that the additional 95 customers will be on the pre-paid metering in 2006.

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

Conservation County

This program was a 5 month long public awareness/education and conservation competition campaign on energy efficiency. Brant County Power Inc. encouraged the County of Brant, the public, local groups and companies to participate in the Conservation County initiatives. The following are the components that made up Conservation County.

Campaign kick-off event.

A public event to kick off the campaign was held on May 14, 2005 at 65 Dundas St. E., Paris. The entire community was invited to attend the festivities, along with local politicians, media and the current Minister of Energy. Educational displays and retailers with energy efficient products were present. Approximately 150 people attended BCPI kick off.

Lighting retrofit of a County owned building that is publicly visible.

A lighting retrofit of one of the County buildings was undertaken. (Old St. George School, now used as a children's daycare facility). The building would provide a very visible location for demonstrating the effectiveness and benefits of energy efficient products.

Student energy conservation competition

The student energy conservation competition challenged students to come up with innovative, yet practical, ideas for conserving energy in their homes. There were several age categories. (e.g. grades 1-3, 4-6, 7-8, 9-12) Approximately 70 children participated with prizes being awarded for each age group. An Energy Saving Poster contest was held for grade 5 students, with a prize awarded to the student that best demonstrated conservation in their poster.

Household & business energy reduction competitions

This competition was to challenge residential and commercial customers of BCPI to reduce their energy consumption over the summer months of June, July and August. The winner for the residential category reduced their consumption by 30.8 % over the same time period of the previous year. The winner for the commercial category reduced their consumption by 11.4 %. There were in excess of 100 participants in this category. To claim their prizes winners were required to explain the measures they undertook to reduce their consumption. The prizes for this competition include an ENERGY STAR® appliance.

Awards Day

The end of the 'Conservation County' campaign was marked by a large public event called Awards Day. Educational displays and retailers with energy efficient products were present. Approximately 200 people were in attendance. This event highlighted all of the above components with the results of the campaign over the preceding months.

The event included:

- announcement of the winners of the student, household and business competitions (with presentation of awards by county dignitaries, such as the Mayor, CEO of BCPI); and

- an energy exhibition with representatives and/or materials from energy service companies, government energy efficiency programs etc, to provide residents with resources and contacts for undertaking energy conservation measures.

Conservation County Summary

The biggest benefit from Conservation County was raising the level of understanding and the importance of energy conservation and energy efficiency. With 4% of our customer base participating we feel this was a huge success.

CFL 15w light bulbs were handed out at both our kick off day and awards day. The NPV based on the TRC calculation for this portion of the program is $8,700.00 with an incremental expense of $2,000.00.

The lighting retro fit that was completed on a children's daycare centre had a NPV based on the TRC calculation is $14,600.00 with an incremental expense of $12,000.00.

There is no NPV to report on the education portion of this program. Cost for this appears in Gross C&DM expenditures total on Appendix A. Program total costs were $43,383.33.

The total NPV on this program is $23,300.00 based on the TRC calculation. The total expenditures are $ 57,383.33.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Conservation County-CFL's

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

Conservation County was a County wide energy competition. The key elements of the competition were: 1) a campaign kick-off event, 2)lighting retrofit of one County owned building, 3) a student energy consevation poster competition, (grade 5), 4) household energy reduction competition, 5) business energy reduction competition and 6) a County of Brant energy conservation wrap up day. At both the kick off and awards day 15w CFL's were distributed to all.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	60W Incandescent		
Efficient technology:	15W Screw-In CFL		
Number of participants or units delivered:	500		
Measure life (years):	4		

B. **TRC Results:**

TRC Benefits ($):		$ 10,700.00
TRC Costs ($):		
	Utility program cost (less incentives):	$ 2,000.00
	Participant cost:	
	Total TRC costs:	$ 2,000.00
Net TRC (in year CDN $):		$ 8,700.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		$ 5.35

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

Conservation Programs:

Demand savings (kW):	*Summer*		
	Winter	10	
	lifecycle	*in year*	
Energy saved (kWh):	*751,680*	187,920	
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:	$ 2,000.00
	Incentive:	
	Total:	$ 2,000.00
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	
Participant costs ($):	*Incremental equipment:*	
	Incremental O&M:	
	Total:	

E. **Comments:**

Brant County Power Inc. prepared "goodie" bags for each person that attended our kick off and awards day. The goodie bag contained one 15w CFL, scratch pad, pen, frisbee, mints, Switch and Save pamphlet and other information.

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

Total gross program expenditures $ 2,000.00

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Conservation County - Lighting retrofit

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

Within the program of Conservation County a lighting retrofit was done on a County owned building (child daycare centre). This building was choosen to provide a very visible location for demonstraing the effectiveness and benefits of energy efficienct lighting.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)	Measure 4 (if applicable)
Base case technology:	4 - T12 34W (156W) 4' Lamps w/2 magnetic ballasts	2 - T12 34W (78W) 4' lamps pendant mount, 1 EM ballast	60W Incandescent	2 - 15W (30W) Incandescent EXIT Sign
Efficient technology:	2 - T8 32W (58 W) reflectorized w/EL ballast	1- T8 32W (38W) w/EL HBF ballast	15W Screw-In CFL	3W LED EXIT sign
Number of participants or units deli	48	4	15	10
Measure life (years):	8.5	8.5	4	25

B. **TRC Results:**

TRC Benefits ($):	$	*26,600.00*
TRC Costs ($):		
Utility program cost (less incentives):	$	12,000.00
Participant cost:		
Total TRC costs:	$	12,000.00
Net TRC (in year CDN $):	$	14,600.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$	2.22

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

Conservation Programs:

		lifecycle	in year
Demand savings (kW):	*Summer*		5
	Winter		4
Energy saved (kWh):		*13793175*	551727
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:	$	12,000.00
	Incentive:		
	Total:	$	12,000.00
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		
Participant costs ($):	*Incremental equipment:*		
	Incremental O&M:		
	Total:		

E. **Comments:**

In partnership with the County of Brant the daycare centre was choosen to receive a full lighting retrofit. This building was choose because it is used five days a week and is publicly known. We retrofitted during the time after our kick off event and before our awards day so we could clearly demonstrate the before and after effects.

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

Total gross program expenditures	$	12,000.00

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Conservation County - Education

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

Conservation County was a County wide energy competation. The key elements of the competation where: 1) a campaign kick-off event, 2)Lighting retrofit of one public County owner building, 3) a student energy consevation poster competition, (grade 5), 4) Household energy reduction competition, 5) Business energy reduction competition and 6) A County of Brant energy conservation awards day.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:	353		
Measure life (years):			

B. **TRC Results:**

TRC Benefits ($):	
TRC Costs ($):	
Utility program cost (less incentives):	
Participant cost:	
Total TRC costs:	
Net TRC (in year CDN $):	
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:	$ 43,383.33
	Incentive:	
	Total:	$ 43,383.33
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	
Participant costs ($):	*Incremental equipment:*	
	Incremental O&M:	
	Total:	

E. **Comments:**

Although we are unable to justify any specific benefits to education, Brant County Power feels this program was a huge success. We had the opportunity to display our smart meter pilot program, introduce our customers to a lighting retro fit company, introduce them to wind power, promote the cold water wash program, expose them to energy auditors, a smart car was on display and many other energy efficient ideas. Cost for this component are shown in the Gross C&DM expenditures total of Appendix A.

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

Total gross program expenditures $ 43,383.33

Staff Development

C&DM is a new activity for Brant County Power Inc. It is essential that staff are trained in all programs hosted by BCPI , becomes familiar with programs offered by other jurisdictions and have a knowledge of best practices for conservation and demand management.

Cost for this appears in Gross C&DM expenditures total on Appendix A. Program total costs in 2005 were $1,062.55.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Staff Development

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

Our intent was to assist staff in their understanding of CDM and expand their existing knowledge. This enabled our staff to better answer questions from consumers, use new equipment effectively and give them a better understanding of the culture of Conservation in Ontario.

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):	
Participant cost:	
Total TRC costs:	
Net TRC (in year CDN $):	
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:	$ 1,062.55
	Incentive:	
	Total:	$ 1,062.55
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	
Participant costs ($):	*Incremental equipment:*	
	Incremental O&M:	
	Total:	

E. **Comments:**

Staff development is essintial for all staff at Brant County Power. From our Customer Service Repesentatives who deal with the consumer on a regular basis, our Billing and Collections staff who calculate the billing, Finance staff who deal with information tracking and our Operations department who are in the public eye at all times. Cost for this component are shown in the Gross C&DM expenditures total of Appendix A.

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

Planning, Administration and Monitoring

This portion of BCPI C&DM plan is used for any external assistance in developing the 2005 C&DM plan and to participate on working groups and attend seminars related to conservation and demand management.

In 2005 the major costs are related to external assistance in the preparation of our original submission.

Cost for this appears in Gross C&DM expenditures total on Appendix A. Program total costs in 2005 are $12,473.07.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Planning, Administration and Monitoring

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

To actively design, deliver and monitor CDM programs, there are incremental costs incurred to participate on working roups, attend seminars. Below are the grouped costs for administration, monitoring and planning.

Measure(s):

	Measure 1	Measure 2 (if applicable	sure 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):	
Participant cost:	
Total TRC costs:	
Net TRC (in year CDN $):	
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:	$ 12,473.07
	Incentive:	
	Total:	$ 12,473.07
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	
Participant costs ($):	*Incremental equipment:*	
	Incremental O&M:	
	Total:	

E. **Comments:**

The major cost assosiated with this are from services provided by IndEco in the preparation of our original submission. Cost for this component are shown in the Gross C&DM expenditures total of Appendix A.

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

2005 Lighten Your Electricity Bill, Residential

This Residential Coupon Program ran from October 1st to December 31, 2005. Brant County Power Inc. partnered with Energyshop.com and Canadian Tire to deliver this residential program that offered energy efficient products at a discounted rate. We joined 32 other LDC's across the province to launch a provincial campaign. Included discounts for the following products - ceiling fans, LED Lights, CFL, Programmable Thermostats, Indoor and Outdoor Timers. The following information is an overview of the various program components. Costs shown are the final, complete costs for the program.

CFL Component

The 2005 program provided customers with a $3 coupon on any pack of compact fluorescent bulbs. Using store data provided by Energyshop.com, the number of bulbs sold by wattage was used to develop the average wattage of bulb sold. Based on this information, it was assumed that the average wattage sold during this program was 15 watts. Additionally the average number of bulbs per package/coupon was 2.65.

Using the above information and the fact that Brant County Power customers used 217 coupons, the actual number of CFL bulbs purchased by customers was 575 (217 X 2.65).

NPV based on the TRC calculation for this program component is $10,800.00

LED Christmas light Component

Like the CFLs, customers were provided with a $5 coupon for the purchase of any package of LED seasonal lights. Using store data provided by Energyshop.com, average size of LED light string sold during the campaign was determined. Based on this information, it was assumed that the average string sold had 59 bulbs.

With guidance from Energyshop.com, it was also assumed that 50% of the LED lights sold were those replacing a 5 watt Christmas string and the remaining 50% were used to replace mini lights which yields a slightly lower savings.

Using the above information and the fact that Brant County Power customers used 110 coupons, the actual number of LED lights sold to customers was 260 (110 X 59 / 25). 50% of these would be used to replace 5 watt bulb strings and the other 50% would replace mini lights.

NPV based on the TRC calculation for this program component is $2,700.00

Programmable Thermostat Component

The savings estimate outlined in the TRC Guide were used for programmable thermostat savings calculations. Participant rates were adjusted to account for market share. Using data provided by Energyshop.com and other studies, the following province wide fuel share assumptions were used:

- Electrical Space Heating 17.3%
- Electrical Space Cooling (central air) 45.0%

We expect that the provincial average numbers for the saving calculations that we did will be somewhat conservative, they still yield a positive NPV for this program component. Brant County Power customers purchased 86 programmable thermostats using the coupons.

NPV based on the TRC calculation for this program component is $21,300.00.

Indoor Timer Component

In the absence of OEB savings estimates for indoor timers, The SeeLine Group developed savings estimates for timers used on indoor lighting and air conditioners.

The savings estimate for timers for indoor lighting is considered to be small. It assumes that the timer is used on a 60 W bulb and provides savings during the winter peak, winter mid peak and summer peak periods. In total, the timer is expected to provide approximately 98 kWh savings.

The savings estimate developed for timers used on unit air conditioners is based on the owner setting the timer to bring the air conditioner on a few hours before he or she arrives home. Based on this assumption, a timer used for a unit air conditioner would provide approximately 108 kWh in annual savings.

Based on discussions with EnergyShop.com it was assumed that 50% of the timers would be used for lighting and the remaining 50% would be used for air conditioners. SLG made an additional assumption and assumed that it was unlikely that all of the timers would be used appropriately; participation rates were reduced by 30%

Using the above information and the fact that Brant County Power customer used 10 coupons, the actual number of indoor timers used for the TRC calculations was 7 (30% less than the number of coupons used).

NPV based on the TRC calculation that was completed by the SeeLine Group for this program component is $790.00.

Outdoor Timer Component

The savings estimate for the outdoor timer is based on information from the TRC Guide.

Brant County Power customers used 21 coupons for outdoor timers.

NPV based on the TRC calculation for this program component is $4,600.00.

Ceiling Fan Component

At the time of this analysis, SLG felt there was not enough significant evidence to support a savings estimate for ceiling fans. Brant County Power customers purchased 16 ceiling fans with the coupons provided.

LDC direct costs were determined based on the assumption that costs were shared as a percentage of overall sales. Incentive dollars are specific to coupon product.

The TRC savings calculation was not completed based on insufficient information to calculate savings. Costs for this program component have been included in the gross in year C&DM expenditures in the residential customer class.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** 2005 Lighten Your Electricity Bill, CFL Component.

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

Residential Coupon Program running from October 1st to December 31, 2005. Brant County Power Inc. partnered with Energyshop and Canadian Tire to deliver the a residential program that offered energy efficient products at a discounted rate. We joined 32 other LDC's across the province to launch a provincial campaign. Included discounts for the following products - ceiling fans, LED Lights, CFL, Programmable Thermostats, Indoor and Outdoor Timers. This Appendix is for the CFL component of the program.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	60 watt Incandescent light bulb		
Efficient technology:	15 watt CFL		
Number of participants or units deliv	575		
Measure life (years):	4		

B. **TRC Results:**

TRC Benefits ($):		*$ 13,448.03*
TRC Costs ($):		
	Utility program cost (less incentives):	$ 1,648.03
	Participant cost:	$ 1,000.00
	Total TRC costs:	$ 2,648.03
Net TRC (in year CDN $):		$ 10,800.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		5.08

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

Conservation Programs:

Demand savings (kW):	*Summer*		
	Winter		12
		lifecycle	*in year*
Energy saved (kWh):		*216,108*	54,027
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:	$ 1,648.03
	Incentive:	$ 651.00
	Total:	$ 2,299.03
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	$ -
Participant costs ($):	*Incremental equipment:*	$ 1,000.00
	Incremental O&M:	
	Total:	$ 1,000.00

E. **Comments:**

LDC direct costs were determined based on the assumption that costs were shared as a percentage of overall sales. Incentive dollars are specific to coupon product. The number of CFL bulbs sold through the program was calculated based on an average package size of 2.65 bulbs per coupon. Brant County Power customers redeemed 217 coupons.

*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:** 2005 Lighten Your Electricity Bill, LED christmas light Component.

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

Residential Coupon Program running from October 1st to December 31, 2005. Brant County Power Inc. partnered with Energyshop and Canadian Tire to deliver the residential program that offered energy efficient products at a discounted rate. We joined 32 other LDC's across the province to launch a provincial campaign. Included discounts for the following products - ceiling fans, LED Lights, CFL, Programmable Thermostats, Indoor and Outdoor Timers. This Appendix is for the LED Christmas light component of the program only.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	5 watt incandescent bulb christmas light string (25 bulbs)	mini light incandescent bulb christmas light string (25 bulbs)	
Efficient technology:	LED christmas lights	LED christmas lights	
Number of participants or units deliv	130	130	
Measure life (years):	30	30	

B. **TRC Results:**

TRC Benefits ($):	$	4,035.71
TRC Costs ($):		
Utility program cost (less incentives):	$	835.71
Participant cost:	$	500.00
Total TRC costs:	$	1,335.71
Net TRC (in year CDN $):	$	2,700.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		3.02

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

Conservation Programs:

Demand savings (kW):	*Summer*		
	Winter		1
	lifecycle	*in year*	
Energy saved (kWh):	96,600		3,220
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:	$ 835.71
	Incentive:	$ 550.00
	Total:	$ 1,385.71
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	$ -
Participant costs ($):	*Incremental equipment:*	$ 500.00
	Incremental O&M:	
	Total:	$ 500.00

E. **Comments:**

LDC direct costs were determined based on the assumption that costs were shared as a percentage of overall sales. Incentive dollars are specific to coupon product. The number of LED strings sold through the program was calculated based on an average purchase of a string length of 59 bulbs. The TRC table used a string length of 25 bulbs. Therefore the coupons redeemed was adjusted based on the average sale. (BCP customers redeemed 110 coupons (110 X 59 / 25 = 260 strings of lights). According to the Energy Shop analysis after program completion, 1/2 of the lights purchased replaced 5 watt bulb strings and the other 1/2 replaced mini light strings.

*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:** 2005 Lighten Your Electricity Bill, Programmable Thermostat component of the program

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

Residential Coupon Program running from October 1st to December 31, 2005. Brant County Power Inc. partnered with Energyshop and Canadian Tire to deliver the residential program that offered energy efficient products at a discounted rate. We joined 32 other LDC's across the province to launch a provincial campaign. Included discounts for the following products - ceiling fans, LED Lights, CFL, Programmable Thermostats, Indoor and Outdoor Timers. This Appendix is for the programmable thermostat component of the program only.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Standard Thermostat		
Efficient technology:	Programmable thermostat		
Number of participants or units delivered:	86		
Measure life (years):	18		

B. **TRC Results:**

TRC Benefits ($):	$	24,853.37
TRC Costs ($):		
Utility program cost (less incentives):	$	653.37
Participant cost:	$	2,900.00
Total TRC costs:	$	3,553.37
Net TRC (in year CDN $):	$	21,300.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		6.99

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

Conservation Programs:

Demand savings (kW):	*Summer*		6
	Winter		16
	lifecycle	*in year*	
Energy saved (kWh):	*456,836*		25,380
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:	$ 653.37
	Incentive:	$ 1,290.00
	Total:	$ 1,943.37
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	$ -
Participant costs ($):	*Incremental equipment:*	$ 2,900.00
	Incremental O&M:	
	Total:	$ 2,900.00

E. **Comments:**

LDC direct costs were determined based on the assumption that costs were shared as a percentage of overall sales. Incentive dollars are specific to coupon product. The number of programmable thermostats purchased was used to determine the energy savings both winter and summer. The provincial average use of these thermostats was 17.3% for electrical space heating and 45.0% for air conditioning. These percentages were used to determine the number of thermostats used for each period based on the total number sold (86) to BCP customers.

*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:** 2005 Lighten Your Electricity Bill, indoor timer component of the program

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

Residential Coupon Program running from October 1st to December 31, 2005. Brant County Power Inc. partnered with Energyshop and Canadian Tire to deliver the residential program that offered energy efficient products at a discounted rate. We joined 32 other LDC's across the province to launch a provincial campaign. Included discounts for the following products - ceiling fans, LED Lights, CFL, Programmable Thermostats, Indoor and Outdoor Timers. This Appendix is for the indoor timer component of the program only.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	No timer used		
Efficient technology:	Indoor timer used		
Number of participants or units delivered:	7		
Measure life (years):	20		

B. **TRC Results:**

TRC Benefits ($):	$	909.97
TRC Costs ($):		
Utility program cost (less incentives):	$	75.97
Participant cost:	$	44.00
Total TRC costs:	$	119.97
Net TRC (in year CDN $):	$	790.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		7.58

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

Conservation Programs:

Demand savings (kW):	*Summer*		0.68
	Winter		
	lifecycle		*in year*
Energy saved (kWh):	12,940		647
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:	$ 75.97
	Incentive:	$ 10.00
	Total:	$ 85.97
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	$ -
Participant costs ($):	*Incremental equipment:*	$ 44.00
	Incremental O&M:	
	Total:	$ 44.00

E. **Comments:**

LDC direct costs were determined based on the assumption that costs were shared as a percentage of overall sales. Incentive dollars are specific to coupon product. The TRC savings calculation was completed by SeeLine based on the timers purchased by BCP Customers and their analysis.

*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:** 2005 Lighten Your Electricity Bill, Outdoor timer component of the program

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

Residential Coupon Program running from October 1st to December 31, 2005. Brant County Power Inc. partnered with Energyshop and Canadian Tire to deliver the residential program that offered energy efficient products at a discounted rate. We joined 32 other LDC's across the province to launch a provincial campaign. Included discounts for the following products - ceiling fans, LED Lights, CFL, Programmable Thermostats, Indoor and Outdoor Timers. This Appendix is for the outdoor timer component of the program only.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	2 Flood Lights, 75W Incandescent, on 50% time		
Efficient technology:	Outdoor timer used		
Number of participants or units delivered:	21		
Measure life (years):	20		

B. **TRC Results:**

TRC Benefits ($):		$ 5,159.54
TRC Costs ($):		
	Utility program cost (less incentives):	$ 159.54
	Participant cost:	$ 400.00
	Total TRC costs:	$ 559.54
Net TRC (in year CDN $):		$ 4,600.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		9.22

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

Conservation Programs:

Demand savings (kW):	*Summer*		0
	Winter		4
		lifecycle	*in year*
Energy saved (kWh):		110,380	5,519
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:	$ 159.54
	Incentive:	$ 280.00
	Total:	$ 439.54
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	$ -
Participant costs ($):	*Incremental equipment:*	$ 400.00
	Incremental O&M:	
	Total:	$ 400.00

E. Comments:

LDC direct costs were determined based on the assumption that costs were shared as a percentage of overall sales. Incentive dollars are specific to coupon product. The TRC savings calculation was completed based on the number of timer coupons redeemed and the tables for TRC values.

*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:** 2005 Lighten Your Electricity Bill, Ceiling fan component of the program

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

Residential Coupon Program running from October 1st to December 31, 2005. Brant County Power Inc. partnered with Energyshop and Canadian Tire to deliver the residential program that offered energy efficient products at a discounted rate. We joined 32 other LDC's across the province to launch a provincial campaign. Included discounts for the following products - ceiling fans, LED Lights, CFL, Programmable Thermostats, Indoor and Outdoor Timers. This Appendix is for the ceiling fan component of the program only.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	No fan		
Efficient technology:	Ceiling fan		
Number of participants or units delivered:	16		
Measure life (years):	20		

B. **TRC Results:**

TRC Benefits ($):		
TRC Costs ($):		
Utility program cost (less incentives):	$	121.56
Participant cost:	$	-
Total TRC costs:	$	121.56
Net TRC (in year CDN $):	-$	121.56
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:	$ 121.56
	Incentive:	$ 80.00
	Total:	$ 201.56
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	$ -
Participant costs ($):	*Incremental equipment:*	
	Incremental O&M:	
	Total:	$ -

E. **Comments:**

LDC direct costs were determined based on the assumption that costs were shared as a percentage of overall sales. Incentive dollars are specific to coupon product. The TRC savings calculation was not completed based on insufficient information to calculate savings. Costs for this program component have been included in the gross C&DM expenditures in the residential customer class.

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

Cold *Water Wash*

This Residential Coupon Program ran from October 1st, 2005 until February 28, 2006. Brant County Power Inc. joined with several other LDC's across the province to take part in this coupon program to promote cold water wash detergent in partnership with Proctor and Gamble.

The assumptions used in the TRC projection for this program are:

- The coupons went to all of our 7700 residential customers.
- We have assumed a redemption rate of ½ of 1 percent (a total of 77 coupons redeemed) by the time the program ended at the end of February, 2006.
- Energy savings based on the TRC charts.

NPV based on the TRC calculation for the forecasted results of this program component is $1,200.00.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** 2005 Residential Customer Program, Cold Water Wash coupon mailing

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

We participated in the Provincial Cold Water Wash Coupon insertion program sponsored by Proctor and Gamble

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Average Existing Stock		
Efficient technology:	Cold Water Wash Detergent		
Number of participants or units delivered:	77		
Measure life (years):	1		

B. **TRC Results:**

TRC Benefits ($):		$ 2,300.00
TRC Costs ($):		
	Utility program cost (less incentives):	$ 500.00
	Participant cost:	$ 600.00
	Total TRC costs:	$ 1,100.00
Net TRC (in year CDN $):		$ 1,200.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		2.09

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

Conservation Programs:

Demand savings (kW):	*Summer*		1
	Winter		1
	lifecycle		*in year*
Energy saved (kWh):	35,979		35,979
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:	$ 500.00
	Incentive:	
	Total:	$ 500.00
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	$ -
Participant costs ($):	*Incremental equipment:*	$ 600.00
	Incremental O&M:	
	Total:	$ 600.00

E. **Comments:**

We participated in the Provincial Cold Water Wash Coupon insertion program sponsored by Proctor and Gamble. The program is not complete but the TRC has been calculated based on 1 percent of Brant County Power customers taking advantage of the coupon redemption. (a total of 77 customers and a net (after free riders) of 58 customers)

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

2005 C&DM Other Administration Cost

NEPPA

In 2005 we participated with the NEPPA utility group in development and distribution of the "Conserver Family" energy information and literature. Development costs were shared among the NEPPA group. In addition we hand delivered to all of our customers the "Conserver Family" booklet and have a monthly program to insert "Conserver Family" tips to our customers.

Administrative costs related to participation in the Ontario Caucus Webinars and other general meeting expenses.

Administrative funds are not directly attributed to any one program.

Breakfast Seminar

BCPI hosted a breakfast seminar for our commercial customers >50KW. The seminar featured the IESO – speaking on pricing, SelectCo Inc – speaking how load shifting can save you money and ENERConnect – introduced our new web based customer specific information site. There was 4% participation from this customer class.

Total cost for both these appear in Gross C&DM expenditures total on Appendix A. Program total costs in 2005 were $5,084.82.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** 2005 C&DM Other Administration Cost-NEPPA

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

Cost identified in the appendix are common costs that are not specific to particular activities. Examples of these types of participation within the NEPPA and sharing in cost for "Conserver Family" and "Lighten Your Electricity Bill".

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):	
Participant cost:	
Total TRC costs:	
Net TRC (in year CDN $):	

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:

	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:	$ 3,837.57
	Incentive:	
	Total:	$ 3,837.57
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	
Participant costs ($):	*Incremental equipment:*	
	Incremental O&M:	
	Total:	

E. **Comments:**

General admin, not program specific. These costs include the general program costs allocated to Brant County Power Inc. for the "2005 Lighten Your Electricity Bill" program. Cost for this component are shown in the Gross C&DM expenditures total of Appendix A.

*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:** 2005 C&DM Other Administration Cost-Breakfest Seminar

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

Cost identified in the appendix are related to a Breakfest seminar held in 2005 for our >50KW customers on pricing

Measure(s):

	Measure 1	Measure 2 (if applicable)	asure 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):	
Participant cost:	
Total TRC costs:	
Net TRC (in year CDN $):	
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:

	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:	$ 1,247.25
	Incentive:	
	Total:	$ 1,247.25
Utility indirect costs ($):	*Incremental capital:*	
	Incremental O&M:	
	Total:	
Participant costs ($):	*Incremental equipment:*	
	Incremental O&M:	
	Total:	

E. **Comments:**

Cost for this component are shown in the Gross C&DM expenditures total of Appendix A.

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

4. Lessons Learned

Utility Size Challenges

As a relatively small utility (approximately 9,500 customers) we face challenges that larger utilities do not share. Costs to initiate and operate CDM programs are generally not dependent on utility size thus required some creative approaches. This makes program development and administration cost control difficult. In addition, meeting regulatory and reporting requirements, while important, become a high cost when compared to the overall program budget.

Shared Initiatives and Working Together

Without question shared initiatives reduce the administrative cost component in delivery of CDM programs. Where they apply to our customer groups, they are a very effective way of implementing CDM.

- Two examples of this type of effective initiative in 2005 were the "Lighten Your Electricity Bill" coupon program and the "Conserver Family" customer education and information program.

Customer Education Programs

Customer education is important. It helps ensure that energy efficiency becomes more of a focus for future consumers of electricity. Certainly one of the lessons learned during 2005 is that, while education is important, it is very difficult and can be expensive to quantify the results of customer education. Statistically accurate survey information is expensive and this expense is of particular concern when the CDM budget is relatively small. The result of this issue with customer education and the validation of results is that this type of CDM component may be stopped in future unless some type of reduction in the requirements for TRC analysis is made for customer educational initiatives.

5. Conclusion

In 2005 C&DM was initiated and the programs BCPI were involved with were well received by our customers. We have found that some customers are ready and very willing to participate in using new products and methods for saving energy.

Brant County Power Inc. is committed to C&DM. We will continue to offer programs that benefit our customers in both the short and long term.

Brant County Power Inc. has benefited by actively participating with the NEPPA group to leverage programming, maintaining low cost initiatives through bulk purchasing and whenever possible, fostering a regional solution for our customers. Sharing costs and ideas is both efficient and effective and we will continue to look for those types of opportunities whenever possible.