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Thunder Bay Hydro

2006 Annual Report
CDM Third Tranche Funding,
Thunder Bay Hydro

Distributor Conservation Demand Management Plan Report for Ontario's Energy Culture of Conservation

March 2007

Introduction

The Ontario government is committed to getting Ontarians to conserve electricity by a total of 5% by the end of 2007. The government believes that local distribution utilities need to play a leading role in this 3-year initiative, which began May 1st, 2005. As such, the Ministry of Energy through the Ontario Energy Board has strongly encouraged utility involvement.

To this end, Thunder Bay Hydro Electricity Distribution Inc. has begun implementing its own plan for encouraging customers to conserve electricity. The main focus on the implementation of Thunder Bay Hydro's CDM Plan for 2006 was targeted at Energy Efficiency Projects.

It is our desire to be a conservation leader in our community through partnering with our own local conservation agencies to help this government and the province achieve the targeted 5% reduction. Our plan is intended to cover all areas of conservation and demand management while allowing full participation from all of our customer classes.

Our Unique Circumstance

Since the introduction of Market Based Rate of Return to Ontario distribution utilities, Thunder Bay Hydro has been operating under a 'Rate Minimization' model. The model was mandated by the utility's shareholder, the City of Thunder Bay. The essence of this model is that the City of Thunder Bay has decided that it will forego any financial return from its ownership of Thunder Bay Hydro. The shareholder made this decision in anticipation that avoiding the distribution rate increases associated with a financial return to the City would serve as an economic stimulant in a weak local economy.

In accordance with the 'Rate Minimization' model, Thunder Bay Hydro did not previously apply for the distribution rate increases required to fund a financial rate of return. The utility is essentially operating under a breakeven scenario, where the small return earned is used to fund the capital expenditure program. At this time, the City of Thunder Bay is not considering abandoning the 'Rate Minimization' model.

Evaluation of the CDM Plan

Thunder Bay Hydro Electricity Distribution Inc. main focus on the implementation of the CDM Plan was targeted at Energy Efficiency Projects. These projects included the following.

1. Compact Fluorescent Lamp (CFL) Promotion,
2. Refrigerator Buy-Back Program,
3. Energy Star Appliance Incentive Program,
4. Christmas L.E.D. Light Exchange Program,
5. City of Thunder Bay L.E.D. Traffic Light Conversion Program,
6. Load Control Program,
7. Public Outreach Program,
8. Low Income Program,
9. Fuel Switching Program,
10. Thunder Bay Hydro Distribution System Upgrades,
11. Feasibility Study of Landfill Gas Utilization Project
12. Residential Customer Survey
13. Key Account Seminars

See Appendix A, B, and C Evaluation of the CDM Plan.

Lessons Learned

The customer response to the implementation of the CDM Plan has been very encouraging. The level of customer awareness for conservation and demand management is very high. This was confirmed by the participation levels of the various programs. Thunder Bay Hydro partnered with Eco-Superior Programs to promote the CFL Promotion, Refrigerator Buy Back Program, and the Star Appliance Incentive Program.

Compact Fluorescent Lamp (CFL) Promotion

As part of the Community Outreach Campaign, 3,000 Compact Fluorescent Lamps were purchased in April 2005. Distribution of the CFL's was through various customer contacts (i.e. shows, home visits, etc.). By the end of 2005, 1,800 had been circulated to customers. The remaining 1,200 CFL's were distributed through the same manner in 2006. As more retailers handle the product, the more likely it is that customers will purchase the CFL's. Programs such as this as well as through the efforts of the Ontario Power Authority help bring awareness to the fore front. Energy savings and long lamp life need to be promoted.

Refrigerator Buy-Back Program

The Refrigerator Buy-Back Program was aimed at 3 target areas. The first target was the removal of the "second" refrigerator from the household. The second target was to incent customers to remove an "older" refrigerator and purchase a new Energy Star rated refrigerator. The third target was to safely recycle not only the harmful refrigerants, but also recycle the metallic components to help our environment. Thunder Bay Hydro's original target of 100 units was met in less than 2 months time. The program is seen as a success as found in 2005.

Energy Star Appliance Incentive Program

The Energy Star Appliance Incentive Program was aimed at customers who were considering upgrading their refrigerator, freezer, dishwasher, and clothes washer. As with the Refrigerator Buy Back Program, the Energy Star Appliance Incentive Program also sold-out within 2 months. The program was again well received by our customers.

Lessons Learned

Christmas L.E.D. Light Exchange Program

The Christmas L.E.D. Light Exchange Program was not included in the original CDM Plan. This program was dawned from the closure of Thunder Bay Hydro's Holiday Home Decorating Contest which had been existence for 10 years. The program was aimed at bringing energy conservation and safety awareness to holiday lighting of a home's interior and exterior. Thunder Bay Hydro offered direct exchange of 2 incandescent light sets for 2 energy saving L.E.D. light sets. Each customer was limited to 2 sets. The program was promoted at 2 different sites with the same level of participation. Each site exchanged over 200 sets of L.E.D. Christmas lights in less than one hour. There is high demand for this type of program.

City of Thunder Bay L.E.D. Traffic Light Conversion Program

The L.E.D. Traffic Light Conversion Program is a partnership with the City of Thunder Bay. The program is seen as a huge success. The energy savings received from the conversion work is over 80%. Savings were calculated based on actual pre-conversion and post conversion measurements. Partnering with the City of Thunder Bay proved to be a positive experience with the benefits going towards the municipal tax base. Thunder Bay Hydro looks forward to help the City of Thunder Bay find and implement other energy conservation solutions.

There were 49 intersections converted in 2006. The remaining 25 intersections will be converted from incandescent traffic lights to L.E.D. technology in spring of 2007.

Load Control Program

This program targeted uncontrolled parking lot vehicle receptacles (engine block heaters). The control devices controlled the electricity usage based on ambient temperature. The control devices were designed to provide power at -5 degrees C for a timed duration. As the ambient temperature decreases, the timed cycles increased. At -25 degrees C, the vehicle block heaters would have full power. This program is ideal for LDC's that do not have a demand response program.

Lessons Learned

Public Outreach Program

This program is designed to raise awareness of the need to reduce electricity consumption and to provide customers with simple energy efficiency tips. It will also continue to provide customers with access to Thunder Bay Hydro conservation programs. This program benefits all rate classes. The program will continue to utilize the TBH website, EcoNews and This City tabloids, television and print campaigns, school programs, community presentations, display shows, advisories and Public Service announcements as promotional opportunities.

Low Income Program

This program originally consisted of electrical consumption reduction through the development of the EnerGuide for Homes for low income households. The EnerGuide for Houses program was discontinued by the federal government. Initiatives through Green Communities have not started. Thunder Bay Hydro will continue to support this program when details of Green Communities plan are made available.

Fuel Switching Program

This program will continue in 2007. This program is aimed at customers who have an electric domestic water heater. On-site assessments were conducted to determine if conversions to natural gas-fired units were possible/feasible. In some cases conversion work was not possible due combustion air and venting requirements of natural gas water heaters. Customers would benefit from the removal of the electric water heater to a new natural gas unit at no-charge to them. Most electric water heaters are a minimum of 3 kW of load.

Lessons Learned

Commercial Lighting Program

This Program will be available to specific General Service customers who are our largest customers or their combined portfolios have significant loads. These customers have a peak load of 1 MW or larger, or are part of the “MUSH” sector, or are a property management firm, or a government housing provider. These customers will not only benefit from the incentives, but also the result of more efficient lighting systems. The incentives for energy efficient lighting conversions included T-5 and T-8 fluorescent lighting, L.E.D. exit signs, and high pressure sodium lighting.

Thunder Bay Hydro Distribution System Upgrades

The purpose of this program is to identify "hi-loss" transformers on existing 4kV distribution system lines as well identifying 4kV distribution that is nearing the end of their useful life. Then, on a feeder-by-feeder basis a voltage conversion program would include new transformers on the distribution system to gain efficiencies. This program benefits all rate classes by incorporating transformer upgrades during line upgrades.

It is our experience and that of the industry that area voltage conversions result in line loss savings that benefits all rate classes. This voltage conversion project will upgrade a portion TBH's 4kV distribution to 25kV. This will also allow an existing 4kV substation to be decommissioned.

Feasibility Study of Landfill Gas Utilization Project

This program was aimed at new technology research and development. Thunder Bay Hydro contributed to the feasibility study that was prepared for the proposed "landfill gas utilization" project at the City of Thunder Bay's John Street Landfill Site. Initial assessments indicate a potential of 3.2 MW of electricity generation at this site.

Lessons Learned

Residential Customer Survey

The Customer Appliance Saturation Survey was part of the survey conducted across the province. This survey was originally developed by Hydro One. Marcom Group Inc. coordinated the data from participating LDC's. The survey was held from March 13, 2006 to June 12, 2006. There were over 2,400 Thunder Bay Hydro customers participating in the survey which represents approximately 6% of our residential customer base. The survey results provide valuable information for future programs and feedback for our existing programs.

Key Account Seminars

Key Account Seminars will be focused on continuing to educate customers on the Minister's goal of a 5% reduction in electricity consumption. Thunder Bay Hydro held 2 Key Account Seminars in 2006. The first session was in April and the second session was in October. The October session was jointly hosted by Union Gas. The presentations were "The Bottom line on Energy Management" from the "Dollars to Sense" workshops. The presenters of the workshops were from Tds Dixon Inc. The workshops were also sponsored by Natural Resources Canada and the Independent Electricity System Operator. Key Account Seminars are a very good venue to promote energy conservation to our larger customers. The "Dollars to Sense" workshops provide excellent format for our customers.

Conclusions

The Energy Efficiency Programs Thunder Bay Hydro implemented has all proven to be successful. There have been many positive results from the CDM Plan. The Refrigerator Buy Back and Energy Star Appliance Incentive Programs were the most popular.

Partnerships formed with the City of Thunder Bay and Eco-Superior Programs were both positive experiences. The reduction of electricity usage had and continues to have positive results on the environment.

A revised budget will be submitted. The revised budget will reallocate funds within the existing CDM Plan. Reallocation will not exceed 20% of the original OEB approved CDM Plan.

Appendix B - Discussion of the Program

A. **Name of the Program:** Distribution Efficiency Program Upgrade - Transformer Upgrades

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

The purpose of this program is to identify "hi-loss" transformers on existing 4kV distribution system lines as well identifying 4kV distribution that is nearing the end of their useful life. Then, on a feeder-by-feeder basis a voltage conversion program would include new transformers on the distribution system to gain efficiencies . This program benefits all rate classes by incorporating transformer upgrades during line upgrades.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	None		
Efficient technology:	Transformer Upgrade		
Number of participants or units delivered for reporting year:	220		
Measure life (years):	20		
Number of Participants or units delivered life to date	220		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 133,462.86*	$ 133,462.86
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	*$ 339,147.36*	$ 339,147.36
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 339,147.36	$ 339,147.36
Net TRC (in year CDN $):	$ (205,684.51)	$ (205,684.51)
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 0.39	

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	11.3	11.3
	Winter	11.3	11.3

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*2,474,700*	98,988	2,474,700	98,988
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

Peak load savings (kW):		11.3	11.3
	lifecycle	*in year*	
Energy savings (kWh):	2,494,809	124,740	124,740

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*	$ 309,000.00	$ 309,000.00
	Incremental O&M:	$ 30,147.36	$ 30,147.36
	Incentive:		
	Total:	$ 339,147.36	$ 339,147.36
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

This project impacts 220 residential customers.

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Distribution Efficiency Program Upgrade - Voltage Conversion Project

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

It is our experience and that of the industry that area voltage conversions result in line loss savings that benefits all rate classes. This voltage conversion project will upgrade a portion TBH's 4kV distribution to 25kV. This will also allow an existing 4kV substation to be decommissioned.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	None		
Efficient technology:	Conversion from 4 kV to 25 kV		
Number of participants or units delivered for reporting year:	220		
Measure life (years):	25		
Number of Participants or units delivered life to date	220		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	$ *17,716.31*	$ 17,716.31
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ *263,415.43*	$ 263,415.43
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 263,415.43	$ 263,415.43
Net TRC (in year CDN $):	$ (245,699.12)	$ (245,699.12)
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 0.07	$ 0.07

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

Cumulative Results:

Conservation Programs:

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

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

Peak load savings (kW):		1.5	
	lifecycle	*in year*	
Energy savings (kWh):	413,962	16,558	

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*	$ 240,000.00	$ 240,000.00
	Incremental O&M:	$ 23,415.43	$ 23,415.43
	Incentive:		
	Total:	$ 263,415.43	$ 263,415.43
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

This project impacts 220 residential customers.

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** L.E.D. Traffic Light Conversion

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

The Traffic Light LED Conversion Program is a partnership with the City of Thunder Bay. This program began in the summer of 2005 and continued through 2006. The remaining intersections will be converted in the Spring/Summer of 2007.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Incandescent Lights		
Efficient technology:	L.E.D. Lights		
Number of participants or units delivered for reporting year:	48		
Measure life (years):	10		
Number of Participants or units delivered life to date	83		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 176,794.29*	523,644.49
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	*$ 16,244.45*	$ 61,757.29
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 16,244.45	$ 61,757.29
Net TRC (in year CDN $):	$ 160,549.83	461,887.19
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 10.88	8.48

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	40.74	53.60
	Winter	40.74	53.60

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*3,597,824*	449,728	*7,354,112*	919,264
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 16,244.45	$ 61,757.29
	Incentive:	$ 166,500.00	$ 407,527.28
	Total:	$ 182,744.45	$ 469,284.57
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:	-	-
	Total:	-	-

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Energy Efficiency Programs - Community Outreach Campaign - Seasonal L.E.D. Light Exchange

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

As part of the Community Outreach Program, Thunder Bay Hydro offered our customers a limited number L.E.D. christmas lights. In order to qualify, customers were required to exchange 2 sets of incandescent christmas lights for L.E.D. christmas lights.This program was limited to the first 270 customers. Eligible customers were required to produce a valid Thunder Bay Hydro bill.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	5 W Christmas Lights		
Efficient technology:	C-7 SLED		
Number of participants or units delivered for reporting year:	540		
Measure life (years):	30		
Number of Participants or units delivered life to date	940		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*15,959.39*	27,781.15
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	*5,622.94*	9,825.94
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	5,622.94	9,825.94
Net TRC (in year CDN $):	10,336.45	17,955.21
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	2.84	2.83

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	0.00	0.00
	Winter	4.44	7.73

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*203,653*	10,183	354,508	17,725
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 4,501.80	$ 4,952.69
	Incentive:	$ 5,879.71	$ 8,906.74
	Total:	$ 10,381.51	$ 13,859.43
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 1,121.13	$ 1,846.22
	Total:	$ 1,121.13	$ 1,846.22

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Energy Efficiency Programs: Community Outreach Campaign - Energy Star Clothes Washer Rebate Promotion

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

The Energy Star Appliance Rebate program consisted of incentives for the purchase of Energy Star Rated appliances. Rebates were based on the type of appliance purchased and amount of energy consumed. Indirect costs to Thunder Bay Hydro were to Eco-Superior Programs who were the program delivery agent.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Current standard for clothes washer		
Efficient technology:	Energy Star Front Loading Clothes Washer		
Number of participants or units delivered for reporting year:	68		
Measure life (years):	14		
Number of Participants or units delivered life to date	145		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 40,817.56*	87,037.44
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	*$ 5,263.17*	12,731.43
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 5,263.17	12,731.43
Net TRC (in year CDN $):	$ 35,554.39	74,306.01
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 7.76	6.84

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	1.09	2.32
	Winter	1.27	2.71

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*456,960*	32,640	974,400	69,600
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 3,361.21	$ 4,094.05
	Incentive:	$ 4,390.00	$ 9,310.00
	Total:	$ 7,751.21	$ 13,404.05
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 1,901.97	$ 3,717.38
	Total:	$ 1,901.97	$ 3,717.38

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Energy Efficiency Programs: Community Outreach Campaign - Energy Star Dishwasher Rebate Promotion

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

The Energy Star Appliance Rebate program consisted of incentives for the purchase of Energy Star Rated appliances. Rebates were based on the type of appliance purchased and amount of energy consumed. Indirect costs to Thunder Bay Hydro were to Eco-Superior Programs who were the program delivery agent.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Current standard dishwasher		
Efficient technology:	Energy Star Dishwasher		
Number of participants or units delivered for reporting year:	56		
Measure life (years):	13		
Number of Participants or units delivered life to date	125		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 4,490.25*	$ 10,022.88
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	*$ 4,003.20*	4,854.92
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 4,003.20	4,854.92
Net TRC (in year CDN $):	$ 487.04	5,167.96
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 1.12	2.06

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	0.00	0.00
	Winter	0.13	0.29

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*72,800*	5,600	162,500	12,500
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 2,051.94	$ 2,524.12
	Incentive:	$ 2,680.00	$ 5,850.00
	Total:	$ 4,731.94	$ 8,374.12
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 1,161.11	$ 2,330.80
	Total:	$ 1,161.11	$ 2,330.80

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Energy Efficiency Programs: Community Outreach Campaign - Energy Star Freezer Rebate Promotion

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

The Energy Star Appliance Rebate program consisted of incentives for the purchase of Energy Star Rated appliances. Rebates were based on the type of appliance purchased and amount of energy consumed. Indirect costs to Thunder Bay Hydro were to Eco-Superior Programs who were the program delivery agent.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Current standard for freezer		
Efficient technology:	Energy Star Freezer		
Number of participants or units delivered for reporting year:	27		
Measure life (years):	21		
Number of Participants or units delivered life to date	44		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 1,492.31*	$ 2,431.91
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	*$ 1,949.32*	1,965.97
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 1,949.32	1,965.97
Net TRC (in year CDN $):	-457.01	465.95
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 0.77	1.24

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	0.23	0.37
	Winter	0.24	0.39

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*19,872*	994	32,384	1,619
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 999.17	$ 1,114.61
	Incentive:	$ 1,305.00	$ 2,080.00
	Total:	$ 2,304.17	$ 3,194.61
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 565.39	$ 851.36
	Total:	$ 565.39	$ 851.36

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Energy Efficiency Programs: Community Outreach Campaign - Energy Star Refrigerator Rebate Promotion

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

The Energy Star Appliance Rebate program consisted of incentives for the purchase of Energy Star Rated appliances. Rebates were based on the type of appliance purchased and amount of energy consumed. Indirect costs to Thunder Bay Hydro were to Eco-Superior Programs who were the program delivery agent.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Current standard for refridgerator		
Efficient technology:	Energy Star Refrigerators		
Number of participants or units delivered for reporting year:	94		
Measure life (years):	19		
Number of Participants or units delivered life to date	198		

B. **TRC Results:**

		Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*		*$ 9,879.88*	20,810.80
[2] *TRC Costs ($):*			
Utility program cost (excluding incentives):		*$ 8,954.93*	12,056.19
Incremental Measure Costs (Equipment Costs)			
Total TRC costs:		$ 8,954.93	12,056.19
Net TRC (in year CDN $):		$ 924.95	8,754.61
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		$ 1.10	1.73

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

			Cumulative Results:	
Conservation Programs:				
Demand savings (kW):	*Summer*	1.58	3.32	
	Winter	1.67	3.51	
	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*132,164*	6,956	278,388	14,652
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 4,590.08	$ 5,570.93
	Incentive:	$ 5,995.00	$ 12,580.00
	Total:	$ 10,585.08	$ 18,150.93
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 2,597.33	$ 6,485.26
	Total:	$ 2,597.33	$ 6,485.26

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Residential Refrigerator Buy-Back Program

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

The Refrigerator Buy Back program is aimed at customers that have a second "vintage" refrigerator and have not recycled the old unit. Under this program, Thunder Bay Hydro covers the costs of pick-up, disposal, and refrigerant recycling costs up to a maximum of $59/unit. Indirect costs to Thunder Bay Hydro were to Eco-Superior Programs who were the program delivery agent.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Average existing stock		
Efficient technology:	Recycling Program		
Number of participants or units delivered for reporting year:	123		
Measure life (years):	6		
Number of Participants or units delivered life to date	350		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 61,505.00*	175,014.23
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	*$ 9,324.54*	$ 12,941.48
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 9,324.54	$ 12,941.48
Net TRC (in year CDN $):	$ 52,180.46	162,072.75
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 6.60	13.52

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	33.49	95.29
	Winter	35.38	100.68

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*885,600*	147,600	2,520,000	420,000
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 4,779.53	$ 6,349.01
	Incentive:	$ 6,242.44	$ 16,779.23
	Total:	$ 11,021.97	$ 23,128.24
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 2,704.54	$ 6,592.47
	Total:	$ 2,704.54	$ 6,592.47

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Fuel Switching Programs - Water Heater Conversion Program

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

This program is aimed at customers who have an electric domestic water heater. On-site assessments were conducted to determine if conversions to a natural gas-fired units were possible/feasible. In some cases conversion work was not possible due combustion air and venting requirements of natural gas water heaters.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Current standard electrical water heater		
Efficient technology:	Fuel Switching - Gas Water Heater		
Number of participants or units delivered for reporting year:	8.00		
Measure life (years):	18		
Number of Participants or units delivered life to date	8.00		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 54,170.78*	$ 54,170.78
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	*$ 6,183.79*	$ 7,338.83
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 6,183.79	$ 7,338.83
Net TRC (in year CDN $):	$ 47,986.99	$ 46,831.94
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 8.76	$ 7.38

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	2.86	2.86
	Winter	7.01	7.01

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*720,000*	40,000	*720,000*	40,000
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 5,634.10	$ 5,634.10
	Incentive:	$ -	
	Total:	$ 5,634.10	$ 5,634.10
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 549.69	$ 1,704.73
	Total:	$ 549.69	$ 1,704.73

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Low Income Program

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

This program originally consisted of electrical consumption reduction through the development of the EnerGuide for Homes. This federal program was cancelled in 2006. Energy evaluations through Green Communities had not begun in 2006. Funding will be made available in 2007 when the Green Communities program details are finalized.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	60W Incandescent		
Efficient technology:	CFL Screw-In 15W		
Number of participants or units delivered for reporting year:	2000		
Measure life (years):	4		
Number of Participants or units delivered life to date	2000		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	$ *51,691.55*	$ 51,691.55
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ *9,102.06*	$ 10,802.20
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 9,102.06	$ 10,802.20
Net TRC (in year CDN $):	$ 42,589.49	$ 40,889.35
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 5.68	4.79

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	0.00	0.00	
	Winter	45.00	45.00	

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*835,200*	208,800	*835,200*	208,800
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 8,292.96	$ 8,292.96
	Incentive:	-	
	Total:	$ 8,292.96	$ 8,292.96
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 809.10	$ 2,509.24
	Total:	$ 809.10	$ 2,509.24

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Energy Efficiency Programs: Community Outreach Campaign - Compact Fluorescent Lamp Promotic

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

This program is part of the Community Outreach campaign. This consists of giveaways of 1,200 (from original 3,000 started in 2005) bulbs at local trade shows and community presentations. The program benefits customers in the residential rate class. The derived wattage benefit is calculated based on a 15W bulb replacing a 60W bulb. Although we can't be certain that individuals will continue using CFLs, we are confident that this program combined with our education efforts will instill a conservation culture shift

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	60W Incandescent		
Efficient technology:	CFL Screw-In 15W		
Number of participants or units delivered for reporting year:	1200		
Measure life (years):	4		
Number of Participants or units delivered life to date	3000		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 31,014.93*	$ 77,537.33
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ -	5,570.95
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ -	5,570.95
Net TRC (in year CDN $):	$ 31,014.93	71,966.37
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 31,014.93	13.92

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	0	0.00	
	Winter	27.00	67.50	
	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*501,120*	125,280	1,252,800	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 beginning of year (%):		
Distribution system power factor at end of year (%):		

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ -	$ 1,602.14
	Incentive:		$ 10,756.00
	Total:	$ -	$ 12,358.14
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:	$ -	$ 3,968.81
	Total:	$ -	$ 3,968.81

E. Assumptions & Comments:

Administration and utlity costs were claimed in 2005 Annual CDM Report.

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

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

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

This program targeted uncontrolled parking lot vehicle receptacles (engine block heaters). The control devices controlled the electricity usage based on ambient temperature. The control devices were designed to provide power at -5 degrees C for a timed duration. As the ambient temperature decreases, the timed cycles increased. At -25 degrees C, the vehicle block heaters would have full power.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	None		
Efficient technology:	Load Controls		
Number of participants or units delivered for reporting year:	53		
Measure life (years):	10		
Number of Participants or units delivered life to date	53		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 13,845.34*	$ 13,845.34
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	*$ 614.30*	$ 614.30
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 614.30	$ 614.30
Net TRC (in year CDN $):	$ 13,231.04	$ 13,231.04
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 22.54	$ 22.54

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	0.00	0.00
	Winter	23.85	23.85

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*173,628*	17,363	173,628	17,363
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 614.30	$ 614.30
	Incentive:	$ 6,296.40	$ 6,296.40
	Total:	$ 6,910.70	$ 6,910.70
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

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

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

The Customer Appliance Saturation Survey was part of the survey conducted across the province. This survey was originally developed by Hydro One. Marcom Group Inc. coordinated the data from participating LDC's. The survey was held from March 13, 2006 to June 12, 2006.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	None		
Efficient technology:	None		
Number of participants or units delivered for reporting year:	2463		
Measure life (years):	-		
Number of Participants or units delivered life to date	2463		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*		
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ 6,185.63	
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 6,185.63	
Net TRC (in year CDN $):		
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		

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

Cumulative Results:

Conservation Programs:

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

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 549.85	
	Incentive:		
	Total:	$ 549.85	
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:	5,635.78	
	Total:	5,635.78	

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Research & Development - New Technology

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

This program was aimed at new technology research and development. Thunder Bay Hydro contributed to the feasibility study that was prepared for the proposed "landfill gas utilization" project at the City of Thunder Bay's John Street Landfill Site. Initial assessments indicate a potential of 3.2 MW of electricity generation at this site.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	None		
Efficient technology:	None		
Number of participants or units delivered for reporting year:			
Measure life (years):			
Number of Participants or units delivered life to date			

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*		
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ 21,951.29	
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 21,951.29	
Net TRC (in year CDN $):		
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		

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

Cumulative Results:

Conservation Programs:

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

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):			

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 21,951.29	
	Incentive:		
	Total:	$ 21,951.29	
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Key Accounts Seminars

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

Thunder Bay Hydro held 2 Key Account Seminars in 2006. The first session was in April and the second session was in October. The October sesion was jointly hosted by Union Gas. The presentations were "The Bottom line on Energy Management" from the Dollars to Sense Workshops. The workshops were also sponsored by Natural Resources Canada and the Independent Electricity System Operator.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	None		
Efficient technology:	None		
Number of participants or units delivered for reporting year:	49		
Measure life (years):			
Number of Participants or units delivered life to date	49		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*		
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ 4,390.89	
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 4,390.89	
Net TRC (in year CDN $):		
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		

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

Conservation Programs:

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

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 4,390.89	
	Incentive:		
	Total:	$ 4,390.89	
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Energy Efficiency Programs - Public Outreach

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

This program is designed to raise awareness of the need to reduce electricity consumption and to provide customers with simple energy efficiency tips. It will also continue to provide customers with access to Thunder Bay Hydro conservation programs. This program benefits all rate classes. The program will continue to utilize the TBH website, EcoNews and This City tabloids, television and print campaigns, school programs, community presentations, display shows, advisories and Public Service announcements as promotional opportunities.

Measure(s):

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

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*		
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ 1,646.35	
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 1,646.35	
Net TRC (in year CDN $):	-$ 1,646.35	
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ -	

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

Cumulative Results:

Conservation Programs:

		lifecycle	in year	*Cumulative Lifecycle*	Cumulative Annual Savings
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 beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 1,646.35	
	Incentive:		
	Total:	$ 1,646.35	
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

A. **Name of the Program:** Energy Efficiency Programs: Commercial Lighting Incentive-Summary

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

This Program was available to specific General Service customers who are our largest customers or their combined portfolios have significant loads. These customers have a peak load of 1 MW or larger, or are part of the "MUSH" sector, or are a property management firm, or a government housing provider. These customers will not only benefit from the incentives, but also the result of more efficient lighting systems. Long term energy savings are expected to last 10 to 15 years.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Varies		
Efficient technology:	See Comments		
Number of participants or units delivered for reporting year:	7		
Measure life (years):	Varies		
Number of Participants or units delivered life to date	7		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 67,036.88*	$ 67,036.88
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	*$ 475.72*	$ 475.72
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 475.72	$ 475.72
Net TRC (in year CDN $):	$ 66,561.16	$ 66,561.16
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 140.92	$ 140.92

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	21.23	21.23
	Winter	22.34	22.34

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*839,966*	109,616	839,966	109,616
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:	$ 475.72	$ 475.72
	Incentive:	$ 4,876.00	$ 4,876.00
	Total:	$ 5,351.72	$ 5,351.72
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

This program was targetted at our 35 largest customers. At year end 7 Customers had participated in 2006. This program extends in to 2007. There were 177 fluorescent 2 lamp ballast/lamp, 56 LED exit signs, and 26 HPS lamp/fixtures converted.

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit b

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made

Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. **Name of the Program:**

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

Measure(s):

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

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*		
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):		
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:		
Net TRC (in year CDN $):		
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*		
	Winter		

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):				
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

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

Demand Response Programs:

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

Power Factor Correction Programs:

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

Line Loss Reduction Programs:

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

Distributed Generation and Load Displacement Programs:

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

Other Programs (specify):

Metric (specify):		

D. **Actual Program Costs:**

		Reporting Year	Cumulative Life to Date
Utility direct costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Incentive:		
	Total:		
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

[1] Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit benefit specified in the TRC Guide.

[2] For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made to a third party service provider to run an incentives program are program costs, and are to be included as TRC costs under the "Utility Program Costs" line.

Appendix C - Program and Portfolio Totals

Report Year: **2006**

1. Residential Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures ($)
Seasonal LED Light Exchange	$ 15,959	$ 5,623	$ 10,336	2.84	10,183	203,653	4.44	$ 11,503
Energy Star-Clothes Washer Incent	$ 40,818	$ 5,263	$ 35,554	7.76	32,640	456,960	1.27	$ 9,653
Energy Star-Dishwasher Incentive	$ 4,490	$ 4,003	$ 487	1.12	5,600	72,800	0.13	$ 5,893
Energy Star-Freezer Incentive	$ 1,492	$ 1,949	-$ 457	0.77	994	19,872	0.24	$ 2,870
Energy Star-Refrigerator Incentive	$ 9,880	$ 8,955	$ 925	1.10	6,956	132,164	1.67	$ 13,182
Refrigerator Buy-back	$ 61,505	$ 9,325	$ 52,180	6.60	147,600	885,600	35.38	$ 13,727
Public Outreach		$ 1,646						$ 1,646
Water Heater Conversion Program	$ 54,171	$ 6,184	$ 47,987	8.76	40,000	720,000	7.01	$ 6,184
Low Income Program	$ 51,692	$ 9,102	$ 42,589	5.68	208,800	835,200	0.00	$ 9,102
Compact Fluorescent Lamp Promo	$ 31,015	$ -	$ 31,015	0.00	125,280	501,120	0.00	$ -
Customer Saturation Survey		$ 6,186	-$ 6,186	0.00				$ 6,186
***Totals App. B - Residential**	$ 271,022	$ 58,236	$ 212,786	4.65	578,052	3,827,369	50.14	$ 79,945
Residential Indirect Costs not attributable to any specific program	→							
Total Residential TRC Costs		$ 58,236						
****Totals TRC - Residential**	**$ 271,022**	**$ 58,236**	**$ 212,786**	**4.65**				

2. Commercial Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures ($)
LED Traffic Light Conversion	$ 176,794	$ 16,244	$ 160,550	10.88	449,728	3,597,824	40.74	$ 182,744
Load Control Program	$ 13,845	$ 614	$ 13,231	22.54	17,363	173,628	23.85	$ 6,911
Commercial Lighting	$ 67,037	$ 476	$ 66,561	140.92	109,616	839,966	22.34	$ 5,352
Name of Program D			$ -	0.00				
Name of Program E			$ -	0.00				
Name of Program F			$ -	0.00				
Name of Program G			$ -	0.00				
Name of Program H			$ -	0.00				
Name of Program I			$ -	0.00				
Name of Program J			$ -	0.00				
***Totals App. B - Commercial**	$ 257,677	$ 17,334	$ 240,342	14.86	576,706	4,611,418	87	$ 195,007

Commercial Indirect Costs not attributable to any specific program	→								
Total TRC Costs			$ 17,334						
****Totals TRC - Commercial**	**$**	**257,677**	**$**	**17,334**	**$**	**240,342**	**14.86**		

3. Institutional Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures ($)
Name of Program A			$ -	0.00				
Name of Program B			$ -	0.00				
Name of Program C			$ -	0.00				
Name of Program D			$ -	0.00				
Name of Program E			$ -	0.00				
Name of Program C			$ -	0.00				
Name of Program G			$ -	0.00				
Name of Program H			$ -	0.00				
Name of Program I			$ -	0.00				
Name of Program J			$ -	0.00				
***Totals App. B - Institutional**	$ -	$ -	$ -	0.00	0	0	0	$ -
Institutional Indirect Costs not attributable to any specific program	→							
Total TRC Costs		$ -						
****Totals TRC - Institutional**	**$ -**	**$ -**	**$ -**	**0.00**				

4. Industrial Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures ($)
Key Account Seminars		$ 4,391	-$ 4,391	0.00				$ 4,391
Research & Development-Technology		$ 21,951	-$ 21,951	0.00				$ 21,951
Name of Program C			$ -	0.00				
Name of Program D			$ -	0.00				
Name of Program E			$ -	0.00				
Name of Program F			$ -	0.00				
Name of Program G			$ -	0.00				
Name of Program H			$ -	0.00				

Name of Program I			$ -	0.00				
Name of Program J			$ -	0.00				
***Totals App. B - Industrial**	$ -	$ 26,342	-$ 26,342	0.00	0	0	0	$ 26,342
Industrial Indirect Costs not attributable to any specific program →								
Total TRC Costs		$ 26,342						
****Totals TRC - Industrial**	**$ -**	**$ 26,342**	**-$ 26,342**	**0.00**				

5. Agricultural Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures ($)
Name of Program A			$ -	0.00				
Name of Program C			$ -	0.00				
Name of Program C			$ -	0.00				
Name of Program D			$ -	0.00				
Name of Program E			$ -	0.00				
Name of Program F			$ -	0.00				
Name of Program G			$ -	0.00				
Name of Program H			$ -	0.00				
Name of Program I			$ -	0.00				
Name of Program J			$ -	0.00				
***Totals App. B - Agricultural**	$ -	$ -	$ -	0.00	0	0	0	$ -
Agricultural Indirect Costs not attributable to any specific program →								
Total TRC Costs		$ -						
****Totals TRC - Agricultural**	**$ -**	**$ -**	**$ -**	**0.00**				

6. LDC System Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures ($)
Voltage Conversion	$ 17,716	$ 263,415	-$ 245,699	0.07	16,558	413,962	1.50	$ 263,415
Transformer Upgrade	$ 133,463	$ 339,147	-$ 205,685	0.39	98,988	2,474,700	11.30	$ 339,147

Name of Program C			$ -	0.00					
Name of Program D			$ -	0.00					
Name of Program E			$ -	0.00					
Name of Program F			$ -	0.00					
Name of Program G			$ -	0.00					
Name of Program H			$ -	0.00					
Name of Program I			$ -	0.00					
Name of Program C			$ -	0.00					
***Totals App. B - LDC System**	$ 151,179	$ 602,563	-$ 451,384	0.25	115,546	2,888,662	13	$ 602,563	
LDC System Indirect Costs not attributable to any specific program →									
Total TRC Costs		$ 602,563							
****Totals TRC - LDC System**	**$ 151,179**	**$ 602,563**	**-$ 451,384**	**0.25**					

7. Smart Meters Program

Only spending information that was authorized under the 3rd tranche of MARR is required to be reported for Smart Meters.

Report Year Gross C&DM Expenditures ($) →	

8. Other #1 Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures ($)
Name of Program A			$ -	0.00				
Name of Program B			$ -	0.00				
Name of Program C			$ -	0.00				
Name of Program D			$ -	0.00				
Name of Program E			$ -	0.00				
Name of Program F			$ -	0.00				
Name of Program G			$ -	0.00				
Name of Program H			$ -	0.00				
Name of Program I			$ -	0.00				
Name of Program J			$ -	0.00				
***Totals App. B - Other #1**	$ -	$ -	$ -	0.00	0	0	0	$ -
Other #1 Indirect Costs not attributable to any specific program →								
Total TRC Costs		$ -						
****Totals TRC - Other #1**	**$ -**	**$ -**	**$ -**	**0.00**				

9. Other #2 Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures ($)
Name of Program A			$ -	0.00				
Name of Program B			$ -	0.00				
Name of Program C			$ -	0.00				
Name of Program D			$ -	0.00				
Name of Program E			$ -	0.00				
Name of Program C			$ -	0.00				
Name of Program G			$ -	0.00				
Name of Program H			$ -	0.00				
Name of Program I			$ -	0.00				
Name of Program J			$ -	0.00				
***Totals App. B - Other #2**	$ -	$ -	$ -	0.00	0	0	0	$ -
Other #2 Indirect Costs not attributable to any specific program →								
Total TRC Costs		$ -						
****Totals TRC - Other #2**	**$ -**	**$ -**	**$ -**	**0.00**				

LDC's CDM PORTFOLIO TOTALS

	TRC Benefits (PV)	TRC Costs (PV)	$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures ($)
***TOTALS FOR ALL APPENDIX B**	$ 679,877	$ 704,475	-$ 24,598	0.97	$ 1,270,305	$ 11,327,450	$ 150	$ 903,857
*Any **other** Indirect Costs not attributable to any specific program* →								
TOTAL ALL LDC COSTS		$ 704,475						
****LDC' PORTFOLIO TRC**	$ 679,877	$ 704,475	-$ 24,598	0.97				

* The savings and spending information from this row is to be carried forward to Appendix A.

** The TRC information from this row is to be carried forward to Appendix A.

Appendix A - Evaluation of the CDM Plan

Highlighted boxes are to be completed manually, white boxes are linked to Appendix C and will be brought forward automatically.

	[5] Cumulative Totals Life-to-date	Total for 2006	Residential	Commercial	Institutional	Industrial	Agricultural	LDC System	[4] Smart Meters	Other #1	Other #2
Net TRC value ($):	*$ 309,622*	**-$ 24,598**	**$ 212,786**	**$ 240,342**	**$ -**	**$ (26,342)**	**$ -**	**$ (451,384)**		**$ -**	**$ -**
Benefit to cost ratio:	*1.40*	0.97	4.65	14.86	0.00	0.00	0.00	0.25		0.00	0.00
Number of participants or units delivered:	*2,830*	*101*	0	101							
Lifecycle (kWh) Savings:	*17,973,222*	11,327,450	3,827,369	4,611,418	0	0	0	2,888,662		0	0
Report Year Total kWh saved (kWh):	*3,146,134*	1,270,305	578,052	576,706	0	0	0	115,546		0	0
Total peak demand saved (kW):	*310.27*	150	50	87	0	0	0	13		0	0
Total kWh saved as a percentage of total kWh delivered (%):	*0.15%*	0.12%	0.17%	0.40%	-	-	-	0.01%			
Peak kW saved as a percentage of LDC peak kW load (%):	*0.08%*	0.08%	-	-	-	-	-	0.01%			
[1] *Report Year Gross C&DM expenditures ($):*	*$ 1,250,373*	$ 903,857	$ 79,945	$ 195,007	$ -	$ 26,342	$ -	$ 602,563	$ -	$ -	$ -
[2] *Expenditures per KWh saved ($/kWh):*	*$ 0.40*	$ 0.08	$ 0.02	$ 0.04	$ -	$ -	$ -	$ 0.21		$ -	$ -
[3] *Expenditures per KW saved ($/kW):*	*$ 4,029.98*	$ 6,030.59	$ 1,594.30	$ 2,243.15	$ -	$ -	$ -	$ 47,075.22		$ -	$ -

Utility discount rate (%):	1.47

[1] Expenditures are reported on accrual basis.
[2] Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate energy savings.
[3] Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate capacity savings.
[4] Please report spending related to 3rd tranche of MARR funding only. TRC calculations are not required for Smart Meters. Only actual expenditures for the year need to be reported.
[5] Includes total for the reporting year, plus prior year, if any (for example, 2006 CDM Annual report for third tranche will include 2005 and 2004 numbers, if any.

UTILITY PROGRAM COSTS

		w/o Capital	
Total CDM Reported-Capital	549,000.00		check
Total CDM Reported Non-Capital	274,511.70		$0.00
Admin Costs to Be Allocated	80,345.33		
Total CDM Inc. Admin	903,857.03	354,857.03	

	Free Rider		admin alloc	Total	Admin Alloc		Com Outreach	
Distibution Upgrade-25kV	30%	240,000.00	23,415.43	**263,415.43**	29.14%			
Distibution Upgrade-XFMRS	30%	309,000.00	30,147.36	**339,147.36**	37.52%			
LED Traffic Lights	30%	166,500.00	16,244.45	**182,744.45**	20.22%			Common Outreach Costs
Community Outreach	10%	51,775.88	5,051.48	56,827.36	6.29%			20,283.73
Key Accounts	10%	4,000.58	390.31	4,390.89	0.49%		1,442.97	
Commercial Lighting	10%	4,876.00	475.72	5,351.72	0.59%			
Load Control	10%	6,296.40	614.30	6,910.70	0.76%		2,271.05	
Low Income	10%	8,292.96	809.10	9,102.06	1.01%		2,991.19	
Public Outreach	10%	1,500.00	146.35	1,646.35	0.18%		541.04	
Research	10%	20,000.00	1,951.29	21,951.29	2.43%		7,213.81	
Customer Survey	10%	5,635.78	549.85	6,185.63	0.68%		2,032.77	
Water Heater Conversion	10%	5,634.10	549.69	6,183.79	0.68%		2,032.17	
		823,511.70	80,345.33	903,857.03	100.00%	6.83%	18,525.00	

Community Outreach Costs: Segregated by Program

		Participant Cost	Adj for Free Rider	Alloc Common	*Total Direct*	Eco Share	Admin Alloc	*Total Indirect*	*Total Utility Costs*	Utility Prog Cost	Participants
Refrigerator Buy Back	10%	$6,242.44	$5,618.20	$4,779.53	$11,021.97	$1,514.24	$1,190.30	*$2,704.54*	***$13,726.51***	$4,455.58	123
Refrigerators	10%	$5,995.00	$5,395.50	$4,590.08	$10,585.08	$1,454.22	$1,143.12	*$2,597.33*	***$13,182.41***	$4,278.97	94
Freezers	10%	$1,305.00	$1,174.50	$999.17	$2,304.17	$316.56	$248.84	*$565.39*	***$2,869.57***	$931.45	27
Dishwashers	10%	$2,680.00	$2,412.00	$2,051.94	$4,731.94	$650.09	$511.02	*$1,161.11*	***$5,893.05***	$1,912.87	56

Clothes Washers	10%	$4,390.00	$3,951.00	$3,361.21	$7,751.21	$1,064.89	$837.08	*$1,901.97*	***$9,653.17***	$3,133.39	68
Christmas LED	5%	$5,879.71	$5,585.72	$4,501.80	$10,381.51	$0.00	$1,121.13	*$1,121.13*	***$11,502.65***	$5,622.94	540
Compact Fluorescent Lights	10%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	*$0.00*	***$0.00***	$0.00	1200
Total		**$26,492.15**	**$24,136.92**	**$20,283.73**	**$46,775.88**	**$5,000.00**	**$5,051.48**	***$10,051.48***	***$56,827.36***	**$20,335.21**	

LED Traffic Lights	
Key Accounts	48
Commercial Lighting	
Load Control	1
Low Income	2000
Research	1
Customer Survey	
Water Heater Conversion	8
Total	
	4166