

TERRACE BAY SUPERIOR WIRES INC. – RP-2004-0203\EB-2004-0547 2006 Conservation and Demand Annual Report – Third Tranche Funding

1. Introduction

In February of 2005, Terrace Bay Superior Wires Inc.(TBSW)'s Conservation and Demand Management (CDM) Plan was approved by the Ontario Energy Board. The Plan budget is approximately \$46,334, which is consistent with the third installment of MARR. In formulating this Plan, TBSW's objectives were to foster a conservation culture in its service area, encourage the use of energy-wise products and appliances and provide practical solutions which would, once completed, benefit all customer classes, while utilizing existing staffing resources, thereby minimizing plan administration, consulting and delivery costs.

2. Evaluation of the CDM Plan (Appendix A & C Attached)

Continued delivery of our Conservation Plan in 2006 included four initiatives including a Smart Bulb Give-Away, Holiday Light Swap, Street Lighting Lamp Exchanges and System Optimization efforts. Of all the measures implemented, our analysis shows that the Bulbs and Holiday Lights continue to generate the highest energy savings over their lifecycle. All initiatives were well received by the community and we were thankful for the interest and opportunity to discuss conservation on an individual basis with concerned customers.

3. Discussion of Program (Appendix B Attached)

In 2006, initiatives under our Conservation Program were conducted, as well as our Distribution System Optimization Program.

Conservation & Demand:

- 1) **Smart Bulb Give-Away:** This promotion involved handouts of 300 packs of 2 - 13W Mini CFL Bulbs for a total bulb distribution of 600 units. This initiative targeted Residential customers and was 100% successful, with customers responding immediately to receive their bulbs at our reception counters. The Mini design of these CFL bulbs added to their appeal providing an energy saving replacement bulb for small lighting fixtures that could not accommodate regular size CFL's.
- 2) **Holiday Light Exchange:** This involved bringing in an old set of holiday lights and receiving an LED Holiday Set coupon voucher, which was redeemed at a local hardware store. Residential customers redeemed 100% of these coupons within a short period, making this initiative even more popular than last year.
- 3) **Street Lighting Lamp Exchange:** This initiative included supplying the Township of Terrace Bay with 24 lower wattage high-pressure sodium street lighting lamps, for energy savings of 25 watts per unit. Additional minor demand savings are expected

but not quantified at this point. This conservation effort is considered to be 100% successful and will benefit all customer classes.

- 4) **Distribution System Optimization:** This LDC initiative comprised of exchanging 50 existing service connectors to Ampact Tap connectors. These Ampact connectors are more energy efficient than existing connectors, resulting in annual energy savings of 105 kwhs per unit. This program initiative also included tree brushing to augment future line loss savings, as well as provide benefits in way of system reliability and optimized performance. Although forecasted lifecycle benefits were not as high as expected, this project is considered successful and will prove itself over time when line loss savings are fully realized. All customer classes will benefit from this conservation effort.

4. Lessons Learned

Although all four initiatives were well received and considered successful, the Holiday Light Swap and CFL Bulb handouts were the most popular with customers and realized the highest lifecycle savings. Of all initiatives, these practical energy-saving efforts are beneficial to helping our customers not only develop, but continue to maintain a conservation culture in the future.

Customer service continued to increase in 2006, in way of explaining energy saving tips and making recommendations to customers on a one-to-one basis. Customers have responded favorably to conservation tips and are becoming more aware of energy-saving products. They are learning and implementing practical ways to reduce electricity consumption in their homes in an effort to reduce energy costs.

It has become evident that, although certain conservation efforts can be quantified in terms of huge energy savings, while others result in lower estimations with 'expected' long-term energy benefits, over time, all conservation efforts will definitely pay off.

5. Conclusion

Overall, we feel our initiatives were practical and successful. It is evident that the conservation message is reaching energy consumers and we look forward to continuing to foster a conservation culture in our community in 2007.

Respectfully Submitted by:

J. Mariette Mifflin, General Manager

Date

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	Smart Meters	Other #1	Other #2
Net TRC value (\$):	3168.7	\$ 6,955	\$ 13,322	\$ -	\$ -	\$ 55	\$ -	\$ (20,333)		\$ -	\$ -
Benefit to cost ratio:	1.08	0.78	4.22	0.00	0.00	1.05	0.00	0.22		0.00	0.00
Number of participants or units delivered:	1,337	758	684			24		50			
Lifecycle (kWh) Savings:	798380	411,266	282,492	0	0	23,654	0	105,120		0	0
Report Year Total kWh saved (kWh):	139655	71,880	63,996	0	0	2,628	0	5,256		0	0
Total peak demand saved (kW):		0	0	0	0	0	0	0		0	0
Total kWh saved as a percentage of total kWh delivered (%):	1.71%		0.71%			0.97%		0.03%			
Peak kW saved as a percentage of LDC peak kW load (%):											
¹ Report Year Gross C&DM expenditures (\$):	\$ 34,848.18	\$ 30,040	\$ 2,775	\$ -	\$ -	\$ 1,140	\$ -	\$ 26,125	\$ -	\$ -	\$ -
² Expenditures per KWh saved (\$/kWh):	0.04	\$ 0.07	\$ 0.01	\$ -	\$ -	\$ 0.05	\$ -	\$ 0.25		\$ -	\$ -
³ Expenditures per KW saved (\$/kW):		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -
Utility discount rate (%):	0.0813										

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).

Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. Name of the Program: Conservation - Residential

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

Practical energy saving solutions for Residential customers. Terrace Bay Superior Wires Inc. did not have partnerships in the delivery

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	60 W Incandescent Bulbs	5 W Traditional Holiday Lights	
Efficient technology:	13 W CFL Bulb	LED Holiday Lights	
Number of participants or units delivered for reporting year:		600 84	
Measure life (years):		4 20	

Number of Participants or units delivered life to date

1050 142

B. TRC Results:

Reporting Year

Life-to-date TRC Results:

¹ TRC Benefits (\$):	\$	17,465.31	38338.07
² TRC Costs (\$):			
Utility program cost (excluding incentives):	\$	2,774.96	6143.02
Incremental Measure Costs (Equipment Costs)	\$	1,368.00	8749
Total TRC costs:	\$	4,142.96	14892.02
Net TRC (in year CDN \$):	\$	13,322.35	23446.05
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	\$	4.22	2.57

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):	282492	63996	669606	131771
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:

\$ 2,774.96 \$ 7,133.02

\$ 2,774.96 \$ 7,133.02

Utility indirect costs (\$):

Incremental capital:

Incremental O&M:

Total:

\$ 449.68

\$ 449.68

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 B - Discussion of the Program

(complete this Appendix for each program)

A. Name of the Program: Conservation - Street Lighting (Industrial)

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

Practical long-term energy saving program for municipal street lighting system

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	250 W Street Lighting Lamps		
Efficient technology:	225 W HP Street Lighting Lamp		
Number of participants or units delivered for reporting year:		24	
Measure life (years):		9	
Number of Participants or units delivered life to date		24	

B. TRC Results:	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):	\$ 1,195.79	1195.79
² TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 1,140.48	1140.48
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	\$ 1,140.48	1140.48
Net TRC (in year CDN \$):	\$ 55.31	55.31
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	\$ 1.05	1.05

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):	23654	2628	23654	2628
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:

\$

1,140.48

\$

1,140.48

\$

1,140.48

\$

1,140.48

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 B - Discussion of the Program

(complete this Appendix for each program)

A. Name of the Program: LDC System Optimization

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

Changing of existing service connectors to Ampact brand, coupled with brushing is expected to not only result in direct energy savings f

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Replace Existing Connectors		
Efficient technology:	Ampact Tap connectors		
Number of participants or units delivered for reporting year:	50		
Measure life (years):	20		
Number of Participants or units delivered life to date	50		

B. TRC Results:	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):	\$ 5,792.05	5792.05
² TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 26,125.00	26125
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	\$ 26,125.00	26125
Net TRC (in year CDN \$):	-\$ 20,332.95	20332.95
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	\$ 0.22	0.22

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	Summer				
	Winter				
	lifecycle			Cumulative Lifecycle	Cumulative Annual Savings
Energy saved (kWh):	105120	5256		105120	5256
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:

\$

20,900.00

\$

20,900.00

Incremental O&M:

\$

5,225.00

\$

5,225.00

Incentive:

Total:

\$

26,125.00

\$

26,125.00

Utility indirect costs (\$):

Incremental capital:

Incremental O&M:

Total:

E. Assumptions & Comments:

In the absence of TRC data for Connector Changes, expected savings figures were based on estimations from AMP Power Technology

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 (\$)
Conservation - Residential	\$ 17,465	\$ 4,143	\$ 13,322	4.22	63,996	282,492		\$ 2,775
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 - Residential	\$ 17,465	\$ 4,143	\$ 13,322	4.22	63,996	282,492	0	\$ 2,775

Residential Indirect Costs not
attributable to any specific program

Total Residential TRC Costs	\$ 17,465	\$ 4,143	\$ 13,322	4.22				
------------------------------------	-----------	----------	-----------	------	--	--	--	--

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 (\$)
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 - Commercial	\$ -	\$ -	\$ -	0.00	0	0	0	\$ -

Commercial Indirect Costs not attributable to any specific program

Total TRC Costs

	\$	-	\$	-	\$	-	0.00
**Totals TRC - Commercial	\$	-	\$	-	\$	-	0.00

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	0	0		\$ -
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

	\$	-	\$	-	\$	-	0.00
**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 (\$)
Cons - Municipal Street Lighting	\$ 1,196	\$ 1,140	\$ 55	1.05	2,628	23,654		\$ 1,140
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				

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	\$ -	\$ -	0.00				

****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	\$ 24,453	\$ 31,408	0.78	71,880	\$ 411,266	\$ -	\$ 30,040
Any <i>other</i> Indirect Costs not attributable to any specific program							
TOTAL ALL LDC COSTS	\$ 24,453	\$ 31,408	0.78				
**LDC' PORTFOLIO TRC	\$ 24,453	\$ 31,408	0.78				

* 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.