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 ($):	**$ 601,331**	**$ 283,864**	**$ 98,485**	**$ 20,709**	**$ 65,686**	**$ 142,591**	**$ -**	**$ (31,970)**		**$ (11,636)**	**$ -**
Benefit to cost ratio:	**1.88**	1.56	1.97	1.10	2.22	2.40	0.00	0.00		0.14	0.00
Number of participants or units delivered:	**8,138**	6,271	1,849	2,677	156	1,573				16	0
Lifecycle (kWh) Savings:	**22,842,384**	13,539,496	3,299,613	3,312,409	1,718,058	5,181,416	0	0		28,000	0
Report Year Total kWh saved (kWh):	**2,323,566**	1,433,596	401,929	538,419	161,135	328,658	0	0		3,456	0
Total peak demand saved (kW):	**652**	344	106	119	61	55	0	0		2	0
Total kWh saved as a percentage of total kWh delivered (%):	**0.41%**	0.26%	0.07%	0.10%	0.03%	0.06%		0.00%		0.00%	0.00%
Peak kW saved as a percentage of LDC peak kW load (%):	***N/A***	0.32%	0.10%	0.11%	0.06%	0.05%		0.00%		0.00%	0.00%
[1] *Report Year Gross CDM expenditures ($):*	**$ 532,001**	$ 339,836	$ 96,825	$ 103,146	$ 30,869	$ 62,962	$ -	$ 31,970	$ -	$ 14,064	$ -
[2] *Expenditures per lifecycle KWh saved ($/kWh):*	**$ 0.02**	$ 0.03	$ 0.03	$ 0.03	$ 0.02	$ 0.01	$ -	$ -		$ 0.50	$ -
[3] *Expenditures per KW saved ($/kW):*	**$ 815.93**	$ 987.84	$ 911.04	$ 865.57	$ 503.08	$ 1,142.90	$ -	$ -		$ 6,621.09	$ -

Utility discount rate (%):	**6.097%**

[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.

Comments

1) Information Based Program (Consumer Education) is included as part of Net TRC or Benefit to Cost Ratio as there are measurable results for promotional handouts such as CFL's which are assumed installed by the customer.

2) Units are selected as opposed to participants to cover actual numbers of installations. Over 100,000 contacts are ignored in this Appendix for the Information Based Program.

3)Total Peak Demand (kW) is the higher of summer or winter peak.

4) Gross CDM expenditures for 2005 included expenditures by both the customer and North Bay Hydro. For 2006 the participant costs are excluded. The participant costs totalled $32,132.45 in 2005. These costs have been excluded from the Cumulative Life to date Gross CDM expenditures.

Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. **Name of the Program:** Water Heater Tune-up -- Residential

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

Installation of insulating blanket, low flow showerhead, faucet aerators, hot water pipe wrap, compact fluorescents and outlet insulators in residential dwellings with electric domestic hot water heating. Program also includes details on how to save electricity throughout the home. Program is delivered in partnership with Greening Nipissing, a local non profit environmental group.

Measure(s):

	Measure 1	Measure 2	Measure 3	Measure 4	Measure 5
Base case technology:	No Tank Wrap	No Aerator	Regular Showerhead	No Pipe Wrap	Incandescent Bulb
Efficient technology:	Tank Wrap	Install aerator	Efficient Showerhead	Pipe Wrap	CFL
Number of participants or units delivered for reporting year:	143	146	106	284	564
Measure life (years):	6	12	12	6	4
Number of Participants or unites delivered life to date	338	375	237	479	1113

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 95,838.07*	$267,729.55
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ 13,048.61	$ 47,939.11
Incremental Measure Costs (Equipment Costs)	$ 5,685.30	$17,178.75
Total TRC costs:	$ 18,733.91	$ 65,117.86
Net TRC (in year CDN $):	$ 77,104.16	$ 202,611.68
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	5.12	4.11

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	8.79	19.27
	Winter	34.24	131.88

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*1,367,713*	181,805	4,736,286	488,043
Other resources saved :				
Natural Gas (m3):				
Other Water:	39,816,888	3,318,074	40,117,578	3,348,143

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*	*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:*	$ 1,424.00	$ 14,289.00
	Incremental O&M:	$ 17,941.61	$ 52,737.61
	Incentive:	$ -	$ -
	Total:	$ 19,365.61	$ 67,026.61
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

The Water Heater Tune-up program is further described in section 3.2. All measures are included in the OEB Tables except for outlet insulators. This program includes two measures not directly related to the Water Heater Tune-up but are to the energy efficiency of the dwelling: up to two compact fluorescent bulbs and one or two outlet insulators were installed by Greening Nipissing. Indirect costs are included with the utility direct costs. All labour and material are provided by North Bay Hydro. This is a highly successful program where more units than planned were accomplished under budget. This program is being extended through part of 2007. Weather-stripping was included in the 2005 Annual Report but was not part of the program. The water savings were understated in the 2005 Annual Report. Neither the 2006 nor the cumulative results have been adjusted to reflect these over and under reportings.

During the home visits the customer receives handouts and is encouraged to participate in Energy Efficiency discussions. For these purposes and others, a total of $12,518.61 has been transferred to this program from the Information Based Program.

[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:** Fridge Buy-Back -- Residential

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

This program is targeted at the removal and proper disposal of a second older refrigerator found in many homes. These units are inefficient and often have leaky doors and seals. Customers are paid an incentive of $50 to encourage participation. The fridges are removed from the customers premises and refrigerant evacuated and unit properly disposed of by a licensed contractor. Program is delivered in partnership with Greening Nipissing, a local non-profit environmental group.

Measure(s):

	Measure 1	Measure 2	Measure 3	Measure 4	Measure 5
Base case technology:	Second Operating Fridge				
Efficient technology:	Removal of Second Fridge				
Number of participants or units delivered for reporting year:	114				
Measure life (years):	6				
Number of Participants or unites delivered life to date	443				

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 54,443.88*	$197,469.18
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ 23,682.15	$ 23,682.57
Incremental Measure Costs (Equipment Costs)	$ 2,473.51	$21,131.10
Total TRC costs:	$ 26,155.66	$ 44,813.67
Net TRC (in year CDN $):	$ 28,288.22	$ 152,655.51
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	2.08	4.41

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	31.04	120.61
	Winter	32.79	127.44

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*820,800*	136,800	3,189,600	531,600
Other resources saved :				
Natural Gas (m3):				
Other Water:				

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*	*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:	$ 28,504.40	$ 47,161.57
	Incentive:	$ 3,600.00	$ 20,050.00
	Total:	$ 32,104.40	$ 67,211.57
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

This is a highly successful program where more units than planned were accomplished under budget. The Fridge Buy-back program is further described in section 3.3. The only measure of this program is included in number 1 of the Residential Worksheet of the OEB Tables. Since the cost is less than the OEB Tables, the measure is included in number 2 of Appendix D Residential-Optional. Indirect costs are included with the utility direct costs. All labour and material are provided by North Bay Hydro. This is the only residential program with an incentive to entice the customer to take part in the program. This program is being extended through part of 2007. During the home visits the customer receives handouts and is encouraged to participate in Energy Efficiency discussions. For these purposes and others, a total of $16,524.57 has been transferred to this program from the Information Based Program.

[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:** Energuide for Houses -- Residential

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

This program originally included the promotion of Natural Resources Canada's Energuide for Houses to electrically heated homes in the City of North Bay. This program is delivered in partnership with Greening Nipissing, a local non profit environmental group. During 2006 this program was stopped by Natural Resources Canada. There is still some work left in this program for completion. Greening Nipissing works closely with Green Communities Canada on these projects.

Measure(s):

	Measure 1	Measure 2	Measure 3	Measure 4	Measure 5
Base case technology:	Prior to Implementation of EGH Improvements for All-Electric	Non-Electric Homes			
Efficient technology:	Implemented Improvements	Furnace Fan time reduced	2005 Fuel Substitution	2005 Caulking Weather-stripping	2005 Insulation Improvements
Number of participants or units delivered for reporting year:	3	39			
Measure life (years):	25	25			
Number of Participants or unites delivered life to date	3	39	3	2	2

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 38,605.91*	$99,333.08
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ 35,340.93	$ 35,621.93
Incremental Measure Costs (Equipment Costs)	$ 11,880.00	$31,466.20
Total TRC costs:	$ 47,220.93	$ 67,088.14
Net TRC (in year CDN $):	-$ 8,615.02	$ 32,244.94
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	0.82	1.48

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

			Cumulative Results:
Conservation Programs:			
Demand savings (kW):	*Summer*	0.00	0.00
	Winter	29.12	86.64

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*908,600*	36,344	2,703,017	108,121
Other resources saved :				
Natural Gas (m3):				
Other Water:				

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*	*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:	$ 35,340.93	$ 35,621.93
	Incentive:	$ -	$ -
	Total:	$ 35,340.93	$ 35,621.93
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

The Energuide for Houses program is further described in section 3.4. Indirect costs are included with the utility direct costs. Most North Bay Hydro costs are advertising and other administrative functions. Three houses have undertaken a great deal of work on energy conservation as a result of the A Audits. The B Audits resulted in an annual average savings of 8,215 kWh with an average cost of $4,400. The average savings and costs as per Green Communities Canada are 7,400 kWh and $4,000 respectively. For those audits that are done on gas or oil heated homes where measures are implemented there is a reduction in the furnace fan operation. Green Communities Canada has stated that the average home that implements oil and gas heating reductions will save about 40% in oil and gas energy costs resulting in reduced furnace fan operation amounting to an average of 300 kWh per year. As per section 3.4, the proxy is number 43 except for incremental cost and electrical savings.

There are 39 homes that reduced furnace fan consumption due to energy reductions in gas and/or oil. Since much of the advertising for Energuide was part of the cost for Information Based Programs, $6,008.93 was transferred to Energuide. The cancellation of this program by Natural Resources Canada had a large negative impact on the North Bay Hydro Energuide program.

[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:** Information Based -- Residential

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

Use of various channels including individual customer meetings, group meetings, direct mail, newspaper articles etc to increase awareness of programs and conservation opportunities. Many of the activities including numbers of activities and estimated audience size are included in section 3.5. This program is delivered in partnership with Greening Nipissing, a local non-profit environmental group. Since Greening Nipissing also delivers the Water Heater Tune-up, Fridge Buy-back and Energuide for Houses, there is a great deal of contact with the general public. This has led to over 100,000 contacts during 2006. These contacts are excluded from Appendix A as they aren't delivered units.

Measure(s):

	Measure 1	Measure 2	Measure 3	Measure 4
Base case technology:	Inc bulbs	Lack of Conservation Education		
Efficient technology:	CFL's	Conservation Education		
Number of participants or units delivered for reporting year:	450			
Measure life (years):	4.3	104,000		
Number of Participants or unites delivered life to date	450	135,000		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 11,632.84*	$11,632.84
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ 9,114.89	$ 58,850.89
Incremental Measure Costs (Equipment Costs)	$ 810.00	$810.00
Total TRC costs:	$ 9,924.89	$ 59,660.89
Net TRC (in year CDN $):	$ 1,707.95	-$ 48,028.05
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	1.17	0.19

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

Cumulative Results:

Conservation Programs:

Demand savings (kW): *Summer*	0.00		0.00
Winter	10.13		10.13

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*202,500*	46,980	202,500	46,980
Other resources saved :				
Natural Gas (m3):				
Other Water:				

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*	*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:	$ 10,013.89	$ 59,749.89
	Incentive:		
	Total:	$ 10,013.89	$ 59,749.89
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

The Information Based program is further described in section 3.5. Indirect costs are included with the utility direct costs. All labour and material are provided by North Bay Hydro. This program applies somewhat to all classes of customers, but in most part is Residential. Of the $45,067 charged to the Information Program, all but $10,013.89 was transferred to the other three Residential programs. Although this program is for education on Electricity Conservation -- some educational material is provided on safety and the environment. Customers serviced by other LDC's in the surrounding area benefit from the North Bay Hydro conservation messages through the media. There is a TRC benefit in this program as per this Appendix because there were 450 Compact Fluorescent Lights given away to North Bay Hydro customers during 2006. The table in section 3.5 summarizes the activities in this program.

[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:** Commercial Demand Reduction

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

An audit is performed for commercial customers by a contractor, supplier or consultant providing the necessary input to conduct a technical screening analysis. Once the components of the planned work are satisfactory to North Bay Hydro and the customer, a contract is executed with the customer. Upon completion, the results are verified by North Bay Hydro, an incentive paid to the customer, if any, and the final TRC calculations performed. Use of audits, feasibility studies and incentives are all tools to help commercial customers reduce their peak electrical energy (kWh), peak demand (kW). Delivered together with local allies including consultants, contractors, suppliers and distributors.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	T12's, Inc., MVR	No Lighting Controls	Chiller -- Dual Compressor
Efficient technology:	T8's, T5's, CFL's, LED's, MVR and Inc. Removals	Installed a Photocell and Motion Sensors	Single Compressor -- kW per ton reduced from 25% to 100% for various usage periods
Number of participants or units delivered for reporting year:	2,671	5	1
Measure life (years):	5.56	9.25	23.00
Number of Participants or unites delivered life to date	2,711	5	1

B. **TRC Results:**

		Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*		*$ 221,202.43*	$231,653.09
[2] *TRC Costs ($):*			
Utility program cost (excluding incentives):		$ 80,149.72	$86,626.98
Incremental Measure Costs (Equipment Costs)		$ 120,343.60	$121,963.60
Total TRC costs:		$ 200,493.32	$208,590.58
Net TRC (in year CDN $):		$ 20,709.10	$23,062.51
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		$ 1.10	1.11

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

			Cumulative Results:	
Conservation Programs:				
Demand savings (kW):	*Summer*	119.17	126.04	
	Winter	108.48	116.49	
	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*3,312,409*	538,419	3,440,409	553,419
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*	*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:	$ 80,149.72	$ 86,626.89
	Incentive:	$ 22,996.57	$ 22,996.57
	Total:	$ 103,146.29	$ 109,623.46
Utility indirect costs ($):	*Incremental capital:*		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

The Assumptions for the Commercial Customers are described in sections 3.1 and 3.6. The North Bay Hydro Assumptions and Measures List is included in Appendix D in worksheet "Appendix D Commerciall". This covers all load profiles, peak kW calculations for all energy efficient installations in the commercial market. Annual Lighting savings represent about 96.5% of the savings whereas the lifecycle lighting savings represent about 87.2% of the savings. This comes about because the equipment life for lighting is less than controls and an efficient Chiller. The control installations include occupancy sensors and a photocell. The chiller as per section 3.6 has an incremental cost of $10,000 and Equipment Life of 23 years as per table 3 obtained from Ashrae Technical Committee TC 1.8. The load profile is calculated from four different load percentages, each with a different efficiency. The peak kW is calculated from the peak from the highest percent loading which is most likely to occur during the system peak. Indirect costs are included with the utility direct costs.

[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:** Institutional Demand Reduction

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

An audit is performed for institutional customers by a contractor, supplier or consultant providing the necessary input to conduct a technical screening analysis. Once the components of the planned work are satisfactory to North Bay Hydro and the customer, a contract is executed with the customer. Upon completion, the results are verified by North Bay Hydro, an incentive paid to the customer, if any, and the final TRC calculations performed. Use of audits, feasibility studies and incentives are all tools to help institutional customers reduce their peak electrical energy (kWh), peak demand (kW). Delivered together with local allies including consultants, contractors, suppliers and distributors.

Measure(s):

	Measure 1	Measure 2	Measure 3	Measure 4 2005
Base case technology:	400 W MH, 500 W Halogen, T12's, Inc.	All Electric, Old and Inefficient	Uncontrolled Heaters	Hardwired Heaters
Efficient technology:	360 W MH, 200 W Ceramic Pulse, CFL's, T8's	Convert heating to gas, install efficient fans and compressors	Programmable Thermostat	Removed All Wiring
Number of participants or units delivered for reporting year:	151	4	1	
Measure life (years):	3.53	15.00	10.00	
Number of Participants or unites delivered life to date	151	5	1	1

B. **TRC Results:**

		Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*		*$ 119,663.80*	$184,423.41
[2] *TRC Costs ($):*			
Utility program cost (excluding incentives):		$ 24,237.52	$60,353.87
Incremental Measure Costs (Equipment Costs)		$ 29,740.56	$29,740.56
Total TRC costs:		$ 53,978.08	$ 90,094.43
Net TRC (in year CDN $):		$ 65,685.72	$ 94,328.98
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		$ 2.22	2.05

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

			Cumulative Results:
Conservation Programs:			
Demand savings (kW):	*Summer*	10.35	10.35
	Winter	61.36	104.80

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*1,718,058*	161,135	2,990,834	244,773
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*	*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:	$ 24,237.52	$ 60,353.35
	Incentive:	$ 6,631.44	$ 6,631.44
	Total:	$ 30,868.96	$ 66,984.79
Utility indirect costs ($):	*Incremental capital:*		$ -
	Incremental O&M:		$ -
	Total:		$ -

E. Assumptions & Comments:

The Assumptions for the Institutional Customers are described in sections 3.1 and 3.8. The North Bay Hydro Assumptions and Measures List is included in Appendix D in worksheet "Appendix D Institutional". This covers all load profiles, peak kW calculations for all energy efficient installations in the institutional market. Annual Lighting savings represent about 31% of the savings whereas the lifecycle lighting savings represent about 10% of the savings. This comes about because the equipment life for Roof Tops and Timers is higher than lamps. The load profile and peak kW calculations are based on seasonal energy usage for Roof Tops and entrance baseboard heaters as per section 3.8. Indirect costs are included with the utility direct costs.

[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:** Industrial Demand Reduction

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

An audit is performed for industrial customers by a contractor, supplier or consultant providing the necessary input to conduct a technical screening analysis. Once the components of the planned work are satisfactory to North Bay Hydro and the customer, a contract is executed with the customer. Upon completion, the results are verified by North Bay Hydro, an incentive paid to the customer, if any, and the final TRC calculations performed. Use of audits, feasibility studies and incentives are all tools to help industrial customers reduce their peak electrical energy (kWh), peak demand (kW). Delivered together with local allies including consultants, contractors, suppliers and distributors.

Measure(s):

	Measure 1	Measure 2	Measure 3
Base case technology:	Lighting T12's	No Controls	No Controls
Efficient technology:	Lighting T8's	Zone Controls	Manual Switches, Dimmer Switches, Occupancy Sensors
Number of participants or units delivered for reporting year:	1,295	3	275
Measure life (years):	10.04	25.00	21.72
Number of Participants or units delivered life to date	1,295	3	275

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 244,395.66*	$ 244,395.66
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ 48,434.23	$ 48,434.23
Incremental Measure Costs (Equipment Costs)	$ 53,370.90	$ 53,370.90
Total TRC costs:	$ 101,805.13	$ 101,805.13
Net TRC (in year CDN $):	$ 142,590.54	$ 142,590.54
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 2.40	2.40

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

			Cumulative Results:	
Conservation Programs:				
Demand savings (kW):	*Summer*	52.34	52.34	
	Winter	55.09	55.09	
	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	5,181,416	328,658	5,181,416	328,658
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:	$ 48,434.23	$ 48,434.23
	Incentive:	$ 14,527.52	$ 14,527.52
	Total:	$ 62,961.75	$ 62,961.75
Utility indirect costs ($):	*Incremental capital:*	$ -	$ -
	Incremental O&M:	$ -	$ -
	Total:	$ -	$ -

E. Assumptions & Comments:

The Assumptions for the Industrial Customers are described in sections 3.1 and 3.7. The North Bay Hydro Assumptions and Measures List is included in Appendix D in worksheet "Appendix D Industrial". This covers all load profiles, peak kW calculations for all energy efficient installations in the industrial market. Annual Lighting savings represent about 60% of the savings whereas the lifecycle lighting savings represent about 39% of the savings. This comes about because the equipment life for controls is higher than lamps. The control installations include occupancy sensors, dimmer switches, manual switches and zone controls. Zone Controls represent a major portion of these savings which reduce operating times substantially in all zones. Operating times vary in three different zones. A key item to determine for zone controls is the load profile for each zone as per section 3.1. Indirect costs are included with the utility direct costs.

[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:** System Optimization Study

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

The purpose of this project is to improve the reliability and efficiency on the North Bay Hydro distribution system. System wide optimization and balance will minimize line loss.

Measure(s):

	Measure 1	Measure 2	Measure 3
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):	$ 31,970.00	$ 40,739.00
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:	$ 31,970.00	$ 40,739.00
Net TRC (in year CDN $):	-$ 31,970.00	-$ 40,739.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	0.00	0.00

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*	*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:	$ 31,970.00	$ 40,739.00
	Incentive:		
	Total:	$ 31,970.00	$ 40,739.00
Utility indirect costs ($):	*Incremental capital:*	$ -	$ -
	Incremental O&M:	$ -	$ -
	Total:	$ -	$ -

E. Assumptions & Comments:

The Assumptions for System Optimization is described in section 3.9. The technical data gathered and input into the model is for the 44 kV, 22 kV, 12 kV and 4 kV distribution systems. This includes the field gathering of wire sizes and the verification of switching information. Data editing and verification is 99% complete. Loads have been assigned based on the transformer data. North Bay Hydro is ready to start optimization runs.

The analysis will take place during 2007 and produce an action plan for implementation that is expected to reduce line losses. Indirect costs are included with the utility direct costs. All labour and material are provided by North Bay Hydro.

[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:** Optional Program -- Street Light Pilot

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

This pilot project is a lighting retrofit of 185 Watt HPS lights including ballast with Light Harvester and Ballast involving lab testing and handling.

Measure(s):

	Measure 1	Measure 2	Measure 3
Base case technology:	Standard Stock		
Efficient technology:	Light Harvester and Ballast		
Number of participants or units delivered for reporting year:	16		
Measure life (years):	8.10		
Number of Participants or units delivered life to date	16		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	*$ 1,171.72*	$ 1,171.72
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ 7,426.00	$ 1,000.00
Incremental Measure Costs (Equipment Costs)	$ 432.00	$ 432.00
Total TRC costs:	$ 7,858.00	$ 1,432.00
Net TRC (in year CDN $):	-$ 6,686.28	-$ 260.28
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 0.15	0.82

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

Cumulative Results:

Conservation Programs:

Demand savings (kW):	*Summer*	0.02	0.02
	Winter	0.28	0.28

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*28,000*	3,456	28,000	3,456
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*	*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:	$ 7,906.00	$ 7,906.00
	Incentive:		
	Total:	$ 7,906.00	$ 7,906.00
Utility indirect costs ($):	*Incremental capital:*	$ -	$ -
	Incremental O&M:	$ -	$ -
	Total:	$ -	$ -

E. Assumptions & Comments:

The Assumptions for the Street Light Pilot are described in section 3.10. Energy savings are calculated as per expected 35% savings. There are approximately 16 lights installed. Some or all of these lights have been installed and removed at various times, which is inflating the cost. There has been a great deal of trouble with reliability. North Bay Hydro is working with the manufacturer on a problem with the light harvester. It doesn't appear to be waterproof. Once the light harvesters are modified they will be reinstalled into service. North Bay Hydro has spent a great deal of time on this project and intends to proceed. They have not been reliable enough to do any testing as yet for energy efficiency. For the TRC we are assuming they are installed and working as intended. Energy savings are calculated as per expected 35% savings. The TRC Benefit was calculated together with energy savings on the basis the estimated energy savings would be attained once the problems are resolved with the design of the fixture, not the efficiency portion.

As per section 3.1 the load profile as well as winter and summer peaks are calculated from Seasonal Energy Usage developed from the data used to calculate the North Bay Hydro Street Light profile. By installing the light harvester and ballast the peak kW will be reduced during the winter 35.0% and during the summer 2.3% of the time. These factors are applied to the peak kW of the lights to decrease the winter and summer on peak kW. It is a small kW savings. Indirect costs are included with the utility direct costs. The reliability issues must be rectified prior to the potential implementation of a larger Street Light Program. The Street Light Program would raise the profile of our CDM programs with the residents of North Bay, thus is important to rectify the problem and implement a program.

[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:** Optional Program -- LED Traffic Lights

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

A pilot to test LED traffic lighting at a limited number of intersections began in 2005. Pilot was deemed a success with a large number of further installations planned for 2006 and 2007. The installations have proceeded on schedule.

Measure(s):

	Measure 1	Measure 2	Measure 3
Base case technology:	Incandescent Lights		
Efficient technology:	LED 12" and 8" Lenses		
Number of participants or units delivered for reporting year:	0		
Measure life (years):			
Number of Participants or units delivered life to date	70		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*		$ 21,961.48
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ 1,000.00	$ 9,018.00
Incremental Measure Costs (Equipment Costs)		$ 7,713.00
Total TRC costs:	$ 1,000.00	$ 16,731.00
Net TRC (in year CDN $):	-$ 1,000.00	$ 5,230.48
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ -	1.31

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

			Cumulative Results:
Conservation Programs:			
Demand savings (kW):	*Summer*	0.00	5.32
	Winter	0.00	5.61

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*0*	0	370,314	18,516
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*	*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:	$ 1,000.00	$ 9,018.00
	Incentive:		
	Total:	$ 1,000.00	$ 9,018.00
Utility indirect costs ($):	*Incremental capital:*	$ -	$ -
	Incremental O&M:	$ -	$ -
	Total:	$ -	$ -

E. Assumptions & Comments:

The Assumptions and Comments for the LED Traffic Lights are described in section 3.11. In the 2005 Annual Report it was stated the LED Traffic Light pilot was deemed a success and the program was expanded with the objective of having all major intersections in the City converted to LED technology by late 2007. This is well underway and on schedule. We are awaiting supporting documentation from the customer. Some savings from the pilot were reported in 2005. Nothing further is reported in 2006 except some North Bay Hydro administrative costs. No incentives have been paid to the customer. The LED Traffic Light Program is a high profile and visible project that will continue to completion. Indirect costs are included with the utility direct costs.

[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:** Optional Program -- Electrical Thermal Storage Demonstation Project

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

This is a demonstartion project to test and show how a Electrical Thermal Storage (ETS) heater will function in a Building in North Bay. The existing room had two heating sources, one from a 1500-watt baseboard heater supplying only the Conference room and a second from a larger 2500-watt unit when the room was occupied. Without the second heater the 1500-watt heater could not keep the room warm enough. It ran far more frequently. The ETS heater is now the only source of heat. The larger unit is only used for cooling which is not part of this project.

Measure(s):

	Measure 1	Measure 2	Measure 3
Base case technology:	Standard Baseboard Heater		
Efficient technology:	Electrical Thermal Storage		
Number of participants or units delivered for reporting year:	1		
Measure life (years):	20.00		
Number of Participants or units delivered life to date	1		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
[1] *TRC Benefits ($):*	$ 792.14	$ 792.14
[2] *TRC Costs ($):*		
Utility program cost (excluding incentives):	$ 1,000.00	$ 1,000.00
Incremental Measure Costs (Equipment Costs)	$ 3,742.20	$ 3,742.20
Total TRC costs:	$ 4,742.20	$ 4,742.20
Net TRC (in year CDN $):	-$ 3,950.06	-$ 3,950.06
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	$ 0.17	0.17

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

		Reporting Year	Cumulative Results:
Conservation Programs:			
Demand savings (kW):	*Summer*	0.00	0.00
	Winter	1.84	1.84

	lifecycle	*in year*	*Cumulative Lifecycle*	Cumulative Annual Savings
Energy saved (kWh):	*0*	0	0	0
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:		
Controlled load (kW)	4	4
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):	407	407
Energy shifted Mid-peak to Off-peak (kWh):	906	906
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:*	$ 4,158.00	$ 4,158.00
	Incremental O&M:	$ 1,000.00	$ 1,000.00
	Incentive:		
		$ 5,158.00	$ 5,158.00
Utility indirect costs ($):	*Incremental capital:*	$ -	$ -
	Incremental O&M:	$ -	$ -
	Total:	$ -	$ -

E. Assumptions & Comments:

The Assumptions and Comments for the demonstration Electrical Thermal Storage Heater are described in section 3.12. Number 6 of Appendix D shows the load profile for the installation. The proxy is number 43 of the Thermal Envelope Improvements [from Average existing stock to Basement Insulation] of the Residential Worksheet on the OEB Tables. There are no energy savings assumed for this application, only load shifting. The estimated kWh usage for the base case units is 2,951 kWh annually. The amount shifted from peak and mid peak to off peak is shown in Appendix B ETS. The peak kW saved is the 1.5 kW of the baseboard heater as well as a percent (13%) of the larger 2.5 kW ETS heater. There was no good fit as a proxy for Equipment Life for the ETS unit. Verbally, Steffes, the manufacturer informed us the blower motor has a life of 10 years, circuit board and elements 15 years and the bricks and insulators 26 years. The more complex parts have the higher equipment life. Later we received a letter from Steffes stating the equipment is designed for 20 years but know in many cases their equipment lasts much longer. Number 6 of Appendix D of the Residential-Optional worksheet i

Indirect costs are included with the utility direct costs. All labour and material are provided by North Bay Hydro.

[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:** Renewable Energy

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

A good opportunity with the City of North Bay to obtain funding to determine project feasibility and save electrical energy as per North Bay Hydro's CDM Plan. This program started in 2006 with an expected completion date for the end of 2007.

Measure(s):

	Measure 1	Measure 2	Measure 3	Measure 4
Base case technology:				
Efficient technology:				
Number of participants or units delivered for reporting year:				
Measure life (years):				
Number of Participants or unites 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):	#DIV/0!	

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):	*0*	0		
Other resources saved :				
Natural Gas (m3):				
Other Water:				

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*	*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:

The Renewable Energy program is similarly described in section 3.13. Funding is being provided to the City of North Bay to undertake a landfill gas feasibility study. A flare has been installed and burning the gas to get an indication of the volume.

[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 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 ($)
Water Heater Tune-up	$ 95,838	$ 18,734	$ 77,104	5.12	181,805	1,367,713	34	$ 19,366
Fridge Buy-Back	$ 54,444	$ 26,156	$ 28,288	2.08	136,800	820,800	33	$ 32,104
Energuide for Houses	$ 38,606	$ 47,221	-$ 8,615	0.82	36,344	908,600	29	$ 35,341
Information Based --Included Above	$ 11,633	$ 9,925	$ 1,708	1.17	46,980	202,500	10	$ 10,014
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**	$ 200,521	$ 102,035	$ 98,485	1.97	401,929	3,299,613	106	$ 96,825
Residential Indirect Costs not attributable to any specific program →								
Total Residential TRC Costs		$ 102,035						
****Totals TRC - Residential**	**$ 200,521**	**$ 102,035**	**$ 98,485**	**1.97**				

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 ($)
Demand Reduction	$ 221,202	$ 200,493	$ 20,709	1.10	538,419	3,312,409	119.2	$ 103,146
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**	$ 221,202	$ 200,493	$ 20,709	1.10	538,419	3,312,409	119	$ 103,146

Commercial Indirect Costs not attributable to any specific program →				
Total TRC Costs		$ 200,493		
****Totals TRC - Commercial**	**$ 221,202**	**$ 200,493**	**$ 20,709**	**1.10**

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 ($)
Demand Reduction	$ 119,664	$ 53,978	$ 65,686	2.22	161,135	1,718,058	61	$ 30,869
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**	$ 119,664	$ 53,978	$ 65,686	2.22	161,135	1,718,058	61	$ 30,869
Institutional Indirect Costs not attributable to any specific program →								
Total TRC Costs		$ 53,978						
****Totals TRC - Institutional**	**$ 119,664**	**$ 53,978**	**$ 65,686**	**2.22**				

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 ($)
Demand Reduction	$ 244,396	$ 101,805	$ 142,591	2.40	328,658	5,181,416	55.1	$ 62,962
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 - Industrial**	$ 244,396	$ 101,805	$ 142,591	2.40	328,658	5,181,416	55	$ 62,962
Industrial Indirect Costs not attributable to any specific program	→	-						
Total TRC Costs		$ 101,805						
****Totals TRC - Industrial**	**$ 244,396**	**$ 101,805**	**$ 142,591**	**2.40**				

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 ($)
System Optimization Study	$ -	$ 31,970	-$ 31,970	0.00	0	0	0	$ 31,970
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 C			$ -	0.00					
***Totals App. B - LDC System**	$ -	$ 31,970	-$ 31,970	0.00	0	0	0	$ 31,970	
LDC System Indirect Costs not attributable to any specific program →									
Total TRC Costs		$ 31,970							
****Totals TRC - LDC System**	**$ -**	**$ 31,970**	**-$ 31,970**	**0.00**					

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 ($)	
Optional Street Light Pilot	$ 1,172	$ 7,858	-$ 6,686	0.15	3,456	28,000	0.3	$ 7,906	
Optional LED Traffic Lights	$ -	$ 1,000	-$ 1,000	0.00	0	0	0	$ 1,000	
Electrical Thermal Storage Heater	$ 792	$ 4,742	-$ 3,950	0.17	0	0	2	$ 5,158	Adjusted to
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**	$ 1,964	$ 13,600	-$ 11,636	0.14	3,456	28,000	2.1	$ 14,064	
Other #1 Indirect Costs not attributable to any specific program →									
Total TRC Costs		$ 13,600							
****Totals TRC - Other #1**	**$ 1,964**	**$ 13,600**	**-$ 11,636**	**0.14**					

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 ($)
Renewable Energy	$ -	$ -	$ -	0.00	0	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 - 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**	$ 787,746	$ 503,882	$ 283,864	1.56	$ 1,433,596	$ 13,539,496	$ 344	$ 339,836
*Any **other** Indirect Costs not attributable to any specific program* →								
TOTAL ALL LDC COSTS		$ 503,882						
****LDC' PORTFOLIO TRC**	$ 787,746	$ 503,882	$ 283,864	1.56				

* 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.