

7. Program Budget

The 2011-2012 budgeting plan for the program is summarized in the following table:

Description	2011	2012	Total
Marginal Costs			
Fixed Costs			
Legal Cost	\$9,450	\$7,875	\$17,325
Marketing	\$47,250	\$21,450	\$68,700
Sales	\$0	\$0	\$0
Program EMV	\$15,000	\$15,000	\$30,000
Administrative Costs	\$14,535	\$29,652	\$44,187
Operation Cost	\$2,772	\$13,477	\$16,249
Total Fixed Costs	\$89,007	\$87,454	\$176,461
Variable Costs			
Administrative Costs	\$58,141	\$118,607	\$176,747
Operation Cost	\$11,087	\$13,477	\$24,565
Vendor Cost	\$0	\$0	\$0
Total Variable Costs	\$69,228	\$132,084	\$201,312
Total Marginal Cost	\$158,235	\$219,538	\$377,773
Total Allocable Cost	\$4,431	\$6,147	\$10,578
Total Program Costs	\$162,665	\$225,685	\$388,351
Total Incentives	\$279,834	\$559,668	\$839,503
Total Budget	\$442,500	\$785,354	\$1,227,853

/C

8. Cost Benefit Analysis

The table below summarizes the results for cost effectiveness tests using the most current OPA model named "Conservation_Program_Resource_Planning_Tool_V3.3". The tests include both Total Resource Cost (TRC) and Program Administrator Cost (PAC)².

Name of Test	Benefits	Costs	Net Benefits	Ratio
TRC	\$ 4,187,405	\$ 2,242,177	\$ 1,945,228	1.9
PAC	\$ 4,229,134	\$ 2,431,191	\$ 1,797,943	1.7

/C

The above tests results are based on the following input assumptions:

- Free ridership : 30% for water heater conversions
: 10% for **peaksaver®**
- Unit incremental equipment costs : \$250
- Operating life : 13 years (OPA standard assumptions)
- Number of participants : 4,431
- Unit peak demand savings : 0.096kW (meter conversion)
- Unit demand response capacity : 0.0375 kW
- Unit annual energy savings : 951 kWh (meter conversion)
: 21 kWh (demand response)
- Program costs : \$1,839,985
- Financial incentive : \$839,503

9. Non-Duplication of OPA-Contracted Provincial Programs

The proposed program will not duplicate any existing OPA programs as there is no current Tier 1 standard measure that is available for the conversion from a flat rate to a metered service.

10. Data Collecting, Tracking and Reporting

Commercially reasonable efforts will be used to ensure that the electricity consumption and demand savings are calculated using best engineering practice. THESL will require supporting data from program participants to substantiate the claimed savings. Documentation archives will be maintained and will be used for governance, reference and audit purposes.

² TRC and PAC calculations are based on annualized savings.

7. Program Budget

The 2011-2014 budgeting plan for the program is summarized in the following table:

Description	2011	2012	2013	2014	Total
Marginal Costs					
Fixed Costs					
Legal Cost	\$52,500	\$15,750	\$15,750	\$15,750	\$99,750
Marketing	\$147,525	\$147,525	\$110,644	\$73,763	\$479,456
Sales	\$67,100	\$134,200	\$134,200	\$67,100	\$402,599
Program EMV	\$0	\$60,000	\$60,000	\$60,000	\$180,000
Administrative Costs	\$291	\$7,284	\$10,197	\$11,363	\$29,135
Operation Cost	\$49,388	\$59,182	\$59,478	\$38,460	\$206,507
Total Fixed Costs	\$316,804	\$423,940	\$390,268	\$266,435	\$1,397,447
Variable Costs					
Administrative Costs	\$1,165	\$29,135	\$40,789	\$45,450	\$116,539
Operation Cost	\$197,553	\$236,727	\$237,911	\$153,839	\$826,030
Vendor Cost	\$150,670	\$3,766,745	\$5,307,076	\$5,956,843	\$15,181,333
Total Variable Costs	\$349,389	\$4,032,607	\$5,585,776	\$6,156,131	\$16,123,903
Total Marginal Cost	\$666,193	\$4,456,547	\$5,976,044	\$6,422,566	\$17,521,350
Total Allocable Cost	\$17,448	\$94,648	\$125,139	\$132,820	\$370,055
Total Program Costs	\$683,641	\$4,551,195	\$6,101,183	\$6,555,386	\$17,891,405
Total Incentives	\$20,180	\$353,905	\$672,420	\$976,779	\$2,023,285
Total Budget	\$703,821	\$4,905,100	\$6,773,604	\$7,532,165	\$19,914,690

/C

8. Cost Benefit Analysis

The table below summarizes the results for cost effectiveness tests using the most current OPA model named "Conservation_Program_Resource_Planning_Tool_V3.3". The tests include both Total Resource Cost (TRC) and Program Administrator Cost (PAC)².

Name of Test	Benefits	Costs	Net Benefit	Ratio
TRC	\$21,293,926	\$13,715,863	\$7,578,063	1.6
PAC	\$17,440,704	\$16,665,081	\$775,623	1.0

/C

² TRC and PAC calculations are based on annualized savings.

As a sensitivity analysis, the table below shows the test results assuming 20% fewer buildings enrol.

Name of Test	Benefits	Costs	Net Benefit	Ratio
TRC	\$17,035,141	\$11,440,179	\$5,594,962	1.5
PAC	\$13,952,563	\$13,799,553	\$153,010	1.0

/C

The above tests results are based on the following input assumptions:

- Free ridership : 10%
- Unit incremental equipment costs : \$49,800
- Operating life : 10 years
- Number of participants : 218
- Unit peak demand savings : 59.55 kW
- Unit annual energy savings : 1,263 kWh
- Program costs : \$13,586,304
- Financial incentive : \$6,328,386

RESPONSES TO INTERROGATORIES OF ONTARIO ENERGY BOARD STAFF

1 **INTERROGATORY 1:**

2 **Reference(s):** **none provided**

3

4 Within the CDM Code, when discussing the requirements for the CDM Strategy, it states
5 at section 2.1.1(c) that a distributor must confirm that CDM Programs will be offered for
6 all customer types in a distributor's service area, as far as is appropriate and reasonable
7 having regard to the composition of the distributor's customer base.

8 a) Please provide a table, broken down by customer type (residential, residential low-
9 income, commercial, institutional and industrial) showing all the CDM programs,
10 both OPA and Board-Approved, that THESL plans to offer from 2011-2014. For
11 each program, please also include the years the program is expected to operate to and
12 from, the total budget for the program, the total number of participants expected to
13 participate in each program, the cost effectiveness results for each program and the
14 total projected energy (GWh) and peak demand (MW) savings for each program. The
15 table below can be used as a guide:

RESPONSES TO INTERROGATORIES OF ONTARIO ENERGY BOARD STAFF

Programs	Years	Budget	Participants	Cost Effectiveness		Savings	
OPA				TRC	PAC	GWh	MW
Residential							
Program 1							
Residential - Low-Income							
Program 1							
CI&I							
Program 1							
Board-Approved							
Residential							
Program 1							
CI&I							
Program 1							
TOTAL							

- 1 b) In a separate table, please provide the estimated rate impacts for both the overall
2 request included in this application for nine Board-Approved CDM Programs and the
3 overall impact inclusive of both OPA and Board-Approved CDM Programs.

4

5 **RESPONSE:**

- 6 a) Please refer to the table below:

RESPONSES TO INTERROGATORIES OF ONTARIO ENERGY BOARD STAFF

Program	Years	Budget		Participants	Cost Effectiveness		Savings	
		PAB	Variable Costs		TRC	PAC	MW	GWh
OPA-Contracted Province-Wide Programs								
Customer Type: Residential								
Consumer Program	2011-2014	\$ 13,236,580	N/A				37.8	233.1
peaksaver Extension for 2011	2011-2014	\$ 752,600					1.7	-
Customer Type: CI&I								
Commercial & Institutional Program	2011-2014	\$ 32,199,168	N/A				122.8	765.9
Industrial Program	2011-2014	\$ 4,006,373					58.5	141.8
Total for OPA-Contract Programs		\$ 50,194,721	N/A				220.8	1,140.8
Board-Approved Programs								
Customer Type: Residential								
Multi-Unit Residential Demand Response	2011-2014	\$ 2,710,072	\$ 17,204,619	218	\$ 7,578,063	\$ 775,623	11.7	0.5
Flat Rate Water Heater Conversion & Demand Response	2011-2012	\$ 388,351	\$ 839,503	4,413	\$ 1,945,228	\$ 1,797,943	1.8	10.2
Community Outreach & Education Initiative	2011-2014	\$ 3,699,664	\$ 1,960,000	N/A				
Customer Type: CI&I								
Commercial , Institutional & Small Commercial Monitoring & Targeting	2011-2014	\$ 1,787,935	\$ 3,713,475	107	\$ 2,835,833	\$ 2,346,929	0.9	40.7
Hydronic System Balancing Program	2011-2014	\$ 1,220,434	\$ 3,499,734	496	\$ 8,583,331	\$ 12,425,075	3.4	62.0
Commercial Energy Management & Load Control	2011-2014	\$ 2,124,841	\$ 9,560,936	1,164	\$ 6,186,836	\$ 9,955,657	6.7	13.9
Business Outreach & Education	2011-2014	\$ 1,647,585	\$ -	N/A				
Greening Greater Toronto Commercial Building Energy Initiative	2011	\$ 295,707	\$ -	N/A				

RESPONSES TO INTERROGATORIES OF ONTARIO ENERGY BOARD STAFF

1 Notes:

- 2 • The budget for OPA-Contracted Province-Wide programs only includes the
3 Program Administration Budget (“PAB”). Variable costs for participant
4 incentives have not been allocated to LDCs by the OPA and will be treated as
5 pass-through costs to LDCs (i.e., the OPA is responsible for paying variable
6 costs on completion of participant applications).
- 7 • The number of participants and cost effectiveness tests (TRC & PAC) for
8 OPA-Contracted Province-Wide programs are dealt with by the OPA on a
9 province wide basis. Allocations to each LDC’s service territory are not
10 available.

11

- 12 b) The funding required for the CDM programs will be collected from all Ontario
13 customers through the Global Adjustment. For residential and small commercial
14 customers (Designated Customers) the Global adjustment estimates are included as
15 part of the setting of the RPP rate bi-annually. For other customers, the Global
16 adjustment is collected through a monthly kWh charge (Class B customers) or kW
17 charge (Class A customers) determined each month by the IESO. Because of this
18 structure of collection of the Global Adjustment, it is not possible to estimate the rate
19 impacts of THESL’s proposed CDM programs.

Question 5 OEB Staff (a) and (c)

Program Name	Measures	Input Assumption Description	Input Assumptions	Source	Expected Participation Level	Minimum Participation Level
CEMLC	EMS/Load Control	Free Ridership	10%	OPA (value for Peaksaver with IHD)	5.0%	1.1%
		Unit Incremental Cost	\$7,989	Based on weighted average cost of system		
		Operating Life (years)	13	OPA Measures and Assumptions List for Peaksaver		
		Number of Participants	1164	Market penetration per sector		
		Unit Demand Response Capacity (kW)	6.4	Engineering estimate		
		Unit Annual Energy Savings (kWh)	5515	Engineering estimate		
		Program Cost	\$11,170,401	Budget sheet		
		Financial Incentives	\$515,376	Budget sheet		
M and T	Monitorring and Tracking	Free Ridership	30%	OEB reccomended value for custom programs	4.3%	1.7%
		Unit Incremental Cost - C&I	\$42,113	Based on weighted average cost of system		
		Unit Incremental Cost - Industrial	\$43,215	Based on weighted average cost of system		
		Operating Life (years)	8	Engineering estimate		
		Number of Participants	107	Market penetration per sector		
		Unit Peak Demand Savings - C&I (kW)	11.19	Engineering estimate		
		Unit Peak Consumption Savings - Industrial (kW)	14.39	Engineering estimate		
		Unit Annual Energy Savings - C&I (kWh)	258075	Engineering estimate		
		Unit Annual Energy Savings - Industrial (kWh)	297411	Engineering estimate		
		Program Cost	\$1,787,935	Budget sheet		
		Financial Incentives	\$3,713,475	Budget sheet		
FRWH	DHW Conversion to Metered Service/Load Control	Free Ridership - Water Heater Conversion	30%	OEB reccomended value for custom programs	80.0%	14.0%
		Free Ridership - Load Control	10%	OPA (value for Peaksaver with IHD)		
		Unit Incremental Cost	\$250	Typical replacement cost - internal		
		Operating Life (years)	13	OPA Measures and Assumptions List for Peaksaver		
		Number of Participants	4431	Market penetration per sector		
		Unit Peak Demand Savings (kW)	0.096	Engineering estimate		
		Unit Peak Demand Response Capacity (kWh)	0.375	Engineering estimate		
		Unit Annual Energy Savings	973	Engineering estimate		
		Program Cost	\$1,839,985	Budget sheet		
		Financial Incentives	\$839,503	Budget sheet		
HSBP	Variable Frequency Drives/Multistage Pumps	Free Ridership	30%	OEB reccomended value for custom programs	25%/50%/30% (Audits/hydraulic/booster)	25%/11%/6%
		Unit Incremental Cost	\$41,877	Based on weighted average cost of system		
		Operating Life (years)	10	Engineering estimate (not on OPA M and A list)		
		Number of Participants (audits)	496	Market penetration per sector		
		Unit Peak Demand Savings (kW)	6.5	Engineering estimate		
		Unit Annual Energy Savings (kWh)	143296	Engineering estimate		
		Program Cost	\$1,220,434	Budget sheet		
		Financial Incentives	\$3,499,734	Budget sheet		
MURB DR	Programmable Thermostat/Load Control	Free Ridership	10%	OPA (value for Peaksaver with IHD)	11.0%	8.0%
		Unit Incremental Cost	\$69,512	Based on weighted average cost of system		
		Operating Life (years)	10	OPA Measures and Assumptions List for Peaksaver derated for application type.		
		Number of Participants	218	Market penetration per sector		
		Unit Peak Demand Response Capacity (kW)	59.55	Engineering estimate		
		Unit Annual Energy Savings (kWh)	1263	Engineering estimate		
		Program Cost	\$17,891,405	Budget sheet		
		Financial Incentives	\$2,023,285	Budget sheet		

Part B

CEMLC				
Location	Variable Changed	Variable Value	TRC	PAC
Application Section 8	Base Case		1.7	4.1
VECC Interogatory 5	TRC & PAC Evaluation	TRC & PAC at a measure level	NA	NA

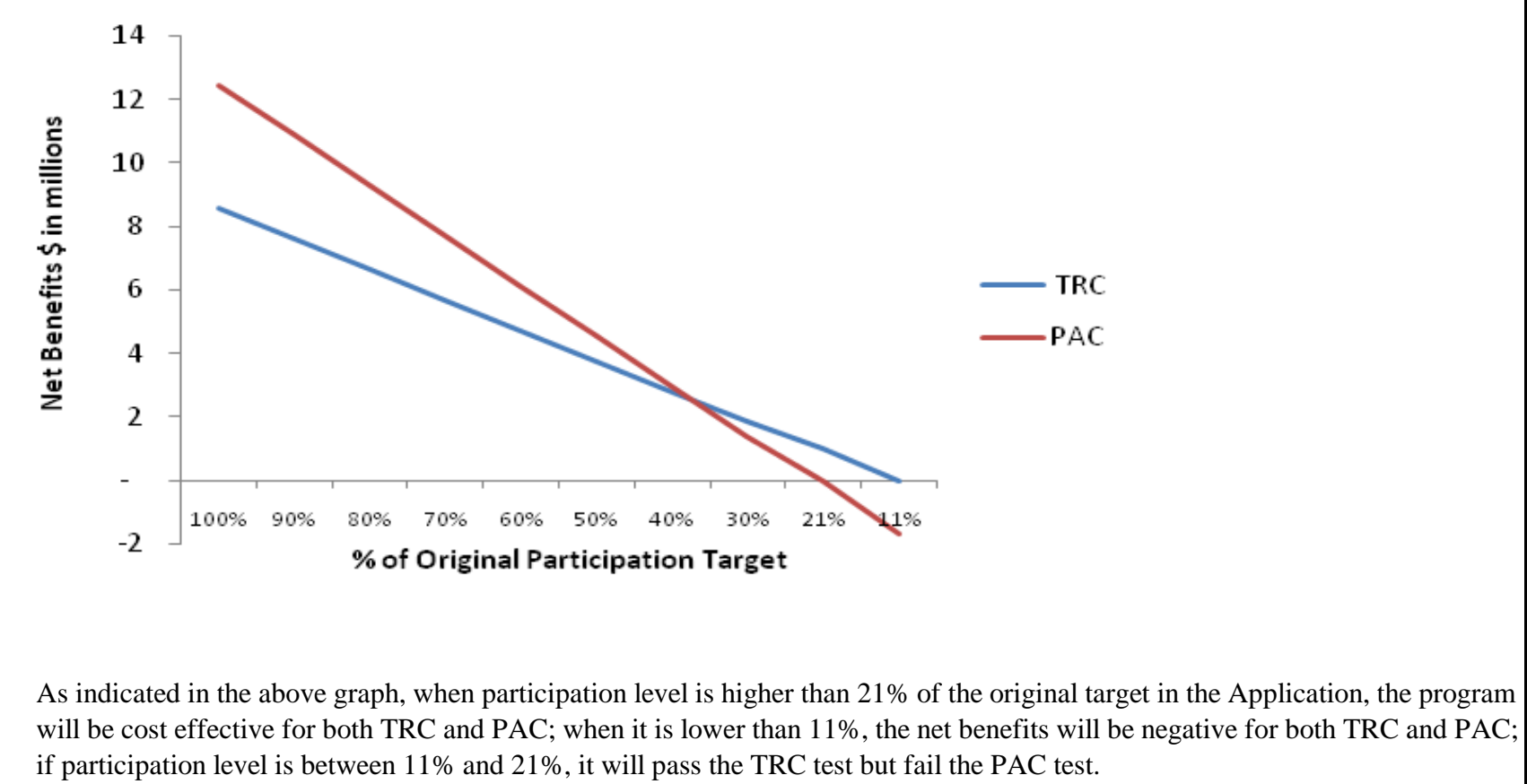
M and T				
Location	Variable Changed	Variable Value	TRC	PAC
Application Section 8	Base Case		1.6	1.5
OEB Staff Interrogatory 72	Htg./Clg/Booster Pump Implementation Rate	Htg./Clg. 30-50%, Booster Pump 20-30%	See graphs A & B	See graphs A & B
OEB Staff Interrogatory 69	Minimum Participation Rate	15%	1.1	1.0
	Minimum Free Ridership Rate	85%	1.1	1.0
VECC Interogatory 5	TRC & PAC Evaluation	TRC & PAC at a measure level	NA	NA

FRWH				
Location	Variable Changed	Variable Value	TRC	PAC
Application Section 8	Base Case		1.9	1.7
OEB Staff Interrogatory 52	lower participation rates of 80% (70%, 60%, 50%, etc.).	Participation 30-70%	See table 1 & 2	See table 1 & 2
LIEN Interogatory C-4	Coverage of tank conversion	100% conversion cost	1.9	1.6
LIEN Interogatory C-5a	Supply of low flow devices	Supply of low flow devices-installed	2.7	2.5
LIEN Interogatory C-5b	Supply of low flow devices	Supply of low flow devices-not installed	1.9	1.7
LIEN Interogatory C-5c	Coverage of tank conversion & Supply of low flow devices	Coverage of tank conversion & Supply of low flow devices-installed	2.7	2.2
VECC Interogatory 5	TRC & PAC Evaluation	TRC & PAC at a measure level	NA	NA

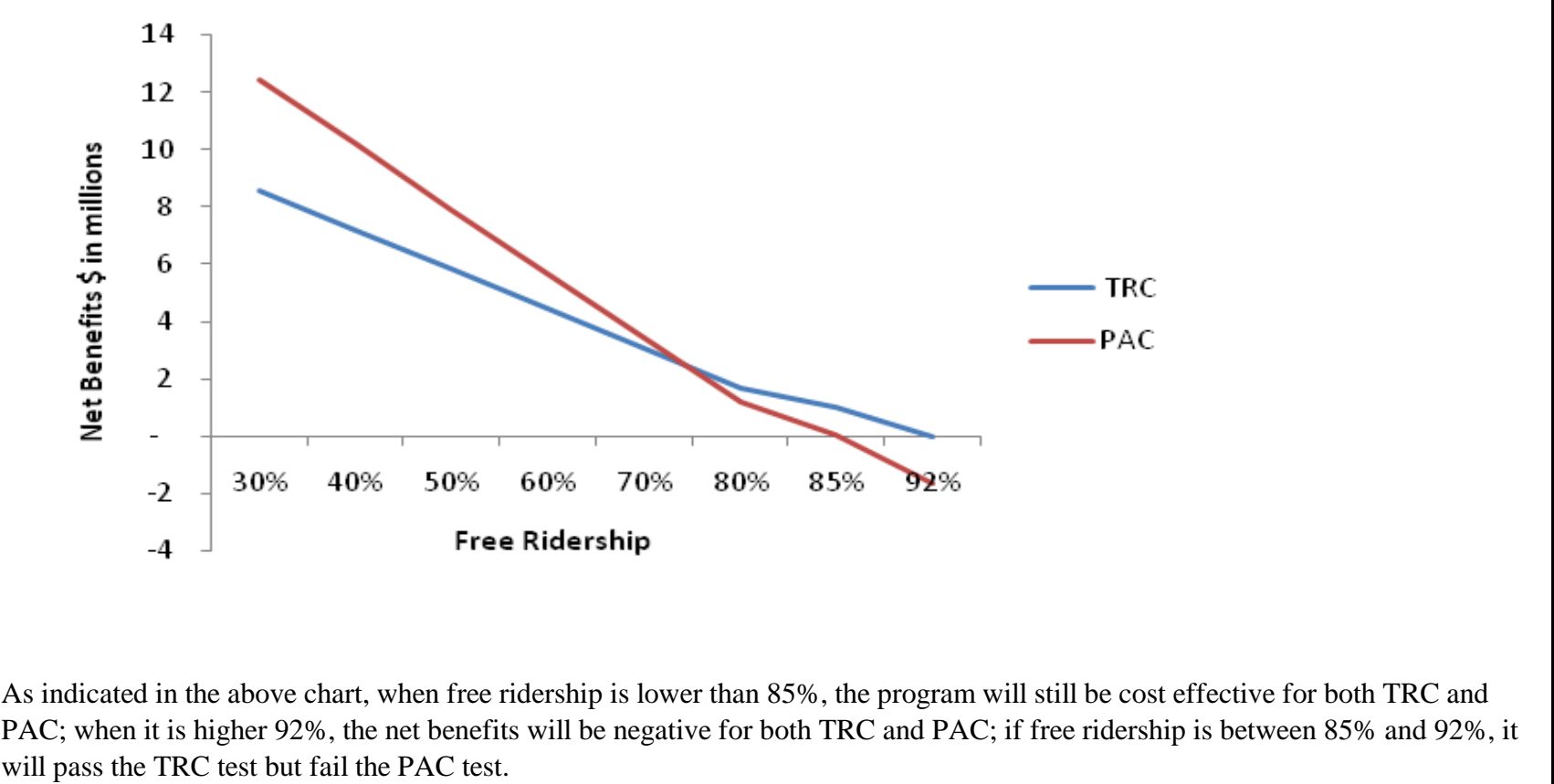
HSBP				
Location	Variable Changed	Variable Value	TRC	PAC
Application Section 8	Base Case		2.2	4.7
OEB Staff Interrogatory 72	Htg./Clg/Booster Pump Implementation Rate	Htg./Clg. 30-50%, Booster Pump 20-30%	See graphs A & B	See graphs A & B
OEB Staff Interrogatory 69	Minimum Participation Rate	15%	1.1	1.0
	Minimum Free Ridership Rate	85%	1.1	1.0
VECC Interogatory 5	TRC & PAC Evaluation	TRC & PAC at a measure level	NA	NA

MURB DR				
Location	Variable Changed	Variable Value	TRC	PAC
Application Section 8	Base Case		1.6	1.0
VECC Interogatory 5	TRC & PAC Evaluation	TRC & PAC at a measure level	NA	NA

Graph A: M&T and Hydronic System Balancing Program-Variable Participation Rate



Graph B: M&T and Hydronic System Balancing Program-Variable Free ridership Rate



Flat Rate Water Heater: Variable Participation and Different Incemtive Levels

Board Staff #52 Incentive level at 20 cents/kwh

Participation Rate	Net TRC Benefits		Net PAC Benefits	
80%	\$	1,945,228	\$	1,797,943
70%	\$	1,653,356	\$	1,524,482
60%	\$	1,361,484	\$	1,251,020
50%	\$	1,069,613	\$	977,559
40%	\$	777,741	\$	704,098
30%	\$	485,869	\$	430,637
20%	\$	193,997	\$	157,176
10%	-\$	97,875	-\$	116,285

Board Staff #52 Incentive level at 10 cents/kwh

Participation Rate	Net TRC Benefits		Net PAC Benefits	
80%	\$	1,945,228	\$	2,178,516
70%	\$	1,653,356	\$	1,857,484
60%	\$	1,361,484	\$	1,536,451
50%	\$	1,069,613	\$	1,215,418
40%	\$	777,741	\$	894,385
30%	\$	485,869	\$	573,352
20%	\$	193,997	\$	252,319
10%	-\$	97,875	-\$	68,714

RESPONSES TO INTERROGATORIES OF ONTARIO ENERGY BOARD STAFF

1 **INTERROGATORY 12:**

2 **Reference(s):** **Program #1 – Business Outreach and Education, Page 3,**
3 **Executive Summary**
4

5 THESL notes that it is seeking approval from the Board to expend \$1.65M to deliver the
6 program between the period of January 1, 2011 and December 31, 2011. Later THESL
7 notes that the program will operate between 2011 and 2014.

8 a) Please confirm the period of time in which this program will be offered.
9

10 **RESPONSE:**

11 a) The program will be offered over the period from January 1, 2011 (or date of
12 approval) through December 31, 2014.

RESPONSES TO INTERROGATORIES OF ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO

1 **INTERROGATORY 7:**

2 **Reference(s):** **none provided**

3

4 Please provide the percentage of THESL's proposed 2011 to 2014 CDM budget that is
5 dedicated to residential, commercial and industrial customers for the OPA and Board
6 Approved programs.

7

8 **RESPONSE:**

9 Please refer to the table below for the percentage of THESL's proposed 2011 to 2014
10 CDM budget dedicated to residential, commercial and industrial customers.

Program	Residential	Commercial	Industrial
OPA Programs	28%	64%	8%
Board-Approved Programs	53%	45%	2%

11 For further information on budget, refer to the response to Board Staff Interrogatory 1 .

12

13 The percentage of 2011 to 2014 CDM budget that is dedicated to industrial customers for
14 Board-Approved programs is based on the assumption that 15% of the budget for
15 Commercial, Institutional & Small Commercial Monitoring & Targeting will be used for
16 industrial customers.

RESPONSES TO INTERROGATORIES OF GREEN ENERGY COALITION

1 **INTERROGATORY 7:**

2 **Reference(s):** **none provided**

3

4 Please provide the ratio of incentive costs to total program costs for each program.

5

6 **RESPONSE:**

7 Please refer to the table below for the ratio of incentive costs to total program costs for
8 each Board-Approved program other than education programs.

Program	Ratio
Multi-Unit Residential Demand Response	86%
Flat Rate Water Heater Conversion & Demand Response	68%
Commercial , Institutional & Small Commercial Monitoring & Targeting	68%
Hydronic System Balancing Program	74%
Commercial Energy Management & Load Control	82%

RESPONSES TO INTERROGATORIES OF POLLUTION PROBE

INTERROGATORY 9:

1 **Reference(s):** none provided

2

3 With respect to your proposed Multi-Unit Residential Demand Response program, please
4 describe the benefits and costs associated with doubling the total participation target for
5 the 2011 to 2014 time period.

6

7 **RESPONSE:**

8 The table below summarizes the estimated budget with doubling the total participation
9 target.

Description	2011	2012	2013	2014	Total	% Increase
Marginal Costs						
Fixed Costs						
Legal Cost	\$52,500	\$15,750	\$15,750	\$15,750	\$99,750	0%
Marketing	\$258,169	\$258,169	\$193,627	\$129,084	\$839,048	75%
Sales	\$134,200	\$268,399	\$268,399	\$134,200	\$805,198	100%
Program EMV	\$0	\$75,000	\$75,000	\$75,000	\$225,000	25%
Administrative Costs	\$583	\$14,567	\$20,394	\$22,725	\$58,270	100%
Operation Cost	\$98,777	\$118,364	\$118,955	\$76,919	\$413,015	100%
Total Fixed Costs	\$544,228	\$750,249	\$692,126	\$453,678	\$2,440,281	75%
Variable Costs						
Administrative Costs	\$2,331	\$58,270	\$81,577	\$90,901	\$233,079	100%
Operation Cost	\$395,107	\$473,454	\$475,822	\$307,677	\$1,652,060	100%
Vendor Cost	\$301,340	\$7,533,490	\$10,614,153	\$11,913,685	\$30,362,667	100%
Total Variable Costs	\$698,777	\$8,065,214	\$11,171,552	\$12,312,263	\$32,247,805	100%
Total Marginal Cost	\$1,243,005	\$8,815,463	\$11,863,677	\$12,765,941	\$34,688,086	98%
Total Allocable Cost	\$17,448	\$94,648	\$125,139	\$132,820	\$370,055	0%
Total Program Costs	\$1,260,453	\$8,910,110	\$11,988,817	\$12,898,761	\$35,058,141	96%
Total Incentives	\$40,360	\$707,811	\$1,344,841	\$1,953,558	\$4,046,570	100%
Total Budget	\$1,300,813	\$9,617,921	\$13,333,657	\$14,852,319	\$39,104,711	96%

RESPONSES TO INTERROGATORIES OF POLLUTION PROBE

- 1 The test effective results with doubling the target are shown in the following table:

Name of Test	Benefits	Costs	Net Benefits	Ratio
TRC	\$ 42,587,853	\$ 26,813,829	\$ 15,774,024	1.6
PAC	\$ 34,881,409	\$ 32,712,264	\$ 2,169,144	1.1
Name of Test	Benefits	Costs	Net Benefits	Ratio
TRC	\$ 42,587,853	\$ 20,360,477	\$ 22,227,376	2.1
PAC	\$ 34,881,409	\$ 32,712,264	\$ 2,169,144	1.1

RESPONSES TO INTERROGATORIES OF SCHOOL ENERGY COALITION

1 **INTERROGATORY 3:**

2 **Reference(s):** **none provided**

3

4 Please provide a total budget broken down by category for all proposed Board-Approved
5 Programs.

6

7 **RESPONSE:**

8 Please refer to the table below:

Cost Category	2011	2012	2013	2014	Total
Marginal Costs	\$ 5,036,833	\$ 9,904,592	\$ 11,807,836	\$ 10,532,464	\$ 37,281,726
Fixed Costs	\$ 2,212,737	\$ 2,154,128	\$ 1,987,225	\$ 1,682,811	\$ 8,036,902
<i>Legal Cost</i>	\$ 232,700	\$ 85,900	\$ 78,025	\$ 70,525	\$ 467,150
<i>Marketing</i>	\$ 995,279	\$ 877,206	\$ 797,875	\$ 641,556	\$ 3,311,917
<i>Sales</i>	\$ 241,559	\$ 298,460	\$ 265,095	\$ 122,457	\$ 927,571
<i>Program EMV</i>	\$ 153,250	\$ 253,250	\$ 238,250	\$ 308,250	\$ 953,000
<i>Administrative Costs</i>	\$ 35,264	\$ 66,972	\$ 39,148	\$ 34,691	\$ 176,075
<i>Operation Cost</i>	\$ 147,269	\$ 179,923	\$ 176,417	\$ 112,916	\$ 616,525
<i>External Costs</i>	\$ 384,916	\$ 384,916	\$ 384,916	\$ 384,916	\$ 1,539,664
<i>Contractor Training</i>	\$ 22,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 45,000
Variable Costs	\$ 2,824,096	\$ 7,750,464	\$ 9,820,611	\$ 8,849,653	\$ 29,244,824
<i>Administrative Costs</i>	\$ 92,743	\$ 227,890	\$ 126,736	\$ 96,227	\$ 543,596
<i>Operation Cost</i>	\$ 1,320,640	\$ 1,166,607	\$ 1,239,289	\$ 747,799	\$ 4,474,334
<i>Vendor Cost</i>	\$ 1,410,713	\$ 6,355,968	\$ 8,454,586	\$ 8,005,627	\$ 24,226,894
Allocable Costs	\$ 113,648	\$ 221,435	\$ 262,672	\$ 222,000	\$ 819,755
Financial Incentives	\$ 1,582,056	\$ 3,999,924	\$ 4,074,355	\$ 2,895,038	\$ 12,551,373
Grand Total	\$ 6,732,538	\$ 14,125,951	\$ 16,144,863	\$ 13,649,502	\$ 50,652,853

9

RESPONSES TO INTERROGATORIES OF SCHOOL ENERGY COALITION

1 **INTERROGATORY 53:**

2 **Reference(s):** **Multi-Unit Residential Demand Response, p.17**

3

4 With respect to the budget:

5 a) Please provide a detailed breakdown of the variable operation and vendor costs.

6 b) Please provide a breakdown of the fixed administrative costs.

7 c) Please provide a detailed breakdown of the incentive costs.

8

9 **RESPONSE:**

10 a), b), and c) Please see below.

11 This is a correction to the response filed on April 1, 2011.

12 This correction transfers \$4,305,101 from incentive costs to variable vendor costs and
13 appropriately reflects the suite incentives (\$50 per new suites and \$25 per existing suites)
14 and suite vendor costs (\$320 per suite).

RESPONSES TO INTERROGATORIES OF SCHOOL ENERGY COALITION

1) Incentive Costs

Description	2011	2012	2013	2014	Total
New Suites	135	3363	4709	5247	13453
Existing Suites Total	135	0	3363	8072	11570
New Buildings	2	55	76	85	218
Existing Buildings Total	2	0	55	131	188
Suite Incentives	\$10,090	\$168,168	\$319,519	\$464,144	961921
Building Incentives	\$10,090	\$185,737	\$352,901	\$512,635	1061364
Total Incentives	\$20,180	\$353,905	\$672,420	\$976,779	\$2,023,285

2) Variable Vendor Costs

Description	2011	2012	2013	2014	Total
New Suites	135	3363	4709	5247	13453
New Buildings	2	55	76	85	218
Suite Vendor Cost	\$43,051	\$1,076,275	\$1,506,785	\$1,678,989	\$4,305,101
Building Vendor Cost	\$107,619	\$2,690,470	\$3,800,291	\$4,277,853	\$10,876,233
Total Vendor Costs	\$150,670	\$3,766,745	\$5,307,076	\$5,956,843	\$15,181,333

3) Variable Operation Cost

Type	2011	2012	2013	2014	Total
Energy Analyst	\$85,250	\$144,608	\$146,088	\$76,225	\$452,172
Program Manager	\$140,910	\$140,910	\$140,910	\$105,682	\$528,411
Manager	\$20,782	\$10,391	\$10,391	\$10,391	\$51,955
Operation Costs	\$246,942	\$295,909	\$297,389	\$192,298	\$1,032,537
80% Allocated to Variable Cost	\$197,553	\$236,727	\$237,911	\$153,839	\$826,030
Total Variable Operation Costs	\$197,553	\$236,727	\$237,911	\$153,839	\$826,030

4) Fixed Administration Cost

Type	2011	2012	2013	2014	Total
Applications	\$285	\$7,113	\$9,958	\$11,096	\$28,451
Incentive Processing	\$444	\$11,097	\$15,535	\$17,311	\$44,387
Settlement	\$444	\$11,097	\$15,535	\$17,311	\$44,387
Administration	\$285	\$7,113	\$9,958	\$11,096	\$28,451
Other Costs	\$1,457	\$36,419	\$50,986	\$56,813	\$145,674
20% Allocated to Fixed Cost	\$291	\$7,284	\$10,197	\$11,363	\$29,135
Total Fixed Admin Costs	\$291	\$7,284	\$10,197	\$11,363	\$29,135

RESPONSES TO INTERROGATORIES OF VULNERABLE ENERGY CONSUMERS COALITION

INTERROGATORY 3:

Reference(s): Appendix A

To achieve the remaining target, THESL will undertake the applied-for CDM programs.

a) Summarize in a Table, by year, the savings and budgets for each program and the aggregate totals.

b) Provide a copy of the THESL Program Administration Budgets, including Staffing (FTE) by year and in Total.

c) Provide a copy of any consultant(s) report(s) on the Economic Potential for CDM in THESLs service territory.

d) For each proposed program provide the completed detailed evaluation plan (NOT Template) showing the specific data that will be collected for each measure, each participant and for each program.

e) For each proposed program, where applicable, describe in detail how THESL has estimated free ridership and describe how THESL will monitor free ridership.

f) For each proposed program please describe how participation rates were estimated and provide any studies or data relied upon.

g) Provide for each program a Summary of the Net TRC and Cost Effectiveness Screening of the Program.

h) Provide a Mapping of OPA and THESL programs by Sector to demonstrate the THESL programs are complementary/supplementary to OPA programs. Include target Participants, Incentives and other features.

RESPONSE:

a) Please refer to the table below.

RESPONSES TO INTERROGATORIES OF VULNERABLE ENERGY CONSUMERS COALITION

Program		2011	2012	2013	2014	Total
M & T	MW	-	0.3	0.4	0.2	0.9
	GWh	-	5.8	15.3	19.6	40.7
	Budget	\$ 966,752	\$ 1,886,770	\$ 1,615,160	\$ 1,032,728	\$ 5,501,410
HSBP	MW	0.2	1.0	1.7	0.5	3.4
	GWh	1.4	11.0	34.4	62.0	62.0
	Budget	\$ 581,019	\$ 1,429,673	\$ 1,976,077	\$ 733,398	\$ 4,720,167
MURB DR	MW	0.1	2.9	4.1	4.6	11.7
	GWh	0.0	0.1	0.2	0.5	0.5
	Budget	\$ 703,821	\$ 4,905,100	\$ 6,773,604	\$ 7,532,165	\$ 19,914,690
FRWH	MW	0.6	1.2	1.8	1.8	1.8
	GWh	1.0	4.1	7.1	10.2	10.2
	Budget	\$ 442,500	\$ 785,354	\$ -	\$ -	\$ 1,227,853
CEMLC	MW	1.0	2.0	2.3	1.3	6.7
	GWh	0.9	3.5	8.1	13.9	13.9
	Budget	\$ 1,850,756	\$ 3,242,071	\$ 3,903,039	\$ 2,689,911	\$ 11,685,777
Business Outreach	MW					
	GWh					
	Budget	\$ 467,067	\$ 467,067	\$ 467,067	\$ 246,384	\$ 1,647,585
Community Outreach	MW	-	-	-	-	-
	GWh	-	-	-	-	-
	Budget	\$ 1,424,916	\$ 1,409,916	\$ 1,409,916	\$ 1,414,916	\$ 5,659,664
GGT	MW	-	-	-	-	-
	GWh	-	-	-	-	-
	Budget	\$ 295,707	\$ -	\$ -	\$ -	\$ 295,707
Total	MW	1.9	7.4	10.3	8.4	24.4
	GWh	3.3	24.4	65.2	106.2	127.2
	Budget	\$ 6,732,538	\$ 14,125,951	\$ 16,144,863	\$ 13,649,502	\$ 50,652,853

RESPONSES TO INTERROGATORIES OF VULNERABLE ENERGY CONSUMERS COALITION

Program		2011	2012	2013	2014	Total
Commercial , Institutional & Small Commercial Monitoring & Targeting	MW	-	0.3	0.4	0.2	0.9
	GWh	-	5.8	15.3	19.6	40.7
	Budget	\$ 966,752	\$ 1,886,770	\$ 1,615,160	\$ 1,032,728	\$ 5,501,410
Hydronic System Balancing Program	MW	0.2	1.0	1.7	0.5	3.4
	GWh	1.4	11.0	34.4	62.0	62.0
	Budget	\$ 581,019	\$ 1,429,673	\$ 1,976,077	\$ 733,398	\$ 4,720,167
Multi-Unit Residential Demand Response	MW	0.1	2.9	4.1	4.6	11.7
	GWh	0.0	0.1	0.2	0.5	0.5
	Budget	\$ 703,821	\$ 4,905,100	\$ 6,773,604	\$ 7,532,165	\$ 19,914,690
Flat Rate Water Heater Conversion & Demand Response	MW	0.6	1.2	1.8	1.8	1.8
	GWh	1.0	4.1	7.1	10.2	10.2
	Budget	\$ 926,378	\$ 1,753,110	\$ -	\$ -	\$ 2,679,488
Commercial Energy Management & Load Control	MW	1.0	2.0	2.3	1.3	6.7
	GWh	0.9	3.5	8.1	13.9	13.9
	Budget	\$ 1,850,756	\$ 3,242,071	\$ 3,903,039	\$ 2,689,911	\$ 11,685,777
Business Outreach & Education	MW					
	GWh					
	Budget	\$ 467,067	\$ 467,067	\$ 467,067	\$ 246,384	\$ 1,647,585
Community Outreach & Education Initiative	MW	-	-	-	-	-
	GWh	-	-	-	-	-
	Budget	\$ 1,424,916	\$ 1,409,916	\$ 1,409,916	\$ 1,414,916	\$ 5,659,664
Greening Greater Toronto	MW	-	-	-	-	-
	GWh	-	-	-	-	-
	Budget	\$ 295,707	\$ -	\$ -	\$ -	\$ 295,707
Total	MW	1.9	7.4	10.3	8.4	24.4
	GWh	3.3	24.4	65.2	106.2	127.2
	Budget	\$ 7,216,416	\$ 15,093,707	\$ 16,144,863	\$ 13,649,502	\$ 52,104,488

RESPONSES TO INTERROGATORIES OF VULNERABLE ENERGY CONSUMERS COALITION

1 b) Please refer to the following table.

	2011	2012	2013	2014	Total
Program Admin Budget	\$3,739,769	\$ 3,770,060	\$ 3,615,922	\$2,748,837	\$ 13,874,587
Non-Staffing Costs	\$3,446,019	\$ 2,820,060	\$ 2,740,922	\$2,271,337	\$ 11,278,337
Staffing Costs	\$ 293,750	\$ 950,000	\$ 875,000	\$ 477,500	\$ 2,596,250
# of FTEs	2.9	9.5	8.8	4.8	-

2 c) The Program Admin Budget in the above table represents the aggregate total program
3 costs in the application for all Board-Approved programs (Total Budget minus
4 Incentive). The number of equivalent full-time employees (number of FTEs) is
5 provided as an average for each year. Staff required to implement Board-Approved
6 programs will be hired as contract employees after Board approval is received. No
7 external consultants were used. The analysis was conducted internally.

8
9 d) The draft evaluation plans will be provided prior to the hearing. Please refer to Board
10 Staff Interrogatory 6(a).

11
12 e) The default free-rider factor (30%) for custom projects, as noted on page 9 of the
13 OEB Decision and Order in the EB-2007-0096 proceeding, was applied to Hydronic
14 System Balancing, Flat Rate Water Heaters(conversion only) and the Monitoring &
15 Targeting programs. A nominal 10% free ridership factor has been applied to
16 CEMLC, FRWH (*peaksaver* component) and the MURB DR programs, although, due
17 to the unique nature of the services, those services are not available outside of the
18 scope of these initiatives. The 10% free-ridership is consistent with the numbers used

RESPONSES TO INTERROGATORIES OF VULNERABLE ENERGY CONSUMERS COALITION

1 by the OPA in evaluating the *peaksaver* program. Monitoring of free-ridership is
2 incorporated in the program evaluation.

3

4 f) This information is contained in Section 2.2 of the Applications, but is summarized
5 below:

6

7 **CEMLC Program:**

8 The proposed program combines similar elements of the Power Savings Blitz (PSB)
9 and *peaksaver* programs that can be used to gauge the potential penetration rates.

10

11 In THESL'S service area, the *peaksaver* program was very successful with over
12 60,000 residential customers registered out of an eligible customer base of
13 approximately 200,000. This equates to a penetration rate of almost 30% in the
14 residential single family segment.

15

16 Based on consideration of the programs with similar elements, and the enhancement
17 of providing higher incentive levels and an EMS system in the program design, an
18 overall penetration rate of 5% is conservatively estimated.

19

20 **FRWH Program:**

21 The current approach of encouraging conversion to a metered service has relied
22 exclusively on mail outs and other communications. This approach is reaching the
23 limit of effectiveness as the remaining customers have more difficult conversion
24 choices and require additional inducements to consider changing their service. It is

RESPONSES TO INTERROGATORIES OF VULNERABLE ENERGY CONSUMERS COALITION

1 expected that the incentives will encourage 80% of the remaining 5,561 tanks to
2 convert.

3

4 **HSBP Assessment Potential:**

5 The estimate is based on THESL's Power Saver Blitz (PSB) program that offered free
6 lighting audits to over 44,000 customers with a resulting uptake of 74%. Although
7 this marketing approach for this program also involves a vendor-driven "blitz"
8 approach similar to PSB, the higher technical requirement and limited industry
9 capacity suggest that a downgraded expected penetration of 25% is more appropriate.

10

11 **HSBP Implementation Potential:**

12 The anticipated commercial/institutional market penetration rates are based on the
13 following observations:

- 14 • The retro-commissioning market, which has similar paybacks and goals as
15 this program, has been evaluated in California and shows an annual 5.1%
16 penetration rate within a much more established conservation market.
- 17 • At the same time, 80% of organizations will consider proceeding with projects
18 having a payback of less than 1.9 years in the commercial sector.
- 19 • Studies have found that higher energy costs lead to a greater adoption of
20 energy savings measures, which is important as electricity prices are expected
21 to rise 46% over the next five years.
- 22 • Evaluation of energy efficiency measures completed under the IAC program
23 in the United States yielded a predictive model¹ that indicates, for the

¹ Anderson, S.T., & Newell, R.G. (2004). Information programs for technology adoption: the case of energy-efficiency audits. Resource and Energy Economics, 26, 27-50.

RESPONSES TO INTERROGATORIES OF VULNERABLE ENERGY CONSUMERS COALITION

1 paybacks noted below, an adoption rate of 50% for the heating/cooling
2 retrofits and 40% for the booster pump upgrades.

3 4 **M & T Program:**

5 THESL expects 5% of the commercial/institutional sector and 2% of the industrial
6 sector will participate in the M&T program.

7
8 The anticipated commercial/institutional market penetration rates are based on the
9 following observations:

- 10 • The retro-commissioning market, which has similar paybacks and goals as the
11 M&T program, has been evaluated in California and shows an annual 5.1% ²
12 penetration rate within a much more established conservation market.
- 13 • At the same time, 80% of organizations will consider proceeding with projects
14 having a payback of less than 1.9 years in the commercial sector³, which is
15 consistent with the expectations for this program.
- 16 • The REALPac initiative of 20 equivalent kilowatt-hours per square foot by
17 2015 will be driving the commercial sector to incorporate energy tracking and
18 targeting into their sites to help meet objectives.

19 20 **MURB DR Program:**

21 In THESL'S service area the *peaksaver* program managed to sign-up 60,000
22 customers out of an eligible customer base of 200,000 for a penetration rate of almost
23 30% in the residential single family segment of the program.

² PEI and Summit Building Engineering. California Commissioning Collaborative, (2007). California retro-commissioning market characterization

³ DeCanio, Stephen. (1993). Barriers within firms to energy-efficient investments. Energy Policy, 21, 906-914.

RESPONSES TO INTERROGATORIES OF VULNERABLE ENERGY CONSUMERS COALITION

1

2 Based on the similarity of the program design elements and the penetration rates
3 achieved with *peaksaver*, and the provision of a higher incentive rate than that paid to
4 customers participating in the *peaksaver* program, a 30% participation rate is
5 expected in submetered condominiums and 15% in bulk metered condominiums.

6

7 g) Please refer to the response to Board Staff Interrogatory 1.

8

9 h) Please refer to the response to Board Staff Interrogatory 4(c).